UNITAID

Mid-Term Review

MDR-TB Scale-Up Initiative 2007-2012, MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile, First-Line Anti-TB Drugs Initiative

Partners: GDF, GLC

FINAL REPORT

Swiss Centre for International Health
Swiss Tropical and Public Health Institute

Evaluation team:
Alexei Sitruk
Svenja Weiss Matti
Peter Steinmann
Bruno Clary
Dominique Guinot
Xavier Bosch-Capblanch

22 November 2011

Swiss Tropical and Public Health Institute
Schweizerisches Tropen- und Public Health-Institut
Institut Tropical et de Santé Publique Suisse

Swiss Centre for International Health
Swiss Tropical and Public Health Institute
Socinstrasse 57
P.O. Box
4002 Basel
Switzerland
Internet: www.swisstph.ch

Xavier Bosch-Capblanch
Deputy Head of Systems Performance and Monitoring Unit
Swiss Centre for International Health
Tel.: +41 61 284 83 19
Fax: +41 61 284 81 03
E-mail: x.bosch@unibas.ch

Dominique Guinot
Project Leader, Systems Performance and Monitoring Unit
Swiss Centre for International Health
Tel.: +41 61 284 81 91
Fax: +41 61 284 81 03
E-mail: dominique.guinot@unibas.ch

Table of Contents

Abbreviations

AMDS	AIDS Medicines and Diagnostics Service
API	Active Pharmaceutical Ingredient
AR	Annual Report e.g. AR 2010 (January – December 2010)
3DF	3 Disease Fund
DOTS	Directly Observed Treatment Short course
DST	Drug Susceptibility Testing
EMP	Essential Medicines Programme (administered by WHO)
EoI	Expression of Interest
ERP	Expert Review Panel
FDC	Fixed-dose combinations
FIND	Foundation for Innovative New Diagnostics
FPP	Finished Pharmaceutical Product
GDF	Global Drug Facility
GF	Global Fund
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GLC	Green Light Committee
GMP	Good Manufacturing Practices
GPRM	Global Price Reporting Mechanism
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HRZE	H = Isoniazid, R= Rifampicin, Z = Pyrazinamide, E= Ethambutol,
IDA	International Dispensary Association
IPC	Interagency Pharmaceutical Coordination group
IR	Interim Report e.g. IR 2010 (January – June 2010)
ITB	Invitation to Bid
LIC	Low Income Country
LMIC	Low-Middle Income Country
LITB	Limited Invitation to Bid
LoA	Letter of Agreement
LTA	Long-term Agreement
MDR-TB	Multidrug-resistant Tuberculosis
M&E	Monitoring & Evaluation
MoA	Memorandum of Agreement
MSF	Médecins Sans Frontières
MSH IDPIG	Management Science for Health International Drug Price Indicator Guide
NTP	National TB Program
OMS	Order Management System
OPO	Official Purchase Order
OPR	Official Purchase Request
PFSCM	Partnership for Supply Chain Management
PO	Purchase Order
PSI	Pre Shipment Inspection
QA	Quality Assurance
RFP	Request for Proposals
S	Streptomycin
SOP	Standard Operating Procedures
SRA	Stringent National Regulatory Authority
SRS	Strategic Rotating Stockpile
TB	Tuberculosis
TF	Task Force
TG	Transitional Grant
TRC	Technical Review Committee (of GDF)
TRIPS	Trade Related Aspects of Intellectual Property Rights
UMIC	Upper-Middle Income Country
USFDA	United States Food and Drug Administration
USP PQM	United States Pharmacopeia Promoting Quality of Medicines
WHO	World Health Organization
WHO PQP	World Health Organisation Prequalification of Medicines Program

1 Executive Summary

One third of the global human population is infected by *Mycobacerium tuberculosis* and 5-10% of them have clinical tuberculosis at some point during their lifetime. The estimated global tuberculosis (TB) incidence was 9.4 million in 2009. Effective treatment with high-quality drugs prevents the spread of TB and the development of MDR-TB, a condition much more difficult and expensive to treat. The first-line TB drug market has limited innovation capacity, drug quality concerns, price pressure and stock outs. The second-line TB drug market offers costly drugs that require complex treatments increasing staff training needs and health system requirements (current estimates suggest that globally, 4.8% of all TB cases harbour resistant strains). In response to the TB drug market problems UNITAID has been funding the following projects:

1) MDR-TB Scale-Up Initiative 2007-2012. The aim of the project is to increase access to and affordability of high quality second-line anti-tuberculosis drugs for use in MDR-TB control. The scope and budget of the project target has steadily increased to cover a total number of 15,606 MDR-TB treatment courses to be delivered to 18 countries at a cost of USD 54,046,000. A small rotating stockpile of MDR-TB drugs was established in the frame of the MDR-TB Scale-up Initiative for 800 patients. A no-cost extension till 2012 has been awarded.

2) MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile (SRS). The size of the original stockpile of the MDR-TB Scale-Up Initiative was deemed inappropriate and in response the project *MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile* was launched in 2008. The SRS has a budget of USD 11,458,000 for 5,000 additional treatment courses.

3) First-Line Anti-TB Drugs Initiative, implemented in collaboration with GDF since 2007. The aim of the project is to address shortages of first-line anti-TB Drugs in order to reduce the risk of treatment interruptions and drug resistance. The project budget was USD 26,841,025. It originally aimed at the delivery of 866,273 first-line treatment courses to 19 beneficiary countries (15 LIC, 4 LMIC) under GF transitional grants during a 12 month period (budget of USD 19,034,350) and established a SRS of 380,000 treatment courses (budget of **USD 7,806,375)**. A no-cost extension was granted prolonging the project until the end of 2011.

Methodology

This is an external independent mid-term evaluation. The evaluation has three components: first, the common evaluation areas relevance, effectiveness, efficiency and impact; second, project specific questions; and third, quality of reporting issues. The project Letters of Agreements (LoA), Memorandum of Agreements (MoA) and progress reports were used as primary sources of information. Data was extracted to develop a project outline and analyzed based on the questions specified in an evaluation matrix. Each evaluation area was assigned a rating and the quality of the underlying data was graded. Complementary information was obtained during direct exchanges with UNITAID and project partners. Recommendations were issued by consensus of the team of assessors involved in all projects, based on the findings of the evaluation. Several options to address the critical issues were listed and assessed against two main criteria: (a) the available evidence that the recommendations would effectively address the critical issue identified; and (b) the feasibility of implementing the recommendation.

Key Findings

MDR-TB Scale-Up Initiative 2007-2012

- The project delivered enough injectable drugs to 16 of the 18 project countries to start 3,973 treatment courses or 25.5% of the planned total of 15,606 treatment courses. Drugs for another 6,525 patients or 41.8% of the total were ordered but not yet delivered.
- A total of 10 countries received 100% or more of the planned MDR TB drugs by end-2010.
- No information on the number of MDR-TB treatments actually started in the project countries using the UNITAID-funded drugs were available since the project focuses on the delivery of drugs.
- Between 2008 to 2010, overall MDR-TB drug prices increased so did treatment costs but prices paid by GDF remained lower than the lowest price reported in the Management Science for Health International Drug Price Indicator Guide (MSH IDPIG).
- GDF did not publish prices of MDR TB drugs.
- A small portion of MDR TB drugs procurement is channelled through GDF. Accelerated access to treatment is not clearly demonstrated. Although countries report to have enrolled patients, the gap between GLC approved patients and patients being actually treated remains quite large..
- No activities have been taken carried out towards the objective of stimulating the development of new MDR TB drugs.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- In 2010, the ratio quantity of anti-MDR TB drugs received / SRS target exceeded 100% for all drugs but two (Capreomycin Russian Label and Kanamycin).
- SRS was used to respond to a total of 23 urgent orders from 19 countries. In addition, 80 non-urgent orders were completed to ensure stock rotation.
- The median lead time to respond to urgent orders was 33 days, well below the target of at least 2 months and zero stock outs in 2010 were confirmed. Some orders were only partially fulfilled by drawing on the SRS, bridging the time until delivery of ordinary orders.
- Actual physical size of the SRS remains unknown as the Order Management System (OMS) can not generate SRS stock reports.
- Benefits of the SRS are expected to wear off with the end of UNITAID funding and there is currently no mechanism in place to ensure some level of sustainability.

First-Line Anti-TB Drugs Initiative

- The SRS model was not defined in sufficient detail and its performance was never adequately reported. Although it has not been functioning since mid 2009, GDF reported on orders served from the SRS until December 2010.
- The 1st line anti TB drugs SRS has not been functioning physically in a consistent manner.
- The establishment of the SRS for first line TB drugs appeared to have suffered from supplier limited production capacity and the insufficient number of suppliers of GDF QA compliant products.
- About 100% patient treatments of first-line TB drugs, in total 785’080, were approved, ordered and delivered and all 19 beneficiary countries completed the Transitional Grants as of 31 December 2010, leading to the achievement of objective 1.
- In 2010 average lead time was 55 days and 12 stock outs occurred in the same year.

- Between 2009 and 2010, Cat. I & III - 2(RHZE)/4(RH) treatment cost was reduced by 27% but, over the same period, Cat II- 2S(RHZE)/1(RHZE)/5(RHE) treatments costs increased driven by Streptomycin high prices.

General findings common to all projects:

- Only a small portion of TB drugs procurement is channelled though GDF; therefore the majority of patients are treated with non Quality Assured (QA) products. Local manufacturers of high burdened countries do not submit their products for pre qualification.
- All activities were consistent with the project plan and objectives, and in line with UNITAID's overall goal, objectives and strategy.
- Performance framework indicator definitions evolved and were not always sensitive enough to accurately reflect GDF performance and open to different interpretations.
- Reporting was delayed and incomplete in some instances.
- Information on the number of patients actually treated with UNITAID funded drugs is not available.

Key Recommendations

MDR-TB Scale-Up Initiative 2007-2012

- GDF should publish on its website the price it pays for drugs. GDF could negotiate with suppliers to extend negotiated/bid prices to countries (similar to CHAI consortium) that conduct drug procurement on their own (outside GDF).
- Now that the GLC approval is no longer required for a country to procure MDR TB drugs, UNITAID should consider extending its project to additional countries
- UNITAID should ensure that funding for technical support to heavy burdened countries to increase diagnosis and treatment is available concomitantly to UNITAID support for anti TB drugs and diagnostics.
- UNITAID should favour the development of new drugs. Incentives could include advanced purchase commitments to facilitate new product market entries. Similarly, a link should be established between scale up access projects and TB alliance (Global Alliance for TB drugs development http://www.tballiance.org/) or any initiative aiming at making new treatments available.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- Consider a model whereby countries would bear the cost of the SRS maintenance (e.g. procurement agent service fees are paid by countries placing orders).
- The choice of the countries where regional warehouses would be established needs to take into account import/export procedures and estimate lead time for clearance.

First-Line Anti-TB Drugs Initiative

- UNITAID should provide feedback on programmatic matters and reports in a more appropriate timeframe to allow for corrective actions to be promptly implemented.
- GDF should consider incentives to increase the number of suppliers of compliant products (especially SRA registered) as well as the global production capacity of anti TB products.

SRS of First Line Anti TB Drugs Initiative (1st-line SRS)

- A SRS model should be defined in terms of nature (physical/virtual), size (minimum number of treatments available in any given month), composition (forecasting with detailed assumptions broken down by drug/kit), rotation (minimum percentage of turnover for all products) and functioning. Concomitantly to the SRS, the project should support in country activities aiming at mitigating the risk of stock outs

- UNITAID should request GDF to report on the actual nature and achievements of the first line SRS as GDF reports are not consistent with GIZ and supplier statements.

General recommendations common to all projects

- UNITAID should emphasise the need for partners to consider Pre qualification of local supplier products.
- A mechanism should be developed to support order pooling and assist manufacturers in production planning; e.g. setting up quarterly orders and granting access to some features of the OMS.
- Partners should work together on the development of a performance framework featuring clearly defined performance indicators and targets consistent with the most updated Letter of Agreement (LoA) or Memorandum of Agreement (MoA).
- Partners should develop clear and commonly agreed reporting and feedback practices and define a reporting template based on performance framework indicators and targets.
- UNITAID and partners should agree on a methodology to estimate the number of patients actually treated with UNITAID funded drugs. The numbers reported should cross checked during in country monitoring visits and against WHO latest estimate.

2 Conclusions and Recommendations

	Conclusion	Recommendation	Responsibility
Project specific findings			
MDR-TB Scale-Up Initiative 2007-2012			
1	GDF does not publish prices of MDR TB drugs, preventing countries from using this information to negotiate better prices when carrying out their own procurement.	GDF should publish on its website the price it pays for second line drugs. GDF could negotiate with suppliers to extend negotiated/bid prices to countries (similar to CHAI consortium) that conduct drug procurement on their own (outside GDF).	GDF
2	Accelerated access to treatment under the project could not be clearly demonstrated. Although countries report to have enrolled patients, the gap between GLC approved patients and patients being actually treated remains substantial. No concrete actions have been taken towards the objective of stimulating the development of new MDR TB drugs.	1- Now that the GLC approval is no longer required for a country to procure MDR TB drugs, UNITAID should consider extending its project to additional countries. 2- UNITAID should ensure that funding for technical support to heavy burdened countries to increase diagnosis and treatment is available concomitantly to UNITAID support for anti TB drugs and diagnostics. 3- UNITAID should favour the development of new drugs. Incentives could include advanced purchase commitments to facilitate new product market entries. Similarly, a link should be established between scale up access projects and TB alliance (Global Alliance for TB drugs development http://www.tballiance.org/) or any initiative aiming at making new treatments available.	UNITAID/ GDF/GLC
MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile			
3	Benefits of the SRS are expected to wear off with the end of UNITAID funding and there is no mechanism in place to ensure some level of sustainability.	Consider a model whereby countries would bear the cost of the SRS maintenance. The model could be similar to GDF arrangements for first line drug procurement under which procurement agent service fees are paid by countries.	GDF
4	If GDF changes its SRS model as it is currently conceived, the establishments of regional warehouses closer to countries where drugs are produced or consumed may be jeopardised by host countries custom procedures.	The choice of the countries where regional warehouses would be established needs to take into account import/export procedures and estimate lead times for clearance; and make selections accordingly.	GDF

	Conclusion	Recommendation	Respon-sibility
First-Line Anti-TB Drugs Initiative – 1st line SRS			
5	The SRS model is not defined in sufficient detail and its performance has never been adequately reported. Although it has not been functioning since mid 2009, GDF reported on orders served from the SRS until December 2010.	SRS model should be defined in terms of nature (physical/virtual), size (minimum number of treatments available in any given month), com-position (forecasting with detailed assumptions broken down by drug/kit), rotation (minimum percentage of turnover for all products) and functioning. UNITAID should request GDF to report on the actual nature and achievements of the first line SRS as GDF reports are not consistent with GIZ and supplier statements.	UNITAID/ GDF
6	Physical 1st line anti TB drugs SRS has not been functioning consistently.	Establish the SRS (as designed and agreed upon by GDF and UNITAID) and support in country activities aiming at mitigating the risk of stock outs.	UNITAID/ GDF
Common findings to all projects			
7	Only a small portion of TB drugs procurement is channelled though GDF; therefore the majority of patients are treated with non QA products. Local manufacturers of high burdened countries do not submit their products for pre qualification.	Considering that UNITAID supports both the GDF and WHO PQP, in the context of a new project, UNITAID should put an emphasis on the need for partners (GDF and WHO) to consider Prequalification of local supplier products a pri-ority. This could result in the development of a UNITAID list of priority products (please refer to WHO PQP MTR report[1]) taking into account whether these products are produced in high burden country and the provision of financial incentives and technical support with collabora-tion of USP. This would support synergies across UNITAID portfolio and potentially in-crease UNITAID projects impact.	GDF/GLC/ WHO
8	Supply of TB drugs will remain vulnerable to dis-ruption unless quality of forecasting improves and some level of order pool-ing is facilitated with the aim to provide manufac-turers with increased pre-dictability of country needs.	Quarterly orders and granting access to some features of the OMS should facilitate order pool-ing and assist manufacturers in production plan-ning. .	GDF

[1] http://www.unitaid.eu/images/projects/Prequalification/20110617_MTR-WHO_PQP-FinalReport.pdf

	Conclusion	Recommendation	Respon-sibility
9	The definitions of performance framework indicators evolved and were not always sensitive enough to accurately reflect GDF performance and open to different interpretations.	Partners should work together on the development of a performance framework featuring clearly defined performance indicators and targets consistent with the most up to date LoAs and MoAs.	UNITAID/ GDF
10	Reporting practices have several pitfalls (e.g. delayed responses to GDF clarification requests) and reports have missing information (e.g. absence of report submission dates, interest earned not consistently reported, non-cumulative reporting).	Partners should convene regular meetings in order to develop and enforce clear, timely and commonly agreed processes on reporting and feedback. Partners are advised to draft and use a reporting template based on performance framework indicators and targets, linking programmatic and financial information and reflecting cumulative achievements. Interest earned should be systematically and formally reported	UNITAID/ GDF
	The number of patients actually treated with UNITAID funded drugs is not deemed sufficiently accurate/reliable	UNITAID and partners should agree on a methodology to estimate the number of patients actually treated with UNITAID funded drugs. The numbers reported should cross checked during in country monitoring visits and against WHO latest estimate.	UNITAID/ GDF

3 Project Description

3.1 Background

The tuberculosis bacillus *Mycobacterium tuberculosis* currently infects one third of the global human population, and 5-10% of them are estimated to experience morbidity at one point during their lifetime. The bacteria are usually contained by the human immune system and remain dormant, but particularly in persons with depressed immune functions or upon weakening of the immune system the bacteria reactivate and the former carrier may become a sick TB patient. Most commonly, the bacteria reside in the lung. An infectious person expels the bacteria from its lungs into the air, creating a source of infection for others who inhale the contaminated droplets. Thus, crowded and unhygienic conditions greatly favour the spread of TB.

The estimated global TB incidence was 9.4 million in 2009. Effective treatment with high-quality drugs can not only prevent the spread of TB but also the development of MDR-TB, a condition much more difficult and expensive to treat than uncomplicated TB (drug costs of US$ 20 for a standard 6-month course of first-line TB drugs versus several thousand dollars for a 2-year course of second-line TB treatment).

The first-line TB drug market is notable for a number of characteristics. There is little innovation (no new major drugs reached the market over the last 3 decades), most drugs are not patent-protected anymore and are available from generic manufacturers, few drugs are of assured quality (e.g. demonstrated through WHO prequalification), upward price pressure exists despite attempts at purchase pooling (e.g. by GDF) and stock-outs continue to be reported by developing countries, some caused by emergency situations beyond their control but often due to weak local forecasting and management capacities.

The advent of powerful antibiotics revolutionized TB treatment but also resulted in the selection and spread of drug-resistant strains. TB strains resistant to the two most important TB drugs isoniazid and rifampicin are called multi-drug-resistant (MDR-TB). Current estimates suggest that globally, 4.8% of all TB cases harbour resistant strains. To treat such infections, prolonged treatment with costly second-line drugs is necessary. Adverse reactions elicited by these drugs are also much more severe.

The high drug costs (partly explained by the small and unattractive market) as well as the complex treatment (2 years on average), compounded by the lack of MDR-TB diagnostics and resulting demands on staff training and health system performance all contribute to a considerable shortfall in treatment delivery. Indeed, the Global Fund estimates that of a global treatment need of 270,000 per year, only 23,000 have been delivered in 2010, including 13,000 provided by the Global Fund (71% of the targeted number of treatments). The global number of MDR-TB cases treated within GLC-approved programmes is about 19,000.

Three projects are reviewed as part of the present mid-term evaluation focusing on 1) the MDR-TB Scale-Up Initiative 2007-2012, 2) the Strategic Rotating Stockpile for 2nd-line Anti-TB Drugs established as a separate project but following amendments to the MDR-TB Scale-Up Initiative and 3) the First-line Anti-TB Drugs Initiative including the integrated SRS for first-line Anti-TB Drugs.

3.2 Projects

The present mid-term evaluation covers three different projects, each with separate MoAs or LoAs:

- *MDR-TB Scale-Up Initiative 2007-2012*
- *MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile*
- *First-Line Anti-TB Drugs Initiative*

Based on the initial set up of the projects agreed on by UNITAID and partners, the SRS component (1st line SRS) for the First-Line- Anti-TB Drugs Initiative is treated as an integrated project component as it shares common LoAs while the SRS (2nd line SRS) for the MDR-TB Scale-Up Initiative is defined in a separate MoA.

MDR-TB Scale-Up Initiative 2007-2012

In 2007, UNITAID committed **USD 20,820,000** to the *MDR-TB Scale-up Initiative 2007-2011*). This project aimed at providing **4,716 MDR-TB treatment courses** of 24-months to **17 Low Income Country (LIC) and Low Middle Income Country (LMIC)**, including 6 countries under GF grants, within the period **2007-2011**. The partners of this project are GLC, GDF and GF, and the beneficiary countries are Azerbaijan, Burkina Faso, Cambodia, Dominican Republic, DR Congo, Guinea, Haiti, India, Kenya , Kyrgyzstan, Lesotho, Malawi, Moldova, Mozambique, Myanmar , Nepal, Timor-Leste), Uzbekistan.

A *first amendment* to the MDR-TB Scale-up Initiative 2007-2011 committing an additional **USD 16,842,000** towards the treatment of another **1,040** MDR-TB cases in Kyrgyzstan, Lesotho and Nepal was signed in 2009. The amendment was triggered firstly by rapid price increases of MDR-TB drugs and secondly by an important unmet need for MDR-TB drugs.

The *second amendment* signed in 2010 covered the delivery of **USD 16,384,000** worth of MDR drugs to India, equivalent to **9,850** treatments. It also extended the project duration to 2012. This second amendment brought the **total number of MDR-TB treatment courses** to **15,606** to be delivered to **18 countries** at a cost of **USD 54,046,000**.

The objectives of the original project as well as those of the two amendments are presented in Table 1. Already during the planning of the project and amendments it became clear that some objectives, namely those related to the number of MDR-TB drug producers and market dynamics, would be difficult to achieve.

Table 1. Objectives of MDR-TB Scale-up Initiative 2007-2012 and its two amendments.

Objective	Original MDR-TB Scale-up Initiative 2007-2012	First amendment	Second amendment
1	Scale-up the number of patients accessing and receiving second line anti-TB treatment.	Same as original	Same as original
2	Decrease drug delivery lead times and prevent stock-outs.	Same as original	Same as original
3*	Increase the number of quality manufacturers and products.	Same as original	Same as original
4*	Achieve continuous price reductions of up to 20% for second line anti TB drugs by 2010.	- Ensure cost containment per treatment by 31 December 2011 and, subject to a sufficient number of quality assured sources being available. - Achieve price reductions of 5-25% for key** second-line anti-TB drugs by 31 December 2011.	Ensure cost-containment per treatment by 31 December 2012.
5*			Achieve price reductions of 5-25% for key* second-line anti-TB drugs by 31 December 2012 (subject to a sufficient number of quality assured sources being available).

** It is acknowledged that these objectives can not be optimally achieved within the project.*
*** Key products are defined as Capreomycin, Cycloserin, PAS and one of the three flouroquinolones (Moxifloxacin, Levofloxacin, Ofloxacin).*

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

A small rotating stockpile (2nd line SRS) of MDR-TB drugs was established in the frame of the MDR-TB Scale-up Initiative 2007.2012. It comprised drugs for 800 patients. This size was deemed inappropriate and in response, the project *MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile* was launched in 2008. It was originally scheduled to last until 2011 but a no-cost extension request extended the duration to 2012, albeit an extension to 2015 had been sought (see Table 2 for details).

The SRS has a value of **USD 11,458,000** which was calculated to correspond to **5,000** treatment courses. The size of the SRS was determined based on an estimated number of 15,000 new MDR-TB treatments per year and a need to be able to service one large emergency order without endangering the rapid response to small or medium emergency orders. All **54 countries** with a GLC-approved MDR-TB treatment programme including GF countries have access to the SRS which is managed by the procurement agent in a central location in Europe. The 54 countries comprise the following Low-Income Countries (LIC), Low-and Middle-Income Countries (LMIC), Upper-Middle Income Countries (UMIC) and High-Income Countries:

- LMIC: Armenia, Azerbaijan, Bolivia, China, Dominican Republic, Ecuador, Egypt, El Salvador, Georgia, Guatemala, Honduras, Indonesia, Jordan, Lesotho, Micronesia Fed.Sts, Moldova, Nicaragua, Paraguay, Peru, Philippines, Samoa, Syria, Tunisia, Ukraine,

- LIC: Bangladesh, Burkina Faso, Cambodia, DRC, Guinea, Haiti, India, Kenya, Kyrgyzstan, Mongolia. Myanmar, Nepal, Rwanda, Tanzania, Timor-Leste, Uganda, Uzbekistan, Vietnam
- UMIC: Belarus, Belize, Costa Rica, Kazakhstan, Latvia, Lebanon, Lithuania, Mexico, Romania, Russian Federation, Uruguay
- HIC: Estonia

The objectives of the SRS are:

- Accelerate scale-up of the number of patients accessing and receiving second line anti-TB treatment through a decrease in drug delivery lead times.
- Increase the number of quality manufacturers and products.
- Achieve price reductions for second-line anti-TB drugs by 2011.

Table 2. MDR-TB Scale-Up Initiative 2007-2012 and MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile: Project Summary Overview.

Item	Description
Name	MDR-TB Scale-up Initiative 2007-2012, with amendment 1 and 2 MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile
Project summary	The purpose of these 2 projects is to increase access to and affordability of high-quality MDR-TB drugs. To achieve this goal, the projects suggest purchase of MDR-TB drugs for the benefit of treatment programmes in beneficiary countries, and establishment of a SRS of sufficient quantity to avoid treatment interruptions in all countries with a GLC-approved MDR-TB treatment programme.
Partners	MDR-TB Scale-up Initiative: GLC, GDF, GF MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile: GDF
Number of countries	MDR-TB Scale-up Initiative: 18 MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile: 54
Period	MDR-TB Scale-up Initiative: 2007-2012 MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile: 2008-2012 (extension to 2015 requested)
Budget	MDR-TB Scale-up Initiative: USD 54,046,000 MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile: USD 11,458,000

First-Line Anti-TB Drugs Initiative

The *First Line Anti-TB Drugs Initiative 2007-2008* was signed in 2007 with the Stop TB Partnership's GDF as the implementing partner. The project volume was set at **USD 26,841,025**. It covered the delivery of **866,273 first-line treatment courses** to **19 beneficiary countries** (15 LIC, 4 LMIC) under GF transitional grants[2] during a 12 month period at a cost of **USD 19,034,350**, and established a **SRS of 380,000 treatment courses** at a cost of **USD**

[2] *Transitional Grants: Transitional Grants serve as an effective bridge of uninterrupted anti-TB drug supply and treatment between different but complementary Anti-TB drug funding mechanisms. They cover the period between the phasing out of GDF Grants until own funds or funds from other donors or multilateral lending agencies are available.*

7,806,375. For the SRS, a model was chosen whereby producers would keep an agreed amount of drugs in storage for delivery upon request by GDF, against no fee but a guarantee of eventual stock purchase. Early 2009, a *No-cost extension request* of the project was approved by UNITAID as a *first amendment* to the project. It extended the project duration to end-2011, hence the re-naming of the project to *First-line Anti-TB Drugs Initiative 2007-2011*. The main drivers for this extension request were delays with regards to drug delivery to some countries, and in building up the SRS. A summary project overview is provided in Table 3.

Table 3. First-Line Anti-TB Drugs Initiative: Project Summary Overview.

Item	Description
Name	First-Line Anti-TB Drugs Initiative
Project summary	The aim of the project is to address shortages of 1st line anti-TB drugs in order to reduce the risks of treatment interruption and drug resistance development in two particular areas: a) Countries facing shortages due to a gap between the end of GDF Grant support and the beginning of support from a future confirmed funding source ("transitional grants") b) Countries facing shortages for various other reasons e.g. natural disasters or lack of effective planning capacity, through the creation of strategic rotating stockpile(s).
Partners	GDF
Number of countries	19
Period	2007-2011
Budget	USD 26,841,025

The three objectives of the original initiative, presented below, were not influenced by the amendment, and were intended to ensure country access to high-quality first-line anti-TB drugs and to positively impact TB market dynamics to increase the affordability of first-line anti-TB drugs. The objectives are:

1. Through Transitional Grants: minimize the risk of stock-outs and therefore drug resistance among countries that will face a gap in drug supply between the end of a GDF grant and the beginning of a planned future source of funding for first-line anti-TB drugs.
2. Through a Strategic Rotating Stockpile: prevention of stock outs, reduce lead times and overall treatment costs for drug deliveries by reducing the ratio of expensive freight/emergency orders to non-expensive freight/ urgent orders[3].
3. Through Transitional Grants and Strategic rotating Stockpile(s):
   a) Achieve cost containments of anti-TB drugs in the short-term by strengthening GDF purchasing power in its Q3/Q4 2007 tender.
   b) Achieve price stabilization and potential price reductions in the medium term (2009) since catalysis of prequalification of first-line TB drugs, and with it the development of a larger competitive pool of prequalified first line anti-TB drug manufacturers, is expected to occur as a result of UNITAID's contribution to the maintenance of a sustainable market and aggregated demand via GDF for first-line anti-TB drugs.

[3] *Urgent and emergency orders are defined based on the expected lead time for delivery.*

4 Findings details

This section is based on the findings recorded in the evaluation matrix template (Annex1: Evaluation Tools). A summary of key findings is provided for each area in the boxes at the beginning of each section.

4.1 Relevance

The objective of this section is to assess whether activities implemented by the project are consistent with the initial project plan and in line with UNITAID objectives and strategy.

Rating		**Level of confidence**	
☐	Optimal	☒	Optimal
☒	Minor concerns	☐	Minor concerns
☐	Major concerns	☐	Major concerns

Key findings

Findings common to all Projects

- All activities are consistent with the project plan and objectives, and in line with UNITAID's overall goal. Activity numbering and definitions vary between project plan and M&E log frames.
- A set of indicators measuring key project progress have been developed and are implemented. Indicator numbering and definitions vary between the project plan and M&E log frames.
- Partner consultation appears to be marred by some inefficiency (e.g. indicator uncertainties and request for changes persist).

Project Specific Findings

MDR-TB Scale-up Initiative 2007-2012

- In 2010, the cumulative disbursements reached 62%. Actual expenditures reached 52%.
- The UNITAID standard allocation of treatments and budget to countries (LIC, LMIC and UMIC) was replaced by a system which better accounts for the global distribution of the MDR-TB burden and health system capacity.
- Objectives are on track except patient treatment cost and drugs price containment partly as a result of external factors.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- In 2010, a total of 23 urgent and emergency deliveries were serviced through the SRS.
- It is not possible to clearly assign activities and progress reported for objective 2 (increase nb of quality manufacturers) and 3 (achieve price reductions) to either of the two projects *(MDR-TB or SRS)* as a result of combined reporting.
- The budget execution rate was 92%. The budget absorption rate was 64%.

First-Line Anti-TB Drugs Initiative

- Objective 1 (transitional grants) appears to be achieved (SRS stock report is required to conclude on the achievement) but objectives 2 (through prevent stock outs, reduce lead times etc.), and 3 (through SRS and transitional grants achieve price stabilization/reduction and cost containment) were not fully achieved.
- The budget execution rate is 100%. The overall budget absorption rate covering non-SRS and SRS-costs is 70%. The budget absorption rate for non-SRS costs only is 99%.

1. Are the activities and expected outputs of the project consistent with the objectives and expected outcomes as described in the project plan?

MDR-TB Scale-Up Initiative 2007-2012
(as of 2nd Amendment)

Project plan
The activities planned in the frame of the *MDR-TB Scale-up Initiative 2007-2012* according to the project plan are consistent with the 5 objectives of the project. Activities listed in the project plan are explicitly linked to one or several objectives and are in line with the overall goals of UNITAID. To address objective 2 (Decrease drug delivery lead times and prevent stock-outs), the project plan asks for the establishment of a SRS. A small SRS of 800 treatments was indeed established within the frame of the MDR-TB Scale-up Initiative 2007-2012 but in 2008, a SRS comprising 5,000 additional treatments was established through the MDR-TB Acceleration of Access Initiative: SRS.

Reference documents indicating the number and definition of activities have developed since project commencement, from the original project plan to Exhibit 4A, displaying the most updated M&E log frame reported on. Activities in the reference documents, project plan and currently in Exhibit 4A, have however not been fully harmonised. As a result, the total number of operational activities (9 in project plan opposed to 11 in Exhibit 4A) differ and can not be directly associated with each other between these two documents e.g. activity 5.7 of the project plan is pursued by activities 3.1 and 3.2 of Exhibit 4A (see Table 4). General project implementation activities, not listed in Table 4, refer to M&E and reporting.

The action plan identified one or several indicators for all planned activities, often indicators are well formulated but some are also broad and qualitative and sometimes difficult to measure or subjective (terms like “reasonable”, “acceptable”). Indicators defined in the Exhibit 4A are quantitative and the nominator and denominator for their calculation are spelled out. Each indicator refers to exactly one activity (see Table 4).

Table 4. Objectives, activities and indicators of the project MDR-TB Scale-up Initiative 2007-2012 (except M&E and reporting activities).

	Objectives		Activities (Project plan)		Activities (Exhibit 4A)	Indicators (Exhibit 4A)
1	Scale-up the number of patients accessing and receiving second line anti-TB treatment.	5.1	Beneficiary country selection process and definition of scale-up targets.	1.1	Selection of beneficiary countries in accordance with UNITAID eligibility criteria.	Per cent of total budget allocated to LIC, LMIC, UMIC.
		5.2	Technical review by GLC.	1.2	Agreement signed with the relevant Authority of Beneficiary Programmes.	Country applications reviewed and approved by GLC.
		5.3	Agreements signed with the relevant authority of beneficiary programs.			
		5.4	WHO/GDF's contract with its procurement agent.	2.1	Define scale up targets (project)	Increase in number of patient treatments delivered under the Project.
		5.5	Official purchase orders.	2.2	Define scale up targets (per country)	Increase in number of patient treatments delivered per country.
2	Decrease drug delivery lead times and prevent stock-outs.	5.6	Rotating stockpile MDR-TB*.	3.4	Ensure standard drug delivery lead time of 4 - 6 months	Average lead time for delivery of drugs to countries.
3	Increase the number of quality manufacturers and products.	5.7	Engage and negotiate with industry to produce appropriate second-line drugs and collaborate with the WHO Prequalification Program to stimulate prequalification of second-line drugs.	3.1	Engage and negotiate with industry to produce appropriate second-line drugs.	Increase in number of new manufacturers in existing GDF catalogue for MDRTB treatments.
				3.2	Engage and negotiate with industry to produce appropriate new second-line drugs.	Increase in number of manufacturers of new MDR TB products.**
4	Ensure cost-containment per treatment by 31 December 2012.	5.7	See above.	3.1 3.2	See above.	See above.
		5.8	Tendering and long term agreements with suppliers of second-line drugs.	3.3	Negotiate Long term agreements (LTAs) with manufacturers for MDR-TB products.	Increase number of LTAs signed with manufacturers for supply of MDR-TB products.
				4.1	Cost containment.	Cost containment per treatment (intensive phase of commonly used regimen).
				4.2	Affordability.	Ensuring that drugs supplied by GDF of assured quality are the most affordable globally.
5	Subject to a sufficient number of quality assured sources being available, achieve price reductions of 5-25% for key second-line anti-TB drugs by 31 December 2012.	5.7	Engage and negotiate with industry to produce appropriate second-line drugs and collaborate with the WHO Prequalification Program to stimulate prequalification of second-line drugs.	3.1 3.2	See above.	See above.
				4.2 (3)	Price reduction.	Price reduction for key quality assured drugs (quality as defined by GDF's quality policy).
	General project implementation activities	5.9	Technical assistance, including involvement of Stop TB in-country partners.			

** Reporting on the SRS is under the project Acceleration of Access: SRS.*

***Not reported – removal or revision requested by GDF.*

The respective allocation of treatments and budget to countries classified as LIC, LMIC and UMIC is markedly different from the proportions UNITAID generally pursues (Table 5). However, the current distribution better accounts for the global distribution of the MDR-TB burden and health system capacity to treat identified cases. Of note, the budget allocation to UMIC is disproportionately high. Also, it must be noted that UNITAID goals pertain to its entire portfolio and not necessarily to all individual projects.

Table 5. Allocation of treatments and budget to countries classified as LIC, LMIC and UMIC.

	Global MDR-TB burden (%)	No. of patient treatments	%	Budget allocated	%	UNITAID goal
LIC	40.6	2,929	50.9	11,295,091	41.6	>85
LMIC	46.4	1,334	23.2	5,193,662	19.1	<10
UMIC	12.2	1,493	25.9	10,647,496	39.2	<5
Total	99.2	5,756	100	27,136,249	100	100

Note: the project activities in India are not considered here. India is classified as LMIC.

It is worth noting that price comparison to GPRM has previously been reported by the GDF as a challenge because of comparability issues but UNITAID and GDF have so far not agreed on an alternative indicator or methodology to measure GDF performance in price negotiation.

The **methodology to estimate the lead time** is not well defined as full courses are not delivered in one shipment. Although orders are placed for full treatments, countries request scattered deliveries because of the drugs short shelf life. Although they are ordered at the same time, drugs required for the first year of treatment and for the second year are shipped 10 months apart. Moreover, some countries may place an order with a preferred delivery date that exceeds the target 4 month lead time. There is currently no methodology to identify and remove those outliers from the estimate of the lead time.

The **definition of new products** for action 'Engage and negotiate with industry to produce appropriate new second line drugs' and relating indicator 'increases in the number of new MDR TB products' does not appear to be clear to both parties. There seems to be some confusion about the definition of new drugs.

The **number of drugs delivered** does not translate automatically in patients treated. There is an about six month time lag between the collection of data on the TB patient cohort and the release of the report. About 24% of patients are estimated by GLC as dead, defaulting or failed. There are also some delays in the initiation of the treatment because delays in getting drug susceptibility tests results. Phases' duration vary which makes the calculation of patients treated based on drug volumes delivered even more complex. The GDF had to develop a methodology to extrapolate the number of patients treated based on the treatment delivered taking into account the above mentioned factors.

Project financing

Project funds were released by UNITAID according to the original schedule until 2010 when only USD 11,947,000 towards the funding of drugs for India were released instead of the planned USD 18,480,646 which also included funds for other countries. The reduction was a reaction to the build-up of unspent funds with GDF. Thus, the cumulative disbursements until end-2010 were USD 33,512,302 out of the approved budget USD 54,046,000 (62 % Budget Execution Rate). Actual expenditure was USD 27,930,490 (52% Budget Absorption Rate). In addition, USD 8,643,631 of this amount was committed (orders placed but not yet paid). A request for the reprogramming of country-specific funds has been submitted to re-distribute funds from countries

with funding requirements which are lower than expected to countries with funding shortfalls. According to the re-calculation of funding needs, 9 of the 18 countries have sufficient or surplus funding; surpluses, together with the funds from the cost fluctuation buffer, are expected to be sufficient to cover the funding shortfalls of the other 9 countries, including India.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

Project plan

The activities and expected outputs of the project *Acceleration of Access: SRS* are consistent with the objectives and expected outcomes as described in the project plan. Three objectives have been formulated for the project. These objectives are pursued through 11 activities according to the project plan while in the Monitoring and Evaluation Template (Exhibit 3A) a total of 16 activities are listed (Table 6). All three objectives are supported by at least 1 activity; 5 (project plan) or 4 (Exhibit 3A) activities can not be clearly assigned to a certain objective but rather guide project implementation (3 activities listed in the project plan) or relate to M&E and reporting (the remaining activities). The objectives and activities of this project are in line with the overall goals of UNITAID, namely "to contribute to scaling up access to treatment for HIV/AIDS, malaria and tuberculosis, primarily for people in low-income countries, by leveraging price reductions for quality diagnostics and medicines and accelerating the pace at which these are made available". All activities appear to be pursued with similar rigour.

In 2010, a total of 23 urgent and emergency deliveries were serviced through the SRS. Of these, 8 (34.8%) were to LICs, 9 (39.1%) to LMICs and the remaining 6 (¨26.1%) to UMICs. This pattern is markedly different from the respective proportions generally aimed at by UNITAID (LIC >85%; LMIC <10%, UMIC <5%) but consistent with the global pattern of MDR-TB burden and health system capacities to treat identified MDR-TB cases.

In general, the project is well structured and progress of all except one activity (activity 5.7 GDF's quality assurance policy) is monitored through at least one indicator (see Table 6 for details). However, progress with regards to objective 1 is reported through 4 indicators (specified in Exhibit 3A) while progress on operational activities related to objectives 2 and 3 is not reported in the frame of this project. Instead, due to combined reporting for the MDR-TB Scale- Up Initiative 2007-2012 and the MDR-TB Acceleration of Access Initiative: SRS, information on respective progress is provided in the dedicated section of the MDRT-TB Scale-Up Initiative 2007-2012. Thus, it is not possible to clearly assign activities and progress reported under the MDR-TB Scale-up Initiative to either of the two projects. Instead, any market impact achieved and activities to promote it must be seen as the result of joint implementation of both projects.

Table 6. Objectives, activities and indicators of the project *Acceleration of Access: SRS* (except M&E and reporting activities).

	Objectives		Activities (Project plan)		Activities (Exhibit 3A)	Indicators (Exhibit 3A)
1	Accelerate scale-up of the number of patients accessing and receiving second line anti-TB treatment through a decrease in drug delivery lead times.	5.2	Agreements signed with the relevant authority of beneficiary programs.	5.3	Establishment of the strategic rotating stockpile for MDR-TB drugs.	Fully functional stockpile in place and servicing orders for countries.
		5.5	Relating to lead-time reduction and avoidance of stock-outs.	5.4	Countries using the stockpile to meet an urgent need for MDR-TB drugs to enrol new patients or continue treatment of existing patients.	Use of the stockpile to meet an urgent need for treatment.
		5.9	Technical assistance, including involvement of Stop TB in-country partners.	5.5	Establishing that the Stockpile is large enough to meet urgent orders without diminishing stocks to levels that are sub-optimal for medium to small urgent orders.	Time elapsed between country request for emergency MDR TB drugs and the receipt of these drugs in country.
				5.4	Volume of Stockpile used.	Utilization of the stockpile by drug volume (units).
				5.5	Time MDR-TB Drugs are out of stock in GLC approved Countries.	Average percentage of time that MDR-TB drugs used in the intensive phase (most common regimens as per Exhibit 3) are not available in countries.
				5.5	Decrease drug delivery time from 4 - 6 months to 1 - 2 months.	Average lead time for delivery of drugs to countries.
		5.1	Technical Review by GLC.			
		5.3	Amendment of WHO/GDFs contract with its procurement agent.			
		5.4	Official Purchase Orders.			
2	Increase the number of quality manufacturers and products.	5.6	Engage and negotiate with industry to produce appropriate second-line drugs and collaborate with the WHO Prequalification program to stimulate prequalification of second-line drugs.	5.6	Identify suppliers for new MDR-TB products.	Suppliers of new MDR -TB products.
		5.7	GDF's quality assurance policy.	5.6/5.7	Increase the number of suppliers for MDR-TB products in the existing GDF catalogue	New suppliers in existing GDF catalogue for MDR-TB treatments.
				5.8	Long term agreements (LTAs) negotiated with suppliers for MDR-TB products.	LTAs signed with suppliers for supply of MDR-TB products.
3	Achieve price reductions for second-line anti-TB drugs by 2011.	5.8	Tendering and long term agreements with suppliers of second-line drugs.	5.8	Cost containment.	Cost containment per treatment (intensive phase of most commonly used regimens).
				5.8	Affordability.	Ensuring that drugs supplied by GDF of assured quality are the most affordable globally.
				5.8	Price reduction.	Price reduction for key quality assured drugs (quality as defined by GDF's quality policy).

Project financing

The Annual Report 2010 does not contain a financial report pertaining to the Acceleration of Access: SRS project. According to the Progress Update 2009 (submitted in July 2010), a total of USD 9,585,303 out of the overall budget of USD 10,449,389 has been disbursed as a lump sum in 2008, a budget execution rate of 92%. The budget absorption rate was USD 6,736,802 or 70% of the disbursed funds and 64% of the total planned budget. These values have certainly increased in 2010. Since the disbursement made in 2008 was sufficient to cover all project needs, the scheduled disbursement for 2009 was not executed. In addition to the total funds to be disbursed (USD 10,449,389), USD 232,710 were available as stockpile loss contingency funds and USD 775,770 as cost fluctuation buffer. This total sum of USD 1,008,480 explains the difference between the sum of planned disbursements and the total budget as represented in the original budget plan (USD 11,457,799). Since these budget lines were retained by UNITAID and only disbursed in whole or part upon request by GDF on one or more occasions during the project lifetime, based on sound justification, they have not been considered when calculating the disbursement and budget execution rate. Interests accrued on UNITAID funds are not reported on for the SRS.

First-Line Anti-TB Drugs Initiative

Project plan

Three objectives have been defined for the First-Line Anti-TB Drugs Initiative. All activities and indicators have been defined and implemented in line with these objectives serving the overall goal of the project which is to "ensure country access to high-quality first-line anti-TB drugs and to positively impact TB market dynamics to increase the affordability of first-line anti-TB drugs"[4]. All three objectives have at least one activity which has been developed to reach the formulated objectives. According to the project plan a total of 8 operational activities (excluding general project implementation activities such as M&E and reporting) have been defined while the original Monitoring and Evaluation log frame (Original LoA, Exhibit 5) displays a set of 11 operational activities and the amended M&E log frame (1st Amendment, Exhibit 3A) lists 9 operational activities. Activity numberings and definitions have therefore not been harmonized across the three reference documents (see Table 7).

Each activity is monitored with a corresponding indicator (see Table 7), but again indicators in the project plan and Exhibits 5 and 3A vary in their focus and definition. With completion of objective 1 (transitional grants) in 2009, the focus of reporting changed to solely cover activities and indicators defined in the amended M&E log frame (Exhibit 3A). As the original M&E log frame was only developed after LoA signature, the reported information has not entirely corresponded to the original M&E log frame since project commencement. Furthermore, for the presently reported on M&E log frame (Exhibit 3A), GDF has suggested the revision of some indicators or has posed indicator relevant clarification requests. These numerous problems associated with the M&E log frame highlight limited partner coordination during the initial set up phase of the project to harmonize the M&E log frame and reporting requirements with actual project implementation. As presented in AR 2010, GDF appears to be the most active party emphasizing the revision of indicator definitions. Overall, indicators cover important activity areas of the Initiative such as Treatment Targets, Quality Assurance and catalysis of Prequalification, Procurement Efficiency and Stockpile, Cost Containment and Affordability.

[4] *Original MoA First-Line Anti-TB Drugs Initiative, p.2*

Table 7. Objectives, activities of the First-Line Anti-TB Drugs Initiative (except M&E and reporting activities).

	Objectives	Activities (Project plan)	Activities (Exhibit 5)	Activities (Exhibit 3A)	Indicators (Exhibit 3A)
1	Through Transitional Grants: minimize the risk of stock-outs and therefore drug resistance among countries that will face a gap in drug supply between the end of a GDF grant and the beginning of a planned future source of funding for first-line anti-TB drugs.	5.1 Beneficiary country selection process.	5.1 Selection of eligible countries.	N/A	
		5.2 Technical review by TRC including approval of treatment targets.	5.2 Review eligible transitional grantees.	Delivery of firs-line TB treatments in accordance with targets set by Technical Review Committee (TRC) recommendations and agreement with countries.	Number of patient treatments delivered under the project.
		5.3 Agreements signed with the relevant authority of beneficiary program.	5.2 Treatment targets.	Delivery of 1st-line TB treatments in accordance with targets set by TRC recommendations and agreement with countries.	Number of patient treatments delivered per country.
2	Through a Strategic Rotating Stockpile: prevention of stock outs, reduce lead times and overall treatment costs for drug deliveries by reducing the ratio of expensive freight/emergency orders to non-expensive freight/ urgent orders.	5.4 WHO/GDF's contract with its procurement agent.	5.3 Signature of grant agreements	5.7 Negotiate long-term agreements with manufacturers for 1st-line TB products.	Number of LTAs signed with manufacturers for supply of 1st line-TB products.
		5.5 Official Purchase Order.	5.5 Long term agreements signed with suppliers	5.6 Reduce the time 1st-line drugs are out of stock in the TRC approved countries.	Percent of time that 1st line drugs are not available in countries.
			5.5a Ensure on-time delivery	5.6 Countries using the stockpile to meet an urgent need for 1st line TB drugs to enrol new patients or continue treatment of existing patients.	Per cent of countries using the stockpile to meet urgent, unforeseen needs recorded and reported to GDF and UNITAID.
		5.6 Rotating Stockpile (also relevant for objective 3).	5.6 Ensure product availability, delivery lead-times and percentage of orders delivered on-time.	5.6 Improving the ability of GDF to respond to urgent or emergency orders for 1st-line TB treatments using stockpile.	Length of time (days) between emergency order request and delivery of treatments to country.
3	Through Transitional Grants and Strategic rotating Stockpile(s): a) Achieve cost containments of anti-TB drugs in the short-term by strengthening GDF purchasing power in its Q3/Q4 2007 tender.	5.7 Engage and negotiate with industry to produce appropriate first-line drugs and collaborate with the WHO prequalification program to stimulate prequalification of first-line drugs.	5.7 Ensure procured products are compliant with agreed quality standards, increased number of prequalified products.	5.7 Engage and negotiate with industry to stimulate product prequalification.	Number of additional generic 1st line-TB products eligible for GDF purchases.
	b) Achieve price stabilization and potential price reductions in the medium term (2009) since catalysis	5.8 Competitive tendering among suppliers of first-line anti-TB drugs.	5.4 Competitive tenders issued to eligible suppliers by GDF procurement agent.	Demonstrate cost containment per patient treatment of 1st-line TB drugs used in the most commonly used	GDF secured cost in 2011 compared to baseline cost.

Objectives	Activities (Project plan)	Activities (Exhibit 5)	Activities (Exhibit 3A)	Indicators (Exhibit 3A)
of prequalification of first-line TB drugs, and with it the development of a larger competitive pool of prequalified first line anti-TB drug manufacturers, is expected to occur as a result of UNITAID's contribution to the maintenance of a sustainable market and aggregated demand via GDF for first-line anti-TB drugs.			regimens.	
		5.8 Ensure price containment and price reduction.	Demonstrate that 1st-line TB drugs supplied by GDF of assured quality are the most affordable globally.	GDF secured price compared with lowest price available from non-GDF manufacturers/mechanism using same quality standards.

Project financing

The budget execution rate is 100% (26'840'725 USD/26,841,025 USD). All disbursements have been made in the full amount (1st and 2nd disbursement) according to schedule. The 1st disbursement was on time (7 September 2007), the second disbursement was made with few days delays. Interest was earned in the amount of 274'563 USD from 2007-2008 increasing the total available funds. The interest earned has been added by GDF to the funds available for the stockpile as agreed on between UNITAID and GDF in the 1st Amendment of original LoA. The overall budget absorption rate covering non-SRS and SRS-costs (including interest earned) is 70%. However, by separating the budget absorption rate for non-SRS costs a 99% (not including interest earned) is reached. The entire original budget for SRS remains available and has increased due to interest earned and unexpended balances to 8'276'584 USD. SRS budget is in fact a reserve capital to guarantee the value of any supplier-held stock that may be available at the conclusion of Long term Agreements, to replenish any stocks lost.

2. **Is it possible to show how the project has contributed to UNITAID's overall goal of using innovative, global-market based approaches to improve public health by increasing access to quality products to treat, diagnose and prevent HIV/AIDS, tuberculosis and malaria?**

As described hereafter, all projects contribute to UNITAID's overall goal of using innovative, global-market based approaches to improve public health by increasing access to quality products to treat tuberculosis. However, the SRS components of these projects have not demonstrated individual contributions to UNITAID's goal.

GDF on the demand side contributes to sustaining demand and increasing access to TB drugs by linking grants to DOTS expansion policy, technical assistance for drug management and monitoring functions. On the supply side, GDF's approach of *pooled financing and commodity purchase* has a demonstrated effect on price. According to Mc Kinsey 2008 evaluation of the GDF model, the GDF approach encourages standardization of products and price reductions through bulk procurement.

GDF works at both ends of the market: it supports demand creation by supporting countries in the national TB program management including forecasting and collaborates with the industry to negotiate lower prices by providing market intelligence about short and medium term demand. Its procurement model also contributes to reduce drug prices by fostering competition, increasing suppliers' base and supporting a harmonized demand:

- GDF awards for drug procurement are split among eligible suppliers, to encourage diversification of the supplier base.
- GDF promotes the prequalification of products by offering price buffers in their tenders and by closely working with the WHO PQP and US Promoting the Quality of Medicines (USP PQM) which assists manufacturers in the process.
- GDF collaborates with the Global Fund and other UN agencies to harmonize their QA policies and eventually coordinates their efforts in forecasting countries' needs in TB drugs. This has contributed to maintain a predictable level of demand for industry.

MDR-TB Scale-Up Initiative 2007-2012

The MDR-TB Scale-up Initiative focuses on the provision of anti-MDR-TB drugs to 15,606 patients in 18 countries. No data are available on the number of MDR-TB patients actually treated with the UNITAID funded drugs. WHO releases reports on the number of patients treated globally but with a 18 to 24 month lag time. Hence GDF uses a formula to estimate the number of patients potentially treated with the drugs delivered based on the quantity of injectable products used during the intensive phase (6 months on average, increased to 8 months for Eastern European countries with high resistance patterns). Although there is no information on the accuracy of this method, GDF reckons that a

30% deviation from UNITAID GDF agreed targets should be deemed acceptable. The proposed deviation is supported by the high number of defaulted patients, patients who died during treatment and treatment failure (which combined account for 24% of all patients) and changes in regimen (owing to resistance patterns and delayed drug susceptibility test results). Based on the GDF formula, as of end of 2010, since project inception, GDF has delivered enough injectables to initiate treatment for an estimated 3,973 patients in 16 countries and 6,525 treatments have been ordered but not yet delivered. UNITAID does not appear to have formally endorsed GDF methodology to estimate number of patients potentially treated. Although a milestone in the SRS list of indicators required GDF to have *GLC Countries reporting on MDR TB stocks held on a quarterly basis for national, regional and district stores,* these quarterly reports do not appear to be used to estimate MDR TB drug actual consumption and number of patients treated. The existence of these reports has not been demonstrated.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

The SRS partially or fully satisfied 23 urgent orders from 19 countries with a median lead time of 33 days. In 2010, no GDF-confirmed stock-outs of MDR-TB medicines were reported in the 54 countries with a GLC approved MDR-TB treatment program.

GDF extended the Order Management System's scope to include information relating to SRS inventories and transactions. The team of assessors requested IDA and GDF to share SRS end of month stock reports to evidence GDF reports on the size of the SRS. GDF could not share such reports as it appears that GDF OMS can not retroactively generate any reports. As a result, although indicators on SRS features are detailed in the performance framework, there is no appropriate system to report against them. The methodology to estimate the quantity of treatments based on the quantity of drugs in stock is not clearly defined. Hence there is insufficient information on the quantity of treatments that were actually in stock at IDA throughout the implementation of the SRS. GDF reported on the consolidated volume of transactions (what went in and what went out) which is not deemed sufficient to demonstrate the actual existence and the volume of the stockpile.

Hence, it is not possible to assert whether the anti MDR TB drugs stockpile has had any contribution to the UNITAID goal as prevention of stock out could be the result of diversion/re allocation of orders from a country with less urgent needs. GDF defines the urgent and emergency order based on countries requested delivery lead time.

First-Line Anti-TB Drugs Initiative

Grants

In compliance with UNITAID's goals, all targeted treatment deliveries were approved, ordered and received by grantees according to TRC targets and agreements with countries. In total, 785'080 patient treatments have been delivered to the 19 low and low-and middle income beneficiary countries (LIC: Bangladesh, Burkina Faso, Guinea, Kenya, Madagascar, Mali, Mozambique, Myanmar, Niger, Nigeria, Rwanda, Tajikistan, The Gambia, Togo, Uganda; and LMIC: Bosnia & Herzegovina, Cameroon, Cote d'Ivoire, Iraq). No information has been reported on the number of patients treated or diagnosed per country although GDF carries out annual monitoring mission during which GDF collects data on the number of patients reported as treated. The M&E log frame (Exhibit 3A) requires reporting on the delivery of first-line TB treatments only, explaining the non-availability of data on patients treated or diagnosed per country. As of December 2010, GDF did not have regional support officers in place to monitor if procured treatments are effectively dispensed. However, as part of the new GDF structure, a stronger focus on a regional representation is anticipated.

First-Line Anti-TB Drugs Initiative SRS

According to the GDF reports, despite delays in stockpile creation, the stockpile was accessible by all 19 beneficiary countries, offering a supply of 380'000 treatment courses. In 2010, six of the countries have used the stockpile for either emergency, accelerated or regular orders. The remaining countries did not request deliveries from the stockpile, as no emergency/urgency situations occurred. The main reason for countries to use the stockpile for regular and accelerated orders was to ensure adequate stock rotation to prevent drug expiry/write off.

The team of assessors interviewed the GDF person in charge of SRS management, the GDF procurement agent and suppliers of the first-line anti-TB drugs and concluded that the strategic stockpile did not materialize in the form that was discussed and agreed with UNITAID. According to the GDF SRS manager, the SRS effectively functioned as a combination of a physical and virtual stockpile from late 2008 to mid 2009. Please find further details on the SRS challenges in report section 4.2 Effectiveness and 4.4 Impact. During that period, according to GiZ (the procurement agent for GDF First-Line Anti TB- drugs), emergency orders from countries that had been reported to be served from the stockpile were in fact served from supplier stocks or from suppliers fresh production which had been reallocated from countries with regular orders to countries with urgent needs. GDF explained to the team of assessors that the SRS was integrated into the regular system and that GDF reports on the orders served from the SRS were the result of a selection of orders served with the shortest lead time. GDF interim and annual reports are UNITAID's primary source of information on project's implementation hence it is unlikely that UNITAD is fully aware of the situation of the first line SRS.

At no point in time, since project's inception, were 380,000 treatment courses stored on suppliers premises.

Without commenting on the appropriateness of its virtual nature and on the reliability of GDF reports on orders served from the SRS, the assessor notes that the SRS did not prevent the occurrence of stock outs and hence this component is not deemed to have contributed to UNITAID's goal.

4.2 Effectiveness

The objective of this section is to assess whether objectives of the project have been achieved, and what are the factors for achievement or non-achievement of those objectives

Rating		**Level of confidence**	
☐	Optimal	☐	Optimal
☐	Minor concerns	☒	Minor concerns
☒	Major concerns	☐	Major concerns

Key findings

Findings common to all Projects

- Information on the number of patients actually treated with UNITAID funded drugs is not available.

Project Specific Findings

MDR-TB Scale-up Initiative 2007-2012

- As of December 2010, 18 countries have received GLC approval, 3,973 (25% of the treatment target) patient treatments have been delivered and 6,525 (42% of the treatment target) have been ordered but not yet delivered. Some countries have experienced delays during the process.
- Although the manufacturers' base has increased, the supply remains vulnerable to disruption and price increases.
- Average lead time is lower than the 4 month target (102 days in 2010) and hence the target is deemed met.
- Nine out of 13 (70%) products of the MDR TB drug catalogue have at least two suppliers.

GDF has hence achieved the target for 50% of the products.

- It is not possible to assert whether the target of 2 LTAs per product has been achieved.
- Between 2008 and 2010, overall MDR-TB drug prices increased so did treatment costs but according to MSH IDPIG, prices paid by GDF remained lower than market prices.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- In 2010, there was no confirmed stock out and procurement delivery lead time was less than 2 months. All urgent orders placed could be satisfied.
- The ratio cumulative quantity of drugs reported / received in 2010: SRS objective (5,800 patient treatments) exceeds 100% for all MDR-TB drugs except for Capreomycin (Russian label- 92%) and Kanamycin (7%). This information shows that some stocks existed but is not deemed sufficient to confirm that the GDF and IDA have maintained a stock of 800 patient treatments at all times.
- No stock-outs of MDR-TB drugs were reported in 2008, 2009 and potentially in 2010.
- In 2010, the average ratio of the cumulative quantity of products received and issued amounted to 72% for all products, meeting the target pertaining to stock rotation.

First-Line Anti-TB Drugs Initiative

- Objective 1 has been achieved with all countries completing their transition from UNITAID funded grants as of 31 December 2010.
- By the end of 2010, about 100% (785'080) of first-line anti-TB drugs were delivered to all 19 designated beneficiary countries according to TRC defined targets.
- GDF is well on track to increase the number of 1st line-TB products eligible for GDF purchase.
- All four key product formulations and nine non-key products of the catalogue have at least one QA compliant source.
- The cost for Cat. I & III - 2(RHZE)/4(RH) decreased by 27% between 2009 and 2010 whereas Cat II 2S(RHZE)/1(RHZE)/5(RHE) increased by more than 100%.
- Reference market prices to compare GDF product prices are only available for 2009 from the IDPIG. For eight out of nine products of equivalent quality, GDF price was lower than the lowest listed market price.
- In 2010, the average lead time was 55 days and hence exceeded the 30 days target for serving emergency orders.
- In 2010, a total of 12 stock outs have been reported as opposed to the target of 0 stock outs.

First-Line Anti-TB Drugs Initiative SRS

- The SRS model is not defined in sufficient detail and its performance has never been adequately reported. Although it has not been functioning since mid 2009, GDF reported on orders served from the SRS until December 2010.

3. To what extent were the objectives of the project achieved?

MDR-TB Scale-Up Initiative 2007-2012

MDR-TB Scale-Up Initiative 2007-2012- Health outcome

The objectives of the MDR-TB Scale-up Initiative are to increase the number of patients under MDR-TB treatment, and positively influence the MDR-TB drug market, i.e. encourage MDR-TB drug price stability or even reductions while increasing the number of manufacturers and products. By end-2010, the MDR-TB treatment applications of all 18 countries included in the MDR-TB Scale-up Initiative were approved by GLC. Using country-specific MDR-TB treatment regimens in order to calculate the amount of anti-MDR-TB drugs needed per country over the project duration, GDF determined the amount of drugs required per country to start treatment (Table 8). By the end of 2010, the project had delivered enough injectable drugs to 16 of the 18 project countries to start 3,973 treatment courses or

25.5% of the planned treatment targets (15,606 treatment courses, or the equivalent of 37% of total orders). Drugs for another 6,525 patients or 41.8% of treatment targets had been ordered but not yet delivered.

For reference: GLC approved a total of 5,650 treatments in the project countries for the year 2010 (500 in 2009 and none in 2008). A total of 10 countries had received 100% or more of the planned injectables by end-2010, with deliveries over 100% of the planned total explained by variations in the length of the treatment phases (intensive/continuation). Countries which had received or ordered less than 50% of the required drugs to initiate treatment of the planned MDR-TB cases were Burkina Faso, Guinea, Timor Leste and India. The countries which had not yet received drugs were India, which expected its first delivery of slightly less than half of the required total amount of drugs to initiate treatment in early 2011 and Malawi which was scheduled to receive the required drugs in spring 2011. Only 3 countries were planned to initiate treatment of a patient cohort in 2011 (Azerbaijan, Kenya and India) and none in 2012 but to achieve per-country targets a total of 10 countries would have to do so. Unmet targets were planned to be compensated for during subsequent years.

The team of assessors noted that in the 2010 Annual Report no global data or broken down per country and phase (intensive and continuation) was available on the quantity of drugs to be procured over the project lifespan or which had already been delivered. It is assumed that countries first ordered the required drugs for one year of treatment and, about 10 months later, the drugs for the second year of treatment. The team of assessors notes that information on the number of patients who actually started and successfully completed anti MDR TB treatment in the beneficiary countries using the UNITAID-funded drugs was not available. The project focused on the procurement of anti TB drugs and did not include activities directly supporting treatment dispensing to patients.

Table 8. MDR-TB treatment targets and estimated quantity of treatments ordered and delivered or pending delivery by country*.

Country	Treatment target	Treatments delivered	Treatments ordered not yet delivered	Treatments delivered + ordered	% of Achievement
Azerbaijan	1,170	649	552	1,201	103%
Dominican Republic	323	288	36	324	100%
Modova	150	155	0	155	103%
Kenya	309	109	200	309	100%
Kyrgyzstan	600	347	158	505	84%
Uzbekistan	614	481	45	526	86%
Burkina Faso	60	20	2	22	37%
Cambodia	200	128	41	169	85%
DR Congo	550	317	275	592	108%
Guinea	50	19	0	19	38%
Haiti	160	247	0	247	154%
Lesotho	550	521	119	640	116%
Malawi	100	0	0	0	0%
Mozambique	100	104	0	104	104%
Myanmar	200	168	32	200	100%
Nepal	600	410	215	625	104%
Timor-Leste	20	9	0	9	45%
India	9,850	0	4,850	4,850	49%
Total	**15,606**	**3,972**	**6,525**	**10,497**	**67%**

Source: GDF 2009 and 2010 annual reports

** quantity of treatment delivered or pending delivery is estimated based on the quantity of injectable required to initiate the treatment.*

The reliability of the GDF methodology to estimate the number of patients potentially treated based on the volume of drugs delivered (discussed in report section 4.1, Question 2) can not be assessed in the absence of country information. The majority of countries benefiting from the project do not have robust health information systems and the WHO surveillance report is released about 2 years after data is collected. Indeed, the WHO 2010 Global Report on Surveillance and Response essentially reports on 2008 country data and also stresses that information on MDR TB is not comprehensive: Since 1994, only 59% of all countries globally have been able to collect data on drug resistance at national or sub-national level. There is therefore an urgent need to obtain information, particularly from the African continent and those high MDR-TB burden countries where data has never been reported according to WHO guidelines, namely; Bangladesh, Belarus, Kyrgyzstan, Pakistan and Nigeria. However, GLC monitoring mission report is another source of information providing information on the number of patients treated and treatment outcome but it appears that the GDF did not consider using GLC data to report against this target. The reason could be that it was not possible to identify and track patients treated with UNITAID funded commodities among all treated patients. Although the exact content of the MoA between GDF and beneficiary countries was not reviewed, the establishment of *a recording and reporting system designed for MDR-TB control programs that enable the monitoring of performance and the evaluation of treatment outcomes* is one of the five essential components of a TB program[5].

Another objective of this project was to ensure prompt delivery of MDR TB treatment. The team of assessor note that average delivery lead time was consistently lower than the 4 month target (100 days in 2010) and hence the target is deemed met.

MDR-TB Scale-up Initiative 2007-2011 – Suppliers' base

Among the 13 products (Table 9) of the MDR TB drug catalogue (excluding group 5 drugs for XDR TB treatment), 9 products have at least two suppliers (or 70%) hence GDF met its target to identify at least 2 manufacturers for 50% of the catalogue by Q3 2010:

The GDF product catalogue expanded from 7 products supplied by 5 producers at the end of 2007 to 21 products supplied by 21 manufacturers at the end of 2010.

Table 9. MDR-TB Supplier Base.

Supplier Base in 2010
4 products with 3 suppliers - Cycloserine 250 mg, Levofloxacin 250 mg, Levofloxacin 500 mg, PAS
5 products with 2 suppliers - Amikacin 500 mg/2ml, Kanamycin 1gr# , Moxifloxacin 400 mg, Ofloxacin 400 mg, Prothionamide 250 mg (# = Second supplier will be available in Q1 2011)
4 products with 1 supplier - Capreomycin 1g*, Ethionamide 250 mg*, Ofloxacin 200 mg*, Terizidone 250 mg (* = at least one dossier submitted to PQ or SNRA)

At the end of 2010, only two LTAs were signed and five were being finalized but the annual report did not specify for which products. It is therefore not possible to assert whether the target of having 2 LTAs per product was achieved.

[5] *Scaling up effective management of drug□resistant tuberculosis, information note*
http://www.stoptb.org/assets/documents/global/tbfriends/MDR-TB%20Information%20Note%20100811.pdf

In 2009, the GDF Expression of Interest yielded 53 applications out of which 27 were found compliant with quality standards. The Global Fund and WHO PQP websites showed (Table 10 to Table 12) that 10 products had been reviewed by the ERP and approved in 2011 and two had been prequalified between 2009 and 2010.

Table 10. List of WHO pre qualified MDR TB products as of August 2011.

Product number	Products	Dosage	Manufacturer	Date of pre qual-ification
1	Amikacin (as sulfate)	500 mg/2ml	Cipla Ltd	2011-01-14
2	Cycloserine	250mg	Aspen Pharmacare Limited	2009-06-19
2	Cycloserine	250mg	Macleods Pharmaceuticals Ltd	2007-03-23
3	Ethionamide	250mg	Macleods Pharmaceuticals Ltd	2007-12-21
4	Moxifloxacin (as hydrochloride)	400mg	Cipla Ltd	2010-11-01
5	Para-aminosalicylate sodium	60% w/w	Macleods Pharmaceuticals Ltd	2009-12-14
5	p-Aminosalicylic acid (as sodium salt) (common name)	4g	OlainFarm JSC	2011-03-22

Source: WHO PQP website

Table 11. List of ERP reviewed MDR TB products as of July 2011.

Product number	Products	Dosage	Manufacturer	Validity period
3	Ethionamide	250mg	Cipla Ltd	31/01/2012
3	Ethionamide	250mg	Lupin	15/07/2012
6	Levofloxacin	250mg	Cipla Ltd	15/07/2012
6	Levofloxacin	250mg	Macleods	31/01/2012
6	Levofloxacin	500mg	Cipla	15/07/2012
6	Levofloxacin	500mg	Macleods	31/01/2012
4	Moxifloxacin	400mg	Macleods	15/07/2012
7	Ofloxacin	200mg	Cipla Ltd	31/03/2012
7	Ofloxacin	400mg	Cipla Ltd	31/03/2012
8	Prothionamide	250mg	Lupin	15/07/2012

Source: Global Fund website

Hence from only two pre qualified products in 2008 (Cycloserine 250mg and Ethionamide 250mg) the project had managed, in collaboration with WHO PQP and USP PQM, to have 6 new products either pre qualified or ERP reviewed. In addition, during the same period 1 new product was registered by a SRA, Terizidone 250 mg.

Table 12. List of SRA registered MDR-TB products.

Product number	Products	Manufacturer
	Amikacin 500mg powder for injection	Mylan
	Cycloserine 250mg	The Chao Center
	Kanamycin 1g/4ml inj	Meiji
	PAS sodium unidose sachets	Olainfarm
	Prothionamide 250mg	Fatol Arzneimittel
9	Terizidone 250 mg	Fatol Arzneimittel

MDR-TB Scale-up Initiative 2007-2011 – Market outcome

Although the manufacturers' base increased, the supply was still vulnerable to disruption and to price increases. In 2010, the price for high range treatment elevated by 8.4% and the price for low range treatment increased by 48.76%. The price changes were mostly driven by Capreomycin (+32%) and

Kanamycin (+377%). The GDF stated that the higher prices were a result of increased API prices, US dollar exchange rate and increases in energy prices. According to a study on the US pharmaceutical industry between 1987 and 2002[6], energy costs represent between 0.7% and 1.2% of shipment value. For generic drugs (which are cheaper drugs than original ones), the share of the energy cost is expected to be greater and hence fluctuation in energy prices have a direct impact on drug price. In countries where electricity is produced using oil, the link between oil price increase and pharmaceuticals is tangible. For instance, it is estimated that about 70% of India's energy generation capacity is from fossil fuels. Between January 2008 and December 2010, the US dollar value had increased from 39 to 45 Indian rupees and 0.67 to 0.76 Euro but decreased from 109 Yen to 81 yen. Oil prices hit an all-time high of USD 145 a barrel in July 2008, dropped to USD 39 a barrel in February 2009 and have been increasing steadily since reaching USD 70- USD 80 a barrel in late 2010. Hence the relationship between drug price, the US dollar and the oil price appears to be more complex. Moreover, owing to changes in the resistance pattern and WHO recommended treatments, treatment algorithm (substitution of Levofoxacin and Kanamycin by Moxifloxacine and Amikacyn), and the length of the intensive phase (from 6 to 12 months) have been altered since project inception. As a result, the total cost of treatment further increased from USD 4,925.74 in 2008 to USD 8,026.47 (+63%) in 2010 for the high range and from USD 1,530 to 2,463.79 for the low range (+61%)[7]. In November 2010, these dramatic changes compelled GDF to submit a request for reprogramming budget lines and individual budgets allocated to countries.

Overall MDR-TB drugs prices increased between 2008 to 2010. Price reductions between 0.6% - 66.9% were noted for 9 products from 2008 - 2010 while the price of 1 product remained within 10% of the baseline price and the price of 5 products increased between 14.7% - 377.6%[8]. High and low range treatment costs calculated according to a standard methodology have increased by 8.4% and 48.8% respectively[9].

Price reduction objectives only apply to key products namely Capreomycin, Cycloserin, Para Aminosalicylate Sodium (PAS) and at least one of the three fluoroquinolones. Although Cycloserine had three potential manufacturers, the price increased by almost 15% between 2008 and 2010. The largest increases were noted for single source products (Capreomycin +32.40% and Ofloxacin +65.11) and for products with SRA registered suppliers (Kanamycin from PanPharma to Meiji +377%). Moxifloxacin experienced the greatest price decrease (-66.85%) when its supply changed from the originator (Bayer) to a generic manufacturer (Cipla).

For products of comparable quality, 4 in 2008 and 5 in 2009, the MSH International Drug Price Indicator Guide shows that GDF paid the lowest price for 3 products in 2008 (except Ofloxacin 250mg) and all 5 products in 2009.

In conclusion, the achievement of most objectives was well on track except patient treatment cost containment partly as a result of factors over which GDF had little influence. However, overall impact of the project on patients' health outcomes and MDR-TB prevalence was not demonstrated.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

The project objective was to establish an appropriately sized SRS to decrease MDR-TB drug delivery lead times (estimated at 5,800 treatments), increase the number of quality MDR-TB drug manufacturers and products, and achieve price reductions for MDR-TB drugs. Following the signing of agreements between the International Dispensary Association (IDA) and GDF, manufacturers commenced

[6] *'Energy Efficiency Improvement and Cost Saving Opportunities for the Pharmaceutical Industry' Berkeley Lab, 2005*
[7] *High range: 12 Cm Pto Cs Mxf PAS/12 Pto Cs Mfx PAS; Low range: 6 Am Eto Cs Lfx/18 Eto Cs Lfx*
[8] *2010 Annual Report page 26*
[9] *2010 Annual Report page 23*

delivering the first batch of patient treatments in April 2009. Based on the volume of products received by IDA as of June 2009, there have been some deviations from the SRS composition agreed upon. Changes were made to adjust to supply disruption (of Capreomycin, Moxifloxacin, PAS, Levofloxacin 250mg and 500mg) or to reflect product's short shelf life (Cycloserine).GDF reports that the SRS was fully operational by the end of 2010 and had achieved 100% of its operating capacity for all planned MDR-TB drugs except for Capreomycin (Russian label- 92%) and Kanamycin (7%). The reason for the limited availability of Capreomycin was an issue related to the registration of the drug in Russia following a change of manufacturing sites. As production resumed, a considerable backlog of orders had to be serviced before rebuilding stocks in the SRS. The change of supplier for Kanamycin due to quality issues with the former supplier also resulted in a backlog of orders which the new producer serviced with priority over orders to rebuild stocks in the SRS.

The team of assessors did not have access to the GDF Order Management System and hence can not assert whether the SRS could serve orders over 800 patients treatments without being completely depleted. The IDA stock report as of August 2011 shows that the stock levels of Kanamycine and to some extent Prothionamide were below the required 800 treatments in stock in any given month. This example demonstrates that GDF reports on the consolidated volume of drugs entering the stock pile and issued to serve orders, but does not provide sufficient information on the actual size of the stock-pile.

GDF reports that all 23 urgent orders in 2010 from 19 of the 54 eligible countries could be satisfied from the SRS with a median lead time of 33 days (or an average lead time of 39 days) at least to a degree that bridged the need until regular orders were delivered. In 2009, 15 out of 39 countries placed urgent orders while the reasons in 2008 to use the stockpile pertained to the completion of orders, problems with manufacturers and the need to speed up delivery. In absence of actual stock-pile stock reports, the team of evaluators assume that stock outs could have been prevented by real-locating or diverting orders.

For 12 out of 16 products, less than 60% of the Stockpile was used in 2009 (this includes the stock carried forward from 2008). The average rotation rate was about 48% for all products. In 2010, only 6 out of 16 products had less than a 60% rotating rate (this includes the stock carried forward from 2009). The average rotation rate was 72% which was above the target. The weakness of this reported figure is that it merely reflects the ratio drug received/issued whereas rotation implies that GDF also provides information on the quantity of drugs actually in stock.

No stock-outs were reported in 2008, 2009 and possibly in 2010, except for a potential non-confirmed stock-out of Kanamycin in India.

No data is available on the number of MDR-TB patients treated using drugs from the SRS.

In conclusion, the SRS has fulfilled its objective to prevent in country stock outs and to supply drugs with a delivery lead time of less than 2 months. However, the team of assessors would need more information to conclude whether these achievements are attributable to the SRS or partly to other arrangements such as orders re allocation/diversion. The measure of achievement of remaining ob-jectives (increasing the number of patients accessing and receiving treatment, increasing the number of quality manufacturers and products and achieving price reduction) cannot be carried out in isolation of the other component of the MDR-TB project*, the acceleration of Access Initiative.*

First-Line Anti-TB Drugs Initiative

First-Line Anti-TB Drugs Initiative – Health Outcome

With the completion of the treatment deliveries, objective 1 has been reported as completed in 2009. In-country stocks of the 19 beneficiary countries have been supplied with sufficient stock numbers of first-line TB drugs in order to prevent stock-outs and to support the transition period until other funding source step in. About 785'080 first-line anti TB drugs have already been ordered (close to 100% of the target), supplied and delivered to all 19 beneficiary countries according to TRC defined targets (see Table 13 below). All countries have completed the Transitional Grants as of 31 December 2010 and availability of funding from new funding source was assured as early as 2007 (quarter 3) for Rwanda and latest in 2010 (quarter 4) for Ivory Coast and Guinea. The new funding sources are split as follows:

- 12 countries transitioned from UNITAID to Global Fund. As the only country, Iraq required GDF complementary support.
- 3 countries (Burkina Faso, Cameroon, Mali) transitioned from UNITAID supported by governmental budgets.
- 1 country (Kenya) transitioned from UNITAID to the World Bank.
- 3 countries (Myanmar, Guinea, Nigeria) did not secure transitional funding on time and required additional GDF support but have now also secured funds from GF.

No information is available on patient outcome in terms of patients actually diagnosed or treated as the project focus is placed on drug procurement. No targets have been defined for patients effectively treated.

Table 13. First-line Anti-TB Drugs Initiative: Treatment targets approved, ordered and delivered and transitional grant status per beneficiary country.

Country	Treatments approved	Treatments ordered (as of 31 December 2010)	Treatments delivered	Implementation rate: Orders vs. deliveries as of 31 December 2010	Next source of funding being transitioned to for next drug supply	Completion of Transitional Grant as of 31 December 2010
Bangladesh	147'450	147'450	147'450	100%	Global Fund	Yes
Bosnia Herzigovina	3'727	3'727	3'727	100%	Global Fund	Yes
Burkina Faso	8'500	8'500	8'500	100%	Government	Yes
Cameroon	51'806	51'806	51'806	100%	Government	Yes
Cote d'Ivoire	42'476	42'476	42'476	100%	Global Fund	Yes
Guinea	18'847	18'847	18'847	100%	GDF	Yes
Iraq	4'820	4'820	4'820	100%	Global Fund/GDF	Yes
Kenya	128'058	128'058	128'058	100%	World Bank	Yes
Madagascar	45'456	45'456	45'456	100%	Global Fund	Yes
Mali	10'842	10'842	10'842	100%	Government	Yes
Mozambique	23'439	23'439	23'439	100%	Global Fund	Yes
Myanmar	114'627	114'627	114'627	100%	GDF	Yes
Niger	9'679	9'679	9'679	100%	Global Fund	Yes
Nigeria	110'542	110'542	110'542	100%	GDF	Yes
Rwanda	10'144	10'144	10'144	100%	Global Fund	Yes
Tajikistan	16'202	16'202	16'202	100%	Global Fund	Yes
The Gambia	3'524	3'524	3'524	100%	Global Fund	Yes
Togo	3'824	3'824	3'824	100%	Global Fund	Yes
Uganda	30'667	30'667	30'667	100%	Global Fund	Yes
Total	**785'080**	**785'080**	**785'080**	100%		

Source: GDF, Annual Progress Report, UNITAID First-Line Anti-TB Drugs Initiative, 01January to 31 December 2010

First-Line Anti-TB Drugs Initiative – Market Outcome

Cost containment and affordability targets have been partially met. The cost of Cat. I & III - 2(RHZE)/4(RH) has been maintained from 2007 to 2009 (10% variance) and then decreased in 2010 by 27% below the 2009 baseline price (of US$18.65) to US$13.62 for average patient treatment costs. The price decrease resulted from successful outcomes of GDF competitive tenders among suppliers of first-line anti-TB drugs and direct price negotiations. On the contrary, Cat II 2S(RHZE)/1(RHZE)/5(RHE) treatment cost drastically increased (+106%) driven by a Streptomycin price increase following GDF change of supplier subsequent to primary supplier (Panpharma) product sterility tests failure. As a consequence, product deliveries were interrupted for several months. GDF took corrective actions by engaging with potential manufacturers, establishing stronger collaboration with industry in several countries, promoting inspections to enhance the quality and safety of medicines, assessing the production capacity of alternative manufacturers to comply with GDF eligibility criteria, supporting capacity building initiatives and emphasizing the need to comply with WHO prequalification standards for first-line anti-TB drugs.

Data is not available to annually assess median price paid against market price of quality equivalent products. GDF tried to compare their product price with GPRM median price, established by the AIDS Medicines and Diagnostics Service (AMDS), but this has not been possible as a result of problems with the quality of data provided by GPRM partners and interoperability issues between the two systems. Hence, for 2009 prices, the GDF used MSH IDPIG as reference and could compare the price of

none products of equivalent quality. For eight out of nine products, GDF price was lower than the lowest listed market price.

First-Line Anti-TB Drugs Initiative – Suppliers base

GDF is well on track to increase the number of additional generic first-line anti-TB products eligible for GDF purchase by end of 2011. So far, 4 suppliers (Macleods, Lupin, Sandoz and Svizera) are eligible for purchasing the two key product formulations (4 FDC (RHZE) and 2 FDC (R150/H75)). And from a total of 9 non-key products, manufacturers for 6 non-key products have been secured while for 2 additional manufacturers the goal will be met by end of 2011. In total, GDF has signed LTAs for 9 of 11 product formulations in the GDF Adult first-line catalogue including at least two LTAs for the key products. Further Invitations to Bid (ITBs) for LTAs have been launched in Q1 of 2011 by GiZ .

All GDF products have to be procured in compliance with GDF Quality Assurance Policy which spells out that products need to either adhere to WHO PQP standards and national regulatory standards or a SRA or approved by ERP. All products listed under the 4 key product formulations and 9 non-key product formulations comply with the quality assurance policy. In general, the number of eligible Finished Pharmaceutical Products (FPPs) has also increased following the completion of four requests for Expressions of Interest (EoIs) and one Limited Invitation to Bid (LITB) managed by GiZ and GDF in 2010.

One of the recent EOI was launched in the context of the WHO prequalification program for API. The result of the latter is expected to be disclosed in 2011 and expected to reduce API quality problems and shorten WHO prequalification of FPP.

In total, 4 medicines have been prequalified through the WHO PQP from January -31 December 2010 and 17 additional dossiers have been submitted to WHO PQP with expected approval in 2011. GDF closely collaborates with WHO to identify and prioritize the products that need to be evaluated and supports through its partnership with USP PQM applicants in the preparation of their dossier. This approach advances GDF, Global Fund and UNICEF common Quality Assurance Policy with the aim to increase the quality of drugs used by National TB programs across the world. In addition, GDF reflects with the WHO Essential Medicines Programme (EMP) on policies to limit access to anti TB drugs in the private sector[10] (48 to 96% TB patients are treated by private providers in China, India, Indonesia, Myanmar, Vietnam without any link to National TB Programmes[11]).

First-Line Anti-TB Drugs Initiative – SRS

On the basis of GDF annual and interim reports, activities under Objective 2 (decreased lead time) and 3 (treatment cost contained and drug prices decreased) are progressing to various degrees with a majority either achieved or on track. GDF reports that 19 beneficiary countries have access to the stockpile but acknowledges that delays and challenges in setting up and maintaining the stockpile over the period during which Partnership for Supply Chain Management (PFSCM) was the procurement agent.

Stock orders were not processed efficiently, backlogs were created and the stockpile experienced disruptions. As a result, suppliers were not able to meet the stock order demand of GDF and delays were also reflected in longer delivery lead times. The aimed at target of a delivery lead time below 30 days could not yet be reached as the reported average lead time for 30 emergency deliveries was 55 days.

---

[10] *GDF progress report 13, http://www.givewell.org/files/DWDA%202009/Stop%20TB/GDF%20Progress%20Report%2013.pdf*

[11] *EMP presentation at TB Beijing meeting 2009*

In 2010, 12 stock outs were reported in 11 countries throughout all administrative levels (e.g. Central, facility, provincial warehouse, national level). Stock outs ranged from a minimum of 7 days (e.g. in Mali, Swaziland) to 90 days (e.g. in Nigeria). Confirmed treatment disruptions occurred in Bangladesh, Gambia and Zambia and unknown impact on treatment was recorded for Angola, Mali and Nigeria. In all cases, GDF took corrective actions by liaising with its procurement and freight agents to facilitate drug deliveries and send emergency deliveries. Countries reduced the risk of treatment disruption by using single drug formulations, facilitating anti TB drugs borrowing/lending between clinics and organising re-distributions between districts/regions. As envisaged during the first year of project implementation, GDF is planning to set up a centralised warehouse for stock maintenance, either in Europe and a network of regional warehouses (most likely in India among other countries) which shall be managed similarly as the SRS for 2nd line Anti-TB Drugs. This arrangement is expected to provide the procurement agent and GDF with more direct control over the SRS.

According to the GDF procurement agent however, there has never been an effective stockpile system for first-line anti-TB drugs per se. Between 2008 and 2009 some drugs were produced in quantities slightly exceeding the demand. This production excess stored by the suppliers was used to meet unforeseen/emergency orders. But generally and especially since mid 2009, production has fallen short of meeting demand for regular and emergency orders. Any products entering the stockpile would immediately be released to fulfil an order. This has been confirmed by suppliers which products account for more than three quarters of the GDF first line drugs catalogue. One manufacturer explained that although the commitment to build the SRS was featured in the LTA with GiZ, it could not build the SRS because of the risk of having expired drugs (although GDF assured then that expired products would be reimbursed). A second manufacturer stated that there was no provision in its LTA with GiZ for maintaining a stockpile. GDF stated that manufacturers that were contracted to maintain the stockpile were not the same supplying regular orders and this could explain that the latter were not aware of the stockpile. This statement is not substantiated by any evidence and is not consistent with GDF reports on GDF suppliers of first line anti TB drugs or with GDF report on prices of anti first line drugs procured.

In the light of these contradictory statements, the team of assessors asked for additional evidence that the SRS existed and was provided with SRS stock reports from November 2008 to June 2009. These reports show that some stock was present on suppliers premises over this period. However, stock was usually below the SRS target per product and there is no indication that it was earmarked for GDF SRS. In the second half of 2009 and in 2010 there was no regular stock reporting and limited stock with suppliers. PFSCM had not built sufficient stock or too much too late (over stock dimensioned for some products being phased out). When GiZ took over again in mid 2010, it was not able to build stocks due to a backlog of regular orders that had to be placed. It is from mid 2009 that the concept of a virtual SRS integrated to the regular order system emerged. It appears that the virtual SRS was mostly a mechanism to quickly reallocate production to countries with emergency needs and to keep suppliers aware of the orders in the pipeline. This virtual stockpile is not consistent with the SRS GDF and UNITAID agreed upon in their LoA. Although details on the nature and characteristics of the stockpile are not specified, the expected benefits of the SRS suggest that a physical stockpile of appropriate size was anticipated (impact on product price and suppliers' base).

4. Based on the results at mid-term, to what extent are they likely to be achieved?

In the following paragraphs, the team of assessors reviews the probability of objectives' achievement by the end of the project (see Table 14 below).

MDR-TB Scale-Up Initiative 2007-2011

- Order vs target

The quantity ordered by countries are likely to be achieved for most countries except for Malawi joining the project most recently, countries that have been GLC approved or signed the agreement with

some delays (India), countries which manage a project with slow patient enrolment (Burkina Faso) and lastly countries that have a budget ceiling that may limit patient enrolment (Nepal and Haiti). The outcome of GDF's November 2010 request for budget revision is unknown but some countries may have been allocated an additional budget to meet their target using unspent balances from countries that met their targets with less money than budgeted.

- Deliveries vs orders

It is expected that deliveries will be completed according to the orders made by the end of the project as the team of assessors assumes that the probability of disruptions in supply decreases with the increase of eligible suppliers.

- Patients vs deliveries

The project is likely to achieve reduced targets for number of patients treated (based on the GDF new methodology allowing 30% deviation compared to original targets) compared to the agreed target per countries. Budget limitations, change in resistance patterns and treatment regimen, estimated number of lost patients are likely to prevent GDF from reaching the original patient targets. Targets have been revised in 2011 as part of the re-programming but the revised targets are not available to the team of assessors. The revised targets if 30% lower than originals are likely to be achieved.

- Number of manufacturers per products in the catalogue

As of December 2010, Capreomycin 1g, Ethionamid 250mg, Ofloxacin 200mg and Terizidine 250mg were the four products of GDF's 13 product catalogue having only one supplier. In 2011, with the addition of two ERP reviewed suppliers of Ethionamid, GDF met its end of project target (75% of products in GDF catalogue have at least 2 suppliers).

- LTA

The project objective to sign 2 LTAs per product will not be achieved for all products of the GDF catalogue because there is only one manufacturer for 25% of the catalogue.

- Patient treatment cost containment

An increase in the length of the intensive phase and changes in treatment algorithm following WHO recommendation or resulting from changes in the resistance patterns preclude GDF from having much impact on treatment costs. For high and low treatment regimen based on GDF standard methodology (based on the original intensive phase duration and regimen) prices are likely to increase especially for injectables as outlined in the MSF – UNION report '*DR-TB drugs under the microscope'*.

- Drug price reduction

Price reduction is pursued for a limited number of key second line anti TB drugs (Capreomycine, Cycloserine, PAS and one of the fluoroquinolones). It could be achieved as a result of an increase of eligible suppliers (especially for Cycloserine and at least for one of the fluoroquinolones) but it has been noted that suppliers of QA compliant products and hence eligible (US FDA tentatively approved fluoroquinolones suppliers) do not participate in GDF requests for EOI and subsequent tenders. These suppliers prefer to target more profitable markets and tend to refuse competition. Unless appropriate incentives are in place to attract those suppliers, prices will not decrease as much and as fast as they should considering the number of suppliers. The case of fluoroquinolones is eloquent: 13 suppliers of Levofloxacin, 2 Moxifloxacin and 3 Ofloxacin have US FDA tentative approval for their products which means that they are considered registered by a SRA and authorized for sale outside the US[12]. The situation is quite similar for first line anti TB drugs where, apart from Panpharma, no suppliers of SRA registered Streptomycin submitted an EOI and participated in the tender.

[12] MSF UNION DR TB drugs under the microscope, page 8

Table 14. MDR-TB Scale-Up Initiative 2007-2012: Likelihood of objective achievements.

Objective	Activity (Exhibit 4A)	Target indicator (Exhibit 4A)	Achievement Status (Achieved/ On track/ On track/ Not achieved/ Other)	Likelihood of achievement (Completed /high/medium/ low/N/A)
Objective 1	Selection of beneficiary countries in accordance with UNITAID eligibility criteria.	Per cent of total budget allocated to LIC, LMIC, UMIC.	Not applicable[13].	N/A
	Agreement signed with the relevant Authority of Beneficiary Programmes.	Country applications reviewed and approved by GLC.	Achieved.	Completed.
	Define scale up targets (project)	Increase in number of patient treatments delivered under the Project.	On track.	High.
	Define scale up targets (per country)	Increase in number of patient treatments delivered per country.	On track.	High.
Objective 2	Ensure standard drug delivery lead time of 4 - 6 months	Average lead time for delivery of drugs to countries.	Achieved (until Dec 2010)	High.
Objective 3	Engage and negotiate with industry to produce appropriate second-line drugs.	Increase in number of new manufacturers in existing GDF catalogue for MDRTB treatments.	Achieved	Completed.
	Engage and negotiate with industry to produce appropriate new second-line drugs.	Increase in number of manufacturers of new MDR-TB products.	Other: GDF requests removal of this indicator.	N/A.
Objective 4	Negotiate Long term agreements (LTAs) with manufacturers for MDR-TB products.	Increase number of LTAs signed with manufacturers for supply of MDR-TB products.	On track.	Low.
	Cost containment	Cost containment per treatment (intensive phase of commonly used regimen).	Not achieved.	Low.
	Affordability	Ensuring that drugs supplied by GDF of assured quality are the most affordable globally.	Mostly achieved.	High.
Objective 5	Price reduction	Price reduction for key quality assured drugs (quality as defined by GDF's quality policy).	On track.	Medium.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

The stockpile objective has been achieved as no stock out was reported since 2008. However, the stockpile had to rotate and there were not enough emergency orders to prevent drugs from expiring, hence non emergency orders were also served from the stockpile. This negatively affected the target under the project which stated that 100% of countries which were using the stockpile were using it to meet urgent and unforeseen need. As mentioned in previous sections, owing to the lack of relevant information and GDF Order Management System inability to generate retroactive stock reports, the team of assessors can not comment on project achievements in building the appropriately sized stockpile and whether a minimum stock of 800 patient treatments was maintained at all times (see Table 15 for overview information).

[13] GDF in the annual report states that this criteria does not apply to the project as GDF assumes that UNITAID uses a portfolio approach

Table 15. MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile: Likelihood of objective achievements.

	Objectives	Activities (Exhibit 3A)	Target indicator	Achievement Status (Achieved/ On track/ On track/ Not achieved/ Other)	Likelihood of achievement (Completed/ high/medium/ low/N/A)
1	Accelerate scale-up of the number of patients accessing and receiving second line anti-TB treatment through a decrease in drug delivery lead times.	Establishment of the strategic rotating stock-pile for MDR-TB drugs.	Countries receiving drugs from the stockpile by April 2009.	Achieved.	Completed.
		Countries using the stockpile to meet an urgent need for MDR-TB drugs to enrol new patients or continue treatment of existing patients.	100% of countries using the stockpile are using it to meet an urgent, unforeseen need that is recorded and reported to GDF and UNITAID	Not achieved.	Low.
		Establishing that the Stockpile is large enough to meet urgent orders without diminishing stocks to levels that are sub-optimal for medium to small urgent orders.	100% of countries requesting drugs from the stockpile serviced more rapidly than the standard lead time (< =2 months).	Information on the actual physical stock is lacking.	N/A
		Volume of Stockpile used.	At least 60% of Stockpile used in each year.	Achieved based on the ratio entry/issue but information on the actual physical stock is lacking.	Medium.
		Time MDR-TB Drugs are out of stock in GLC approved Countries.	0 stock out days because SRS is functioning and large enough to meet the needs for urgent orders.	Achieved based on the number of stock out but information on the actual physical stock is lacking.	Achieved.
		Decrease drug delivery time from 4 - 6 months to 1 - 2 months.	<=2 months	Achieved (as of Dec 2010).	High.

First-Line Anti-TB Drugs Initiative

Based on the available documentation, the team of assessors concludes that objective 1 has been achieved. For objective 2 and 3, a majority (4 out of 7) of activities appear to be on track, while 3 activities were deemed not achieved (see Table 16). Their probability of achievement is discussed in the following paragraphs:

- Long term agreements

In order to reach the defined target, additional LTAs need to be established for four non-key product formulations (1. 2-FDC RH 150/150 bulk and blister; 2. Z-500 bulk and blister, 3. Z-750 bulk and blister and 4. Streptomycin) by the end of 2011. GiZ has already launched further Invitations to Bid for LTAs in the first quarter of 2011. The first three products have not been used in 2010 and it is unlikely that an LTA would be cost effective considering the low volume of orders for those products. For Streptomycin, according to the GDF, Sterimax and Reig Jofre could be in a position to sign an LTA with GDF. Moreover, Panpharma may have solved its production problem and could maybe produce a sterile injectable FPP. Lastly WHO experts and GDF who in 2011 have visited 10 manufacturers in China, India, Indonesia and South Africa may have identified eligible suppliers.

- Eligible manufacturers

The target of more than three manufacturers eligible to purchase key products has been achieved but the target to have two eligible manufacturers for 100% of non-key products has not been fully

achieved. Among the four non-key products, only two products (Pyrazinamide 500mg and Streptomycin 1g) have two eligible suppliers. It is unlikely that this objective will be reached for the remaining non key products because they are not much used and hence demand for these products is not deemed sufficient to entice producers to get their product pre qualified.

- Stockpile usage

According to the GDF, all beneficiary countries have access to the stockpile and as of December 2010, 29 countries have reportedly received orders served from the stockpile, but only 6 for emergency and urgent orders. The team of evaluators reckon that this objective will not be achieved as there is currently no physical stockpile and as explained by the GDF First-Line SRS manager, the SRS does not properly function since mid 2009. The orders reported served from the stockpile were selected on the basis of their lead time. According to the GDF, even if a physical stockpile was in place and properly functioning since project inception, serving of non-urgent orders would be necessary to maintain some level of rotation to mitigate the risk of expiry. The team of evaluator does not share GDF views on this as medicines at risk of expiry should be replaced by freshly produced drugs, This objective could be achieved but will not as the result of the absence of a physical stockpile.

- Stock-outs

The target to reduce the number of reported stock outs (12 stock outs in 2010) to 0 is likely to be achieved to some extent due to the change of the Procurement Agent which has significant experience in managing First-Line TB drugs (although GiZ has experienced some staff turnover in 2009/2010), the establishment of an early warning system, promotion of reasonable buffer, technical assistance and regular communication with countries. This approach is comprehensive but will take some time to yield results. Hence the team of assessors reckons that the number of stock outs is likely to decrease but may not be nil by the end of the project because it still depends on countries capacity to order drugs. GDF contemplates redesigning the stockpile and its management using a dedicated agent following the model under the anti MDR TB drugs SRS project. This new stockpile could also increase the likeliness of achievement over time. But the transition to a new model of stockpile will also negatively affect its functioning. The new stockpile will not just be a physical transfer from manufacturer premises to a warehouse in Europe. It will require estimating the appropriate level of each drug through forecasting and building the stock by using some of the manufacturers' production as currently not all manufacturers consistently maintain the required level of products for the stockpile. The stockpile as initially designed never materialized hence the need for a completely revised and different model is not supported by sufficient evidence. As stated by GiZ, the model of SRS as initially designed is probably the most cost effective. Before changing the model, it may be advisable to pilot the SRS with appropriate incentives for suppliers and adequate procedures to conclude on its efficiency. The establishment of the SRS is in line with Stop TB Partnership plans to increase GDF rapid response capability. This feature should be combined with other measures described in FALLING SHORT Ensuring Access to Simple, Safe and Effective First-Line Medicines for Tuberculosis (such as the establishment of in country buffer stocks, development of tools for more accurate forecasting, the strengthening of reporting systems, SOP for identifying and mitigating the risk of stock out and preventing treatment interruption).

- Lead times

There is a considerable chance that the present median lead time of 50 days could fall below the 30 day target as in previous years. In 2009, when GiZ was GDF procurement agent, the median lead time was 29.4 days. As mentioned above for the stock out, the team of assessors assumes that this is achievable provided that the hand-over between the procurement agents is well planned for and backlog of orders promptly absorbed. There is however a risk that the transition to a new model of SRS could negatively affect its functioning and potentially divert manufacturers' production at the expenses of regular orders.

- Price reductions

Based on 2009 data available from the MSH International Drug Price Indicator Guide for 8 out 9 drugs (except Streptomycin) of comparable quality, GDF paid lower prices than respective market prices. GDF anticipated that an increase in additional suppliers of quality assured products through active sourcing will positively impact the continuous availability and price of Streptomycin and allow GDF to meet its target. It should however be noted that the GDF price paid for Streptomycin in 2009 (according to the MSH IDPIG) was higher compared to a product with equivalent quality. Hence, in addition to the sourcing of new suppliers, the contracting of UNFPA's suppliers of Streptomycin (reported as the lowest priced in 2009) could ensure access to a lower price. GDF ability to pay lower prices for first line anti TB products than prices reported in the GPRM could not be reported because of recurrent data quality and interoperability issues. GDF collaborates with AIDS Medicines and Diagnostics Services (ADMS) to increase the comparability and reliability of data from GPRM.

- Cost containment

GDF managed to reduce Cat I and III treatment cost but failed to contain Cat II treatment cost. The latter mostly depends on GDF's ability to get rates equivalent to Panpharma bids. With an increase in the number of pre qualified suppliers interested in supplying Streptomycin to GDF and Panpharma resuming production, the cost of Streptomycin could gradually decrease.

Table 16. First-Line Anti-TB Drugs Initiative: Likelihood of objective achievements.

Objective	Activity (Exhibit 3A)	Target indicator (Exhibit 3A)	Achievement Status (Achieved/ On track/ Not achieved/ Other)	Likelihood of achievement (Completed /high/medium/ low/N/A)
Objective 1	Delivery of 1st-line anti TB treatments in accordance with targets set by TRC recommendations and agreement with countries.	Number of patient treatments delivered under this project.	Achieved.	Completed.
	Delivery of 1st-line anti TB treatments in accordance with targets set by TRC recommendations and agreement with countries.	Number of patient treatments delivered per country.	Achieved.	Completed.
Objective 2	Negotiate long-term agreements with manufacturers for 1st-line anti TB products.	2 LTAs signed per product for 100% of the 19 products in GDF catalogue by 2011.	On track.	Low.
	Reduce the time 1st-line drugs are out of stock in the TRC approved countries.	0 stock out days because stockpile is functioning and large enough to meet the needs for urgent orders.	Not achieved.	Low.
	Countries using the stockpile to meet an urgent need for 1st line anti TB drugs to enrol new patients or continue treatment of existing patients.	100% of countries are using the stockpile to meet urgent, unforeseen need that is recorded and reported to GDF and UNITAID.	Not achieved.	Low.
	Improving the ability of GDF to respond to urgent or emergency orders for 1st-line anti TB treatments using stockpile.	Elapsed time between date of emergency order and actual delivery to country less than 30 days by end of Q4 2010.	Not achieved.	High (but not using a stockpile).
Objective 3	Engage and negotiate with industry to stimulate product prequalification.	1. ≥3 manufacturers eligible for purchase for 100% of key products in GDF catalogue by 2011. 2. ≥2 manufacturers eligible for purchase for 100% of non-key products in GDF catalogue by 2011.	Achieved/On track.	Completed for key products. Low for non-key products.
	Demonstrate cost containment per patient treatment of 1st-line anti TB drugs used in the most commonly used regimens.	Cost per patient treatment contained within 10% of 2009 baseline price by end of Q4 2010 and end of Q4 2011 based upon signed LTAs.	Not fully achieved.	Medium.
	Demonstrate that 1st-line anti TB drugs supplied by GDF of assured quality are the most affordable globally.	Lower rates available through GDF for 100% of products, which results from tender or direct negotiation by GDF.	On track .	High.

5. What are the main factors influencing the achievement or non-achievement of the objectives?

MDR-TB Scale-Up Initiative 2007-2012

- Factors impacting the price of anti MDR TB drugs
  - GLC and GDF capacity to accurately forecast the demand (patients and quantity of treatment): Without an accurate forecast of the demand, GDF can not commit to manufacturers to order a defined volume of drugs and hence lack of reliable forecasting restricts GDF ability to negotiate. Forecasting is a complex exercise because treatment regimens vary (length and composition), it depends on the first-line anti TB treatment success rate and on country capacity in diagnostics.

- Exchange rate, cost of energy, API availability and cost.
- Technology transfer from the originator to a generic manufacturer.
- Signature of LTAs (12 to 24 months) with key suppliers to contain price increase.

- Factors impacting procurement efficiency
  - Disruption in supply: Panpharma Kanamycin was not available for months and alternative sources of the product were much more expensive.
  - Number of eligible manufacturers for a product: Product availability and procurement efficiency increases with the number of suppliers for a product.

- Factors impacting patient target achievement
  - Timely signature of agreement with beneficiary countries (GDF had to reschedule delivery of treatments for India for end of December).
  - GLC assessment/approval of national programs (Malawi received GLC approval in March 2010) and size of the approved cohort versus patient targets.
  - Country commitment to enrol patients and national anti MDR TB program performance and pace at which the program diagnoses and enrols patients: About 1% of the estimated cases of MDR-TB emerging in 2008 were enrolled on treatment by the GLC programmes (WHO surveillance and response report http://whqlibdoc.who.int/publications/2010/9789241599191_eng.pdf). In 2008, there were 29,423 MDR-TB cases reported throughout the world by 127 countries. These cases only represented about 7% of the MDR-TB cases estimated to have emerged that year. This reflects in part the limited use or availability of Drug Susceptibility Test (DST) in countries due to lack of laboratory capacity.
  - Synergy between laboratory and diagnostics support (through the Global Laboratory Initiative, GLI) and the drug access project.
  - Order request and budget ceiling: Some countries have reached their budget ceiling but not their patient targets (Nepal).
  - Natural disaster and loss of drugs (Haiti).

- Factors impacting number of eligible suppliers
  - Incentive for manufacturers to submit a dossier for prequalification of their products and WHO PQP timely assessment/approval (expensive and slow process).
  - Registration status in beneficiary countries (high costs of country registrations and import licenses), existence of local manufacturers (protected by complex/costly registration processes for outsiders) and countries' commitment to open local markets to international competition.
  - Harmonization of GDF, UNICEF and Global Fund QA policy (which is also aligned with MSF and the Union).
  - Collaboration with USP PQM for assisting manufacturers in the WHO pre-qualification process and clarity on the requirements for prequalification (especially technology transfer requirements).

- Factors impacting countries' budget allocation
  - Change in the World Bank income category (Dominican Republic, Lesotho and Timor Leste).
  - Change in the price of MDR-TB drugs and treatment regimen.

- Factors pertaining to country Supply Chain Management (SCM) and anti TB program management directly impacting timely delivery of drugs:[14]

[14] *GDF response to TB partners Board in Berlin, October 2007*

- Issues in quantifying drug needs can imply a long back and forth between the program and GDF before an order can be placed. The drug quantification and management are not fully assessed in advance before GLC approval.
- Projects that cannot release the drugs from customs and drugs do not enter the medical stores until months after shipment arrival.
- Delays in confirming and paying orders due to long in-country approval processes and bureaucracy.
- In country importation permissions and waivers. In several countries, the programs cannot request the importation permissions until the shipment is ready and all the documentation has been issued. It can take more than a month to obtain the permissions.
- In some instances there are also complicated country approvals, release of funds and coordination among programs and it can take several months to finalize the quantification of the order and get all the approvals needed to release it to GDF for delivery.
- GLC approvals do not necessary assess budget availability, in some projects have been approved but were unable to place an order because there was no funding to cover the drug purchases.
- Anti TB Programs with weak drug management leading to inefficiency and poorly managed programs.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- Eligible supplier capacity to produce enough medicines to accommodate regular orders and build the stockpile.

Factors listed above and impacting on drugs price and procurement efficiency are also relevant to the SRS.

First-Line Anti-TB Drugs Initiative

- Factors impacting drug delivery
  - Successful completion of objective 1 was directly liked to the timely signature of grant agreements with the 19 eligible beneficiary countries and timely ordering and delivery of 1st line anti TB treatments in accordance with targets set by the TRC.

- Factors influencing the transition
  - All 19 countries had effectively transitioned from UNITAID support to a future source of funding for 1st-line anti-TB drugs by 2010 but the success of the transition was conditioned by the success of country applications to Global Fund Grants, availability of national budget/World Bank loan and the availability of GDF grant support during a transition period.

- Factors influencing the stock out
  - Potential factors contributing to stock outs were numerous, complex and variable by country.
  - Country capacity in managing stock and procurement processes (including forecasting), transportation systems, existence of a buffer stocks and timeliness of fund remittance. Specific country examples referred to delivery delays by PFSCM in Azerbaijan and Nigeria, administrative delays related to the payment of adult anti-TB drugs in Swaziland and to project managerial problems in Bangladesh. GDF had taken counteractive measures by implementing an Early Warning Stock out System in order to prevent stock outs at central and regional level by supporting correct order placements, raising awareness for stock outs and emphasizing the identification of stock out risks. Additional GDF measures comprised i) supporting sufficiently sized buffer stocks and stock supplies for key products, ii) capacity building in the field of drug and supply chain management and iii) implementation of stock monitoring.

- The absence of physical stockpile for first line.

- Factors influencing price reduction
  - Suppliers' visibility and order predictability which allows them to negotiate lower prices with their API suppliers.
  - Needs forecasting accuracy.
  - Order pooling when the LTA include staircase pricing.

First-Line Anti-TB Drugs Initiative SRS

- Factors influencing the lead time for the orders served from the stockpile
  - Capacity of the procurement agent to accurately forecast the size of the required stockpile and get suppliers to build and maintain the stockpile.
  - Suppliers compliance with requirements pertaining to the SRS.
  - Number of eligible suppliers.
  - Suppliers production capacity.
  - Availability of API.
  - Existence of a physical stockpile.

Factors listed above and impacting on drugs price and procurement efficiency are also relevant to the SRS.

For all projects, there was no price negotiation strategy. There was also no risk management plan, including mitigation measures to reduce the project's exposure to external risks (e.g. API shortage, production disruption, increase in oil prices, weak dollar, change in recommended regimen…) and minimize their impact on the program.

4.3 Efficiency

The objective is to assess if the partners are using UNITAID funding in the most efficient manner in order to achieve the objectives of the project. This covers aspects around the procurement model, the coordination with national authorities, as well as other aspects of implementation arrangements depending on the project.

Rating		**Level of confidence**	
☐	Optimal	☐	Optimal
☐	Minor concerns	☒	Minor concerns
☒	Major concerns	☐	Major concerns

Key findings

Findings common to all Projects

- The GDF, GLC and STOP TB in country partners closely worked with national authorities in the project beneficiary countries.
- The procurement model is identical for both MDR TB and First Line TB projects and is not designed to proactively identify and solve issues.
- Suppliers of SRA registered products do not express interest in GDF tender and don't submit bids.

Project Specific Findings

MDR-TB Scale-up Initiative 2007-2012

- The first tender for anti MDR TB drugs was floated in 2011. Until 2011, the number of suppliers was not sufficient, hence GDF directly negotiated with suppliers.
- GDF drafted an award allocation system to mitigate the risk of supply disruption by splitting orders among multiple suppliers taking into account their past performance.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- IDA and GDF have established clear procedures for country orders of drugs and for IDA to manage the stockpile.
- There is insufficient information to assert whether the procurement model allowed the building and functioning of a stockpile of the required size.

First-Line Anti-TB Drugs Initiative

- When PanPharma Streptomycin failed sterility testing, GDF actively identified alternative sources of GDF QA policy compliant products but had limited leverage in the negotiations which resulted in drastic increases in Cat II treatment costs.
- Contracting modalities, especially under PFSCM management, did not allow manufacturers to have a clear idea of the volume of upcoming orders (no commitment to minimum order and no communication on estimated volume likely to be ordered over the period covered by the LTA). This exposed suppliers to a high demand fluctuation (and potentially higher API costs) and increased the risk of supply disruption. This arrangement has resulted in backlogs of orders as PFSCM did not have contracted suppliers capable of delivering the orders.

First-Line Anti-TB Drugs Initiative SRS

- The SRS model has constantly evolved in an attempt to improve its functioning and efficiency but overall the SRS never took off.
- The procurement of drugs for the SRS was negatively affected by the limited production capacity of suppliers and reluctance to store products (working capital block up in inventories and storage costs).
- The SRS has not been effectively functioning since mid 2009. SGS monitoring of supplier stock levels did not prevent PFSCM to neglect it for about six month during the second half of 2009.
- GDF Monitoring mission reports do not consistently investigate and report on the reasons behind stock outs.

6. Are the project partners working closely with the relevant national authorities in the projects beneficiary countries? (where applicable to the project)

MDR-TB Scale-Up Initiative 2007-2012 including MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

By end-2010, the country applications of all 18 project countries received GLC approval. The SRS was established for the benefit of all 54 countries with GLC-approved programmes. At the time of MoA signature, agreements had been signed between WHO Stop TB and the health authorities of 50 countries. Copies of signed agreements were to be provided to UNITAID but were not available for verification purposes and no indicator provides an update of the number of signed agreements.

The GDF, GLC and STOP TB in country partners closely worked with national authorities in the project beneficiary countries. Before the agreement was signed, GLC evaluated country applications and ensured that adequate Technical Assistance was secured for MDR TB control activities. If gaps were identified, the GLC provided recommendations to national authorities and shared these with in country STOP TB partners so to mobilise assistance.

For drug related anti MDR TB activities, the GDF during its monitoring missions reviewed supply management arrangements and provided recommendations for improvement. The GDF, as part of the project and as stipulated in the MoA, can also broker technical support in drug management to countries. According to the GDF project plan, WHO and the Stop TB Partnership assist countries in channelling funds available for technical assistance to programs reviewed and endorsed by the GLC TRC.

First-Line Anti-TB Drugs Initiative

A mutually signed agreement, by GDF and national authorities, stipulated their key responsibilities and the terms and conditions for procurement. All agreements have been reported as signed. However, copies have not been received by the team of assessors for verification purposes.

GDF does not have in country presence to closely support countries. However it provides services that have a large impact on National TB programs by:

- Proposing grants for first-line drugs to countries that do not have sufficient resources to scale up their program owing to a funding gap and/or problem with setting up an efficient procurement system.
- Offering direct procurement mechanisms which allow countries to use any type of funding to buy drugs provided that they comply with GDF requirements (support DOTS expansion, quality free dispensation to patients according to WHO most up to date guidelines).
- Providing ongoing technical support (including support for in-country drug management) through the TB TEAM program of the Stop TB Partnership and closely following the implementation of the National TB Program (NTP) through annual monitoring missions (linking grant to performance).

As outlined in the GDF terms and conditions, countries benefiting from GDF support agree to facilitate an annual assessment of TB programme performance to be organized by GDF following the arrival of drugs in country. Provision of anti-TB drugs for the subsequent years is conditional upon the review of these assessment findings.

The annual assessment is the opportunity for the GDF to measure NTP achievements and challenges, to monitor countries' adherence to GDF terms and conditions of support and to follow up on issues raised by the GDF Technical Review Committee (TRC) or during previous missions. During the assessment the evaluators meet and discuss with key national officials and in country partners to review ongoing technical assistance and assess the need, plan and secure funding for further technical support for program management, case management and drug management. The impact of such missions have to be carefully evaluated as in some instance evaluators copy paste information from earlier reports without updating information[15].However, GDF usually requests a desk audit of the monitoring mission report, to mitigate the risk and potential impact of a bad/poor report.

Finally during the mission, the evaluator determines, together with the National TB Control Programme, the drug needs and prepares the drug request for the coming year. The quantification takes patient targets, rational stock, buffer stock and procurement lead time into account.

In addition to the annual monitoring missions, GDF provides technical assistance (TA) during ad hoc TA to national TB programs on issues related to procurement and supply management (22 missions in 2009) and through TB TEAM activities (platform for coordinating technical assistance to countries and composed of GDF, GLC, GLI and other partner organizations specialists). GDF also organizes regional drug management workshops for NTP staff and chief pharmacists (GDF organizes these workshops in various regions with MSH as a partner, 3 workshops in 2009 for Africa, Eastern Mediterranean, Western Pacific Regions).

Moreover activities planned under the project to address recurrent problems of stock outs are expected to further increase GDF collaboration with countries:

- Drug management/Supply Chain Management training and technical assistance.

[15] http://givewell.org/international/top-charities/stop-tb

- Regular communication with countries regarding stock levels.
- Early Warning System to alert stakeholders on the potential risk of stock outs.

The GDF has a focal point in each regional office (Western Pacific, Africa and Eastern Mediterranean) providing assistance to National TB programmes and to countries for procurement through GDF.

The team of assessors reckons that the various activities described above represent core activities which require close collaboration with beneficiary countries to yield results.

7. Is the project's procurement model well defined and designed to identify and solve procurement-related problems as they arise?

The procurement model is mostly identical for both first line anti TB and anti MDR TB drugs.

MDR-TB Scale-Up Initiative 2007-2012 including MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

The procurement model
In 2007, the TB working group held a meeting in Tbilisi and concluded that there was a need to evaluate GDF overall procurement model for second-line drugs to identify and address procedural deficiencies:

- lack of tendering for second-line suppliers,
- heavy reliance on non-contractual suppliers to meet country needs,
- prioritizing low prices over constancy and predictability of supply,
- limited engagement of GDF as an intermediary between procurement agents and programmes.

The procurement arrangements under the project mostly address these issues and are deemed well defined (see project plan in annex to the second amendment of the MDR Scale up initiative, page 10). WHO/GDF contract a procurement agent through a competitive process which will in turn be responsible for contracting drug suppliers, freight and insurance agents for the production and delivery of drugs under the project. In addition, GDF contracts an independent agent for pre-shipment inspection and testing which is the same agent as the one contracted by the Global Fund (Societe Generale de Surveillance, SGS).

Purchasing of anti TB drugs is done through requests for EOI followed by tendering/limited competitive bidding (organized by the procurement agent) when a sufficient number of suppliers exist (which eventually could lead to the signature of a Long Term Agreement). In 2009, the GDF decided to enter into price negotiations with manufacturers and skipped the tender process (page 14 of 2009 Annual Report) as the number of suppliers was not sufficient and contractual agreements had to be concluded with each supplier. A Task Force (TF) on Price Negotiation was created to that effect. The role of the TF was to assist GDF in determining (i) the most effective price negotiation strategy for approved products (ii) the most effective split of product supply awards for products with more than one approved source and (iii) important criteria for supply awards that go beyond price. Price negotiations ended in 2010 as there was a sufficient number of suppliers for most products of the GDF catalogue (75%) to compete in a tender and the Task Force was dissolved. The first competitive tender was floated in 2011.

Once the tender is launched and bids are received, GDF uses an evaluation grid (allocation system) to rank the best supplier(s) taking into account the prequalification status of the product (WHO PQP, SRA registered or ERP recommended), the price and registration in the country of use.

Score Output is calculated as the inverse of the weighted average of all scores per supplier. Score output = 1/ (Quality assurance score x QA criteria weight + Registration Score x Registration criteria weight + Price score x Price criteria weight).

Once ranking is completed, the GDF allocates a percentage of the order for the next period if the suppliers' performance for the previous 6 months was deemed satisfactory by the procurement agent. This approach allows the GDF to mitigate the risk of supply disruption but is only effective for products with more than one supplier.

Countries have to follow a well defined procedure described in a procurement manual for drug ordering. The GDF procurement unit has set up a Web based system that allows countries to track their orders (Order Management System).

IDA has been selected as procurement agent for both the MDR TB drugs initiative and the Strategic Rotating Stockpile. GDF's contract with IDA for procurement agent services was extended following a competitive tender process. In 2009, IDA revised its logistics arrangement and developed a Standard Operating Procedure to effectively maintain and manage the SRS in collaboration with the GDF.

The main problems faced by the project are as follows:

- Disruption in supply: problems in the quality of the end product, moving of the production line, end of subsidized price/production quota reached, delays in printing of multi language labels, lack of in country registration (Russia), Trade-Related Aspects of Intellectual Property Rights /patent (Cipla vs Bayer Moxifloxacin), limited availability of API.
- Countries capacity in forecasting their needs (including adequate buffer), efficiently managing their supply chain, fast track administrative approval for order placing and drug registration.
- Change in GLC recommended regimen (switch from one fluoroquinolone to another result in slow moving stock pile with increased risk of expiry).

The GDF procurement model alone has little effect on the above mentioned issues.

- Issues with the supply of Amikacin from Medochemie could not be anticipated or solved by the identification of additional suppliers as orders were already placed with Medochemie.
- Similarly, problems in production of Kanamycin from Panpharma negatively impacted GDF's ability to fulfil country orders containing Kanamycin and negotiations with alternative sources of supplies (Meiji) resulted in price increases and delayed availability because of long production lead times.
- Although GDF managed to convince Bayer to reverse its decision to stop the production of Moxifloxacin, it did not prevent interruptions in supplies.
- Capreomycine from Eli Lilly was not produced and delivered in full in 2009 in spite of manufacturer's commitment. The production balance was delivered over a 5 month period in 2010 and delayed the building of the stock pile.

According to GDF, GDF[16] is responsible for the procurement of the drugs but can not be held responsible for: (1) quantification of drugs needs at country level which is the responsibility of GLC consultants, (2) long delays on signing contracts and disbursing the funds (which is donor and countries shared responsibility), (3) in-country importation procedures including necessary fees, paperwork, etc (in country issues that GDF reminds countries to take care of to avoid issues upon drug delivery), and (4) drug management issues. In light of this statement, the relevance and impact of GDF in country

[16] *'GDF Progress and Challenges: briefing report on GDF responses to the directive of the 13th Stop TB Partnership Coordinating Board Meeting, Berlin October 2007' Maria Saquella, GDF*

monitoring missions and in brokering technical assistance in supply chain management (as described under question 6) is questionable.

However the combination of 1) GDF regular meetings with suppliers and 2) GDF communication and technical support to countries (including an early warning system) has decreased the likelihood of in country stock outs and positively impacted its procurement model efficiency.

First-Line Anti-TB Drugs Initiative

The procurement model

The procurement arrangements under the project are deemed well defined (see project plan Exhibit 6 of original 2007 LoA, page 25). WHO/GDF contracts a procurement agent through a competitive process which in turn is responsible for contracting drugs' suppliers, freight and insurance agents for the production and delivery of drugs under the project and an independent agent for pre-shipment inspection and testing (as stated in the project plan to the September 2007 MoA, page 8) which is the same (SGS) as for the Global Fund. This model is identical to the one described above for the MDR –TB project.

The same EOI for products which have less than 3 suppliers is published for all three TB groups (first line, second line or anti MDR TB and third line for XDR TB). GiZ is not involved in any part of the technical review.

GDF appears to have continuously reflected on its model (for both the transition grants and the SRS) and proposed revisions to optimize it's efficiency but also to test innovative ideas and new arrangements. Unfortunately some of those changes, such as the change of the procurement agent, have not been as successful as expected and resulted in delays in supplying drugs to countries.

The changes that have occurred in the procurement cycle (from product selection to delivery) over the course of project implementation are as follows:

- Inclusion of incentives in the tender documents for suppliers of pre qualified products.
- Revision of the GDF QA policy and harmonization of requirements with Global Fund and other partners.
- Revision of stock levels of the SRS on a flexible basis based on country forecasting rather than on past orders and taking peaks and other changes that occur throughout the year into account.
- Monthly audits of stock levels at supplier facilities (first by Intertek until March 2009 and then by SGS).
- Request multiple vendors to maintain the stockpile to increase availability and mitigating the risk of stock outs.
- Strengthening the oversight over procurement agents by extending the use of GDF LMIS to the stockpile.
- Adjusting the QC testing model using statistical sampling and the risk based approach rather than 100% testing.
- Improving forecasting accuracy at global level (joint initiative of GDF, UNITAID, Global Fund), development of an Early Warning System and requesting bi-annual reporting of stock levels at central and regional stores to TRC countries.
- Change of procurement agent through a competitive selection.

The following changes in the model were anticipated in 2010 but not implemented as of December 2010:

- Maintain stock levels on supplier premises at no cost for GDF up to an agreed level (20% of anticipated annual volume).

- Using a central warehouse managed by the procurement agent.
- Using a combination of regional warehouse and distribution centres.

Identify and solve procurement-related problems

Despite GDF efforts to address problem areas, the following issues could not be satisfactorily prevented or addressed:

- Shortage of quality API suppliers leading to monopolistic supply and exposure to production disruption (Sandoz interruption of Rifampicin API production).
- Suppliers' production problems (Streptomycin failing quality test).
- In country stock out resulting in low capacity in supply chain management and a misunderstanding of procurement/production lead time.
- Products price increases.
- Inaccurate forecasting between volume communicated to suppliers in the LITB and actual order (>22% deviation).
- The SRS has not been functioning since mid 2009 because the procurement model did not allow stakeholders to manage this complex process. Although SGS monitored the stock on suppliers premises, in 2009, PFSCM neglected the SRS for about six months before GDF became aware of the problem.
- Procurement agents contracting modality did not allow suppliers to have sufficient visibility and offer the most competitive prices. At first, GiZ and GDF used Long Term Agreements without commitments on minimum orders. Following the change of procurement agent, PFSCM replaced the LTA (which included some indications on quantity likely to be ordered) to an indefinite Quantity Contract with no information on quantity, no commitment or minimum orders. There have been instances where PFSCM selected suppliers merely on the basis of the price and overlooked their limited production capacity. When PFSCM realized that suppliers did not have the capacity to deliver the orders, it had to quickly find alternative suppliers and turned to the unsuccessful bidders. Unfortunately, unless manufacturers have API inventories and packing material lined up, manufacturers can not quickly turn around and start producing products for the GDF. Manufacturers enjoy minimum flexibility for this production because GDF products packing is unique and registration requirements are stringent.

Moreover, in 2010, in countries where GDF reported that stock outs were not linked to SRS performance (although this statement is not supported by evidence), GDF integrated procurement services which included technical assistance and in country monitoring, have not proven to be efficient in proactively identifying weaknesses in the procurement planning of beneficiary countries. In 2010, the reasons behind stock outs in four countries (out of 11) were not addressed in the monitoring mission report which prevented the identification of corrective measures.

4.4 Impact

The objective is to assess to what extent it is possible to demonstrate the impact of UNITAID funding in the target countries

Rating		**Level of confidence**	
☐	Optimal	☐	Optimal
☐	Minor concerns	☐	Minor concerns
☒	Major concerns	☒	Major concerns

Key findings

Findings common to all Projects

- Actual number of patients treated or diagnosed is not available
- The impact of a SRS on the number of prequalified suppliers and on the price of products could not be accurately measured because of the concomitant implementa-

tion of MDR and First Line anti TB drugs initiatives which also had an impact on these indicators. However, it is unlikely that the SRS impact will last beyond its building phase as orders served from the stockpile do not supplement regular orders but simply replace them (i.e. no increase in demand).

- SRS impact on ensuring availability and access to patients are not possible to measure beyond the shortened delivery lead-time as SRS are implemented in parallel to another component aiming at the same objectives.
- The GDF pools resources for drugs but has no mechanism to effectively pool country orders before the procurement agent sends purchase orders to manufacturers.
- Only some manufacturers offer tiered prices in their bids which prevent GDF from achieving lower prices with greater orders.
- Lack of demand predictability and the time of orders prevent suppliers from negotiating better conditions with their API suppliers and ensuring continuous supply.

Project Specific Findings

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- Deliveries of individual product formulations to individual countries are not reported, and the number of MDR-TB patients treated with the delivered drugs is not available.
- The Stockpile has been used to complete orders due to late arrival of the drug from the supplier or unavailability of the drug but these orders do not fit into the SRS original mandate.
- The rotating stock pile had to be used to serve non urgent orders in order to prevent drug expiry. This is not deemed fully consistent with the inherent nature of a stockpile.
- The benefits of the SRS for MDR TB drugs are not likely to outlive UNITAID funding as a budget is required to maintain it.

First-Line Anti-TB Drugs Initiative

- Key information on quantities of products ordered and delivered are not available on a country basis and hence one cannot estimate the number of patients potentially treated.

First-Line Anti-TB Drugs Initiative SRS

- According to the GDF, there was not a physical stockpile per se at all times, but rather a combined physical and virtual SRS from which both regular and emergency orders were served.
- SRS has not been properly functioning since mid 2009 and hence reliability of data on orders served from the stockpile is questionable.
- According to the GDF SRS manager, the report on orders served from the SRS is based on lead time. As the SRS is integrated into the regular supply system, this suggests, that regular orders with shortest lead time are reported as served from the virtual SRS.
- The existence of 380,000 patient treatments with all required medicines (as kits or stand-alone products) at a given point in time as a physical stock is unlikely but could not be verified.
- Without appropriate incentives and assurance that maintenance cost (including expired products) are paid for, suppliers do not and will not maintain the SRS at their own cost.
- GiZ access to draft orders in Order Management System combined with stock monitoring activities increased predictability of orders and suppliers' visibility and readiness
- GDF monitoring missions do not consistently/comprehensively investigate the reasons behind stock outs.

8. Can the partner organization attribute UNITAID funding to medicines and diagnostics purchased and patients treated by beneficiary country in a timely manner?

MDR-TB Scale-up Initiative 2007-2011

GDF reported on the number of GLC approved patients for the national program of each beneficiary country. Based on country specific treatment regimen, the GDF could estimate the number of people per country potentially treated with the quantity of drugs ordered and delivered as well as the number of treatments ordered but not yet delivered per country. However, the actual number of patient who started MDR-TB treatment is not available because of the time lag between project implementation and WHO reports on the situation of MDR TB globally.

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

The 5,800 treatments in the SRS are available for the benefit of all 54 countries with GLC-approved MDR-TB treatment programmes. The annual report featured the number of urgent orders serviced for every country including the order serial number, and the initial SRS stock levels by product formulation, receipts and deliveries (both deliveries in response to urgent orders and normal deliveries to ensure stock rotation) from the SRS during the year and the final stock levels. Deliveries of individual product formulations to individual countries are not reported, and the number of MDR-TB patients treated with the delivered drugs is not available. Actual quantity of MDR-TB drugs available at any point in time in the stockpile is not available. GDF merely reports on consolidated stock movements (i.e. quantity that enters the SRS and the quantity that leaves the stock to serve orders).

First-Line Anti-TB Drugs Initiative

GDF could report on the quantities of products purchased through UNITAID funding but the information system does so far not cater for reporting on the number of patients treated. For the 19 beneficiary countries, a total of 785'000 patient treatments have been purchased and delivered within the project. There is however no information available on the distribution of patient treatments in country and the resulting number of patients effectively enrolled for treatment. GDF's response to this issue was that regional support officers might be appointed as part of the new GDF structure. How such a structural change would have a positive impact on following up patients effectively treated under the UNITAID project has not been reported on.

First-Line Anti-TB Drugs Initiative SRS

Since 2008, GDF reports on the number of countries which were served from the strategic stockpile. Details on the orders include the nature of the order (urgent, emergency, accelerated or regular) as well as key data such as the submission date, date the purchase order was sent to suppliers and the date products were received. Following interviews of suppliers, procurement agents and the GDF SRS manager, it appears that the SRS has not been properly functioning since mid 2009 and hence reliability of this data is questionable. The team of assessors did not obtain sufficient evidence from stakeholders to assert whether these orders were served from a stockpile or if they were served like any other regular order from the manufacturer production stock. GDF SRS manager stated that orders reported served from the 'virtual' SRS were selected according to their lead time.

4.5 Project Specific Questions

1. How can we be sure that stockpiles for anti-TB medicines are being used for emergency orders only?

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

As reported by the GDF in a 2009 briefing report on GDF responses to the directive of the 13th Stop TB Partnership Coordinating Board Meeting, the Stockpile has been used to complete orders due to late arrival of the drug from the supplier or unavailability of the drug; The fact that the SRS was used to speed up delivery or complete orders is laudable because it reduces the cost of shipment and allows patient to immediately start treatment with all the drugs required for the regimen. However, these orders do not fit into SRS original mandate which was to only serve emergency orders.

The SRS has also been used for emergencies or for avoiding potential stock outs. No stock – outs have occurred (maybe India but it was not confirmed as of December 2010) since the inception of the SRS for MDR TB drugs.

According to the GDF, because of the short shelve life of TB drugs, the rotating stock pile had to be used to serve non urgent orders in order to prevent drugs expiry. This is not deemed fully consistent with the inherent nature of a stockpile. If drugs are about to reach their limit (6 month before expiry), they should be replaced with freshly produced ones so that the stockpile is not depleted and the drugs close to reach their limit are used to serve regular orders if the remaining shelf life allows it.

There is not enough information on the reasons behind the emergency/urgent orders to assert whether these orders met emergency criteria.

First-line anti-TB drugs Initiative SRS

According to the GDF, there was not a physical stockpile per se at all times, but rather a combined physical and virtual SRS from which both regular and emergency orders were served. From mid 2009, the stockpile became virtual and became integrated into the regular order system. Hence it is not possible to clearly distinguish the SRS from the regular order supply system. The team of assessors does not clearly understand how GDF managed to report on the orders served from the stockpile if both systems were integrated. According to the GDF SRS manager, the report on orders served from the SRS was based on lead time. As the SRS was integrated into the regular system, this suggests, that regular orders with shortest lead time were reported as served from the virtual SRS.

Although this model allowed rotation of the physical stock when it existed, allocation and diversion of stocks and/or production orders on short notice, it is not clear whether it still matches the definition of a stockpile and whether it requires such a large investment on behalf of UNITAID. The existence of 380,000 patient treatments with all required medicines (as kits or stand-alone products) at a given point in time as a physical stock therefore appears unlikely, though would remain to be determined through an in depth investigation if deemed necessary by UNITAID. The existence of a physical SRS since project inception has been challenged by various sources including GDF itself.

GDF reports that from July 2009 to July 2010, under PFSCM management, the stockpile did not function at maximum efficiency whereas it appears that there was not much of a stockpile. If some physical stock existed, it was the balance of the stockpile GiZ tried to build until mid 2009.

2. **How will the benefits from the rotating stockpiles continue after funding from UNITAID has ended?**

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

The benefits of the SRS for MDR TB drugs are not likely to outlive the UNITAID funding as a budget is required to maintain it and there is currently no plan to relieve UNITAID from this responsibility. The main benefits from the SRS has been to mitigate the risk of stock-outs in countries where capacity in forecasting or supply chain management is weak but also to cushion the effect of supply disruption as a buffer does. The establishment of the stockpile has also had an effect to some degree on price reduction and on the increase in the number of eligible suppliers but this effect was short-lived as once the stock pile existed, procurement for replenishment did not add to existing orders and overall annual orders remained the same with or without the stockpile. Although more detailed information on freight costs is needed, the existence of the stockpile could reduce emergency shipments in the long term and hence total treatment costs.

First-line anti-TB drugs Initiative SRS

The SRS was designed a counter measure to mitigate the risk of stock outs in countries where supply chain management is weak or in case of disruption in the supply chain. It is unlikely that in-country capacity in SCM will be satisfactory at the end of 2011 and that suppliers will no longer face disruptions so that the SRS would become obsolete. However, without appropriate incentives and assurance that maintenance costs (including expired products) are paid for, suppliers are not going to maintain the SRS at their own cost. The model is not sustainable and its benefits will end with it unless countries financially contribute to the stockpile maintenance costs by, for example, mutualisation of its costs. For procurement agents, the stockpile, as designed by GDF, was difficult to apprehend and manage. Over close to three years, it has only been functioning as a physical stockpile (although not at full capacity) for about 6 to 8 months from late 2008 to mid 2009.

The impact of the SRS on the number of prequalified suppliers and on the price of products could not be accurately measured because of the concomitant implementation (until the end of 2009) of the Accelerated Access project which also had an impact on these indicators. However, it is unlikely that the SRS impact would last beyond its building phase as orders served from the stockpile do not supplement regular orders but simply replace them. Moreover, according to suppliers, price elasticity is limited.

3. **How has the SRS accelerated access (shorten delivery lead times) and ensured availability?**

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

As of December 2010, there have not been any confirmed stock outs reported since the establishment of the stockpile. The average delivery lead time was consistently below the 2 months target and GDF reported no write offs of drugs. There is however a risk of expiry of a fluoroquinolone for which demand has decreased following WHO new recommendations. The benefits of the stockpile in shortening lead times was demonstrated (provided that the physical stock existed and that emergency orders were not served through diversion/re allocation of non urgent orders). However, its impact on ensuring availability and access to patients was not possible to measure as the SRS was implemented in parallel to another component aiming at the same objectives. The project could only estimate the number of patients treated with the drugs delivered to the countries under the grants and did estimate the number of patients treated with orders served from the SRS.

First-line anti-TB drugs Initiative SRS

Over two years GDF reported the SRS was operational and that stock outs occurred. According to GDF, although the reasons behind stock out have not been consistently enquired (there is no mention in the GDF monitoring reports on countries where stock out have occurred), these stocks were not related to SRS performance. This reported absence of a link between the stock out and the SRS could not be verified on the basis of the information provided in the annual report. In 2010, delivery lead time exceeded the 30 day target and almost reached the average lead time for regular orders served outside the SRS. Hence the stockpile did not accelerate access.

According to GiZ and manufacturers there was no stockpile per se but some stock at supplier level that was used to fulfil emergency orders. GDF granted GiZ access to draft orders in Order Management System so that GiZ could give the suppliers a "heads up" well in advance so that they could produce and stock sufficient amounts of drugs to meet the volume of orders. GiZ also tightened up its monitoring activities in an effort to discipline tardy suppliers. Hence, although delivery lead time was shortened, it was not related to the performance of the stockpile but rather the consequence of increased predictability of orders and supplier visibility.

4. How has the SRS facilitated effective usage of the pooled procurement concept?

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

The GDF annually prepares a forecast of the quantity likely to be ordered in the following year using UNITAID, the Global Fund and UNITAID funds based on GLC estimates. The forecast is shared with manufacturers during annual meetings.

Preparation of the forecast is complex and requires calculation assignments to each drug of a coefficient. Each coefficient (see Table 17) is estimated based on treatments and regimens described by the programs in their GLC applications and percentage of total drugs delivered within their particular subgroup and using the treatment guidelines.

Table 17. Example of coefficient assignment based on 2009 data.

Group	Drug description	Coefficient I (% full drug consumption/year)	Coefficient II (share within drug group)
Carbothionamides	Ethionamide 250 mg	100%	44%
	Prothionamide 250 mg		56%
Injectable	Capreomycin 1000 mg	100%	49%
	Kanamycin 1000 mg		39%
	Amikacin 1000 mg		12%
Floroquinalones	Ofloxacin 200 mg	100%	30%
	Ciprofloxacin 250 mg		0%
	Levofloxacin 250 mg		50%
	Moxifloxacin 400 mg		20%
PAS	PAS 4g	30%	100%
Cycloserin	Cycloserin 250 mg	90%	100%

Source: John Loeber presentation at the meeting of WHO Prequalification Programme with European manufacturers and EU marketing authorization holders Copenhagen, November 2009

As detailed in the 2008 Annual Report, adequate forecasting is deemed to yield positive results such as:

- strengthening GDF's position when negotiating pricing/running tenders,
- reducing manufacturer risks with product costs,
- improving lead times through better production planning,
- providing further incentives for manufacturers to submit new dossiers into the WHO Pre-qualification process and/or accelerate efforts to complete dossiers already under review.

The GDF pools resources for MDR-TB drugs but there is no mechanism to effectively pool country orders before the procurement agent sends the order to manufacturers. That would require all countries to agree with the GDF on an ordering schedule and to communicate it to the manufacturers so that they can plan sufficient quantities of API and have their production line ready. This is possible but could be complex to manage drugs with a short shelf life such as MDR TB drugs.

Moreover, the LTA negotiated with suppliers does not include any commitment on the volume of drugs likely to be ordered over the LTA validity period which means that the GDF may not take full advantage of its purchasing power. According to IDA, although the bidding document featured a request to manufacturers to submit a staircase type prices/tier prices based on orders volume, the majority of the bids merely included fixed prices.

The SRS is not deemed to have had much impact on the prices. Its establishment has created a greater demand for MDR TB drugs but once the 5,800 patient treatments were stockpiled using existing LTAs, the replenishment and rotation of the stock has had no impact on the volume of the orders.

First-line anti-TB drugs Initiative SRS

On a quarterly basis, GDF and GiZ estimate the quantity of drugs likely to be ordered during the next quarter. According to GiZ, there have been attempts to use this forecast to pool the orders as it can have a positive impact on costs as some suppliers offer a staircase type price/tier price (although it is not clear whether the volume considered refers to the annual cumulative or to a single order) and on suppliers planning. Predictability of the demand increases suppliers' likeliness to timely deliver the products and reduces the chances of supply disruption.

As reported by one of the suppliers, at the time of the tender, not all suppliers offered tier prices because of the limited predictability of the volume of orders and time of orders. Without this critical information, suppliers before submitting a bid, can not negotiate the best possible conditions with their API suppliers. Two suppliers of first line anti TB drugs reported that GiZ sent them individual country orders that were not pooled but did not have any impact on their price.

5. How has the SRS facilitated market stability for suppliers?

MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

The SRS is operated in parallel to grants. It is not possible to distinguish the contribution of each component of the project separately. However, it is clear that by committing to larger order volumes and communicating in advance on when the drugs are to be made available to countries, the GDF contributes to increasing the predictability of the demand and hence allows manufacturers to plan their production and potentially buy API at more competitive prices. As explained earlier, this benefit is short lived as once the stockpile is built, rotation and replenishment do not add to the regular orders but rather substitute the latter.

First-line anti-TB drugs Initiative SRS

It is unlikely that this SRS existed to an extent that would have represented an attractive opportunity to suppliers and increased market stability. However, between late 2008 and mid 2009 if in certain instances, the SRS was built by suppliers other than primary or secondary suppliers, then it would have deemed having some impact on market stability by increasing the supplier base and hence supply stability.

The team of assessor reckons that market stability is also facilitated when demand is adequately forecasted and shared with suppliers on time. But the first line anti TB drugs SRS appear to have chronically suffered from a lack of robust forecasting of drug needs. Hence suppliers did not have a good overview of the volume of orders and the pace of ordering.

4.6 Comments on reporting arrangements

Rating		**Level of confidence**	
☐	Optimal	☐	Optimal
☒	Minor concerns	☒	Minor concerns
☐	Major concerns	☐	Major concerns

Key findings

Findings common to all Projects

- Submission dates are not available for all reports.
- Limited guidance and changing reporting requirements. Uncertainties and disagreements about some indicator definitions e.g. multiyear LTA, definition of products or drugs.
- Inter-linkages of programmatic and financial developments are not well described.
- Reports serve as a conduit for official requests for programmatic change by the partners to update indicators.

Project Specific Findings

MDR-TB Scale-Up Initiative 2007-2011 and MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- Joint reporting with indicator overlaps has contributed to an erosion of reporting intensity and scope.
- The methodology to estimate the lead time is not well defined as full courses are not delivered in one shipment.
- GDF requests UNITAID to remove indicators.
- Quantities of drugs delivered do not automatically translate in patients treated.
- A financial report for the SRS (2nd line) is not available as part of the AR 2010.

First-Line Anti-TB Drugs Initiative

- Inconsistencies in reporting between LoA requirements and submitted reports.
- Cumulative progress reporting is not consistently provided for all indicators.
- Indicator definitions have not been harmonized between section 5 of the LoA, 1st amendment and M&E log frames.
- Report template only reflects the M&E log frame of 1st Amendment but not the original LoA.

Common Findings for all projects

Based on available documentation, GDF submitted all required annual and interim reports to UNITAID for both projects (MDR-TB SRS and Fist-line Anti-TB Drugs Initiative). However, some reports have been submitted with slight delays and for others, the submission dates did not show (see bullet list below for details).

MDR-TB Scale-Up Initiative 2007-2011 and MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile:

- None of the IRs and ARs present a submission date.
- The inception report was submitted with a 3 month delay.

First-Line Anti-TB Drugs Initiative:

- Target dates for report delivery had not been defined for all reports (e.g. not for AR January-December 2008).
- Submission dates were missing on some reports (e.g. for IR January-June 2009, IR January-June 2010 and AR January-December 2010). For the two reports where target and delivery dates were indicated, one report had been submitted on time while the other had experienced slight delays (4 weeks).

Timely report submission and the quality of reports are the most important prerequisites for funds disbursement. The UNITAID internal process for report review involves several departments (M&E, Finance and the Portfolio manager) assessing consistency and overall data quality. If required, clarification requests are sent to the implementing body. Such clarification requests and their response have not been formally documented and could therefore not be assessed by the team of assessors.

MDR-TB Scale-Up Initiative 2007-2011 and MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

Programmatic Reporting

Initially, reporting for the project '*Acceleration of Access: SRS'* was independent of that for the MDR-TB Scale-up Initiative. The close thematic and operational link between the two projects argued for joint reporting but apparently, this issue was not recognized during the planning of the project-specific M&E and reporting requirements which appeared to have focused exclusively on the project at hand. It is not clear when the resulting overlap of indicators and reporting requirements was recognized, and how the following erosion of reporting intensity and scope was guided. The repeated request in the AR 2010 for indicator revision or removal from the reporting template indicates that reporting requirement revisions were driven by GDF and not UNITAID. For the SRS, all reported indicators refer to objective 1, while indicator achievements for objective 2 and 3 have to be identified in the MDR-TB Scale-up Initiative. A clear allocation of progress per project on respective indicators is therefore not possible.

Performance indicators and reporting challenges for the combined reporting on MDR-TB Scale-Up Initiative and the SRS include:

- GDF recurrently reported to UNITAID that the comparison of GDF negotiated prices to the GPRM data base was challenging because of comparability issues but UNITAID and GDF did not come to terms on an alternative indicator or methodology to measure GDF performance in price negotiation.
- There is currently no methodology to identify and remove partial deliveries from the estimate of the lead time. Lead time for partial deliveries should be reported separately. Availability of drugs for the full regimen was required for patients to start the treatment.
- The definition of new products for action 'Engage and negotiate with industry to produce appropriate new second line drugs' and relating indicator 'increase in the number of new MDR

TB products' does not appear to be clear to both parties. There seems to be some confusion about the definition of new drugs to the extent that GDF requested UNITAID to remove this indicator stating that GDF has no influence over the development of new MDR TB drugs. There is a lack of consistency in GDF understanding and reporting against this indicator as GDF clearly reported its achievements in the 2010 interim report but then requested UNITAID in the 2010 annual reports to remove this indicator. To the team of assessors and based on GDF 2010 interim and annual reports, it seems that the term 'new' applies to formulations newly included in the GDF catalogue rather than to new drugs. Hence the two indicators under 'Procurement efficiency' reflect 1) the increase in the number of suppliers for products in the GDF catalogue and 2) the expansion.

- Quantities of drugs delivered do not translate automatically in patients treated. There was an approximately six month time lag between the collection of data on the TB patient cohort and the release of the report. The GDF had to develop a methodology to extrapolate the number of patients treated based on the treatment delivered taking into account the above mentioned factors.
- GDF and UNITAID do not appear to have reached a common understanding on how to report on the following matters: Multiyear LTA (were they to be included in the number of LTAs reported annually?), reporting on GLC number of patients approved before project inception and project global impact on public health (curbing MDR TB epidemics and improving patient health outcomes). There appears to be an agreement between GDF and UNITAID on a mechanism for data collection on patient treatment outcome (exhibit 4A to September 2010 MoA) but it is supposed to be put it place in the course of 2011.
- There is confusion about what UNITAID and GDF called products or drugs. Does one drug in two different packages (1,000 loose tablets and 627 tablets in blister) refer to two products? When UNITAID and GDF target to have at least two suppliers for each product of each catalogue, it was understood per package (blister and loose). Similarly, when UNITAID and GDF set the objective of having at least two LTAs for 75% of the catalogue. However, GDF inconsistently provides information on the dosage and the package when reporting on the achievement of those targets.
- The objective of the SRS is to reduce lead time but also to decrease the costs for drug deliveries by reducing the ratio expensive freight/emergency orders to non expensive freight/urgent orders. There is no target pertaining to this objective and no mechanism to collect information on these costs.
- SRS component is implemented concomitantly to Grants and Direct Procurement and hence the individual impact of the SRS on treatment cost containment and drug prices can not be assessed and decreases in treatment cost or drug price can not be attributed to the SRS alone.

First-Line Anti-TB Drugs Initiative

Programmatic reporting

Programmatic reporting has evolved during project implementation and presently only focuses on the amended M&E log frame Exhibit 3A of the 1st Amendment request. The programmatic reports provide updated information on respective key activities and indicators. Programmatic report constraints related to the existing reporting arrangement can be summarized as follows:

- Lack of clear guidance and changing reporting requirements. The report template has been subject to continuous changes increasing the report complexity. A comparison of the AR 2008 and AR 2010 content indicated, that the indicator "nb of manufacturers eligible for purchase of key products" is not covered in the AR 2008 report.
- The report template was only developed after signature of the original LoA resulting in persistent discrepancies between the template and the requirements of the original LoA framework

since project commencement. Instead, reporting only covers the M&E framework displayed in Exhibit 3A, which however is still subject to ongoing changes.

- Indicator definitions have not all been harmonized between section 5 of the LoA, 1st amendment and M&E log frames, e.g. target indicator differences are given for comparing GDF product prices with non-GDF sources.
- Reports serve as a conduit for official requests for programmatic change by the partners to update indicators e.g. on lead times and usage of SRS for regular orders (AR 2010).
- Cumulative progress reporting is not consistently provided for all indicators e.g. there is no information on the cumulative total of nb of products prequalified since project commencement or no cumulative reporting on nb of stock outs per year.
- Inconsistencies exist in reporting and refer to:
  - Variances in patient treatment targets for each country stated in the LoA compared to actual targets reported against in the 2007 and 2008 ARs. The variance is over 10% for 17 out of 19 countries.
  - Budget allocations to beneficiary countries varied in a similar way. Ten out of 19 countries have a 2008 budget increasing or decreasing by more than 10% of the LoA budget.
  - Decreases or increases in the LoA patient targets do not appear to impact the annual budget in the same proportion. For Niger, although the target was reduced by 30% the budget increased by 6%.
  - Variances in reported transition dates. In the 2008 AR, Cameroon reported to have transitioned in Q3 2008 but in the 2009 IR, the transition was planned for Q3 2009. Similar findings have been made for other countries such as Burkina Faso, Togo and Uganda etc.
  - Increased value of the treatments ordered as opposed to stagnating treatment orders e.g. in Cameroon.
- There is not sufficient information to estimate the number of patients potentially treated with the quantities of drugs delivered.
- SRS size and minimum balance in any given month are not included in the milestone preventing UNITAID from accessing key information about the SRS functioning. Quantities of orders reported being served out of the stockpile does not attest of its existence and proper functioning.
- As already mentioned some reporting issues exist with the Prequalification list as supplied in the most update report by GDF (AR 2010, p. 9/10): 1) There is no information on the cumulative total number of products prequalified since project's inception and it can not be assessed solely based on the project report. GDF should report on number of products prequalified and reviewed by WHO Pre Qualification program, ERP and SRA separately for the reporting period and as a cumulative total since project inception. 2) status per product should be provided individually for ERP approved and WHO Pre Qualified products, not in a consolidated form 3) Information should be provided on the number of products which have been rejected by the ERPs. According to the Global Fund List of TB Pharmaceutical Products classified according to the Global Fund policy only lists one 1st-line anti TB product, between 31 January 2008 and 31 March 2011 39 new products became eligible. Although not specifically attributable to the present project, the project is expected to have had some impact.

The following factors have also negatively influenced cooperation and communication in aspects of overall project management:

- Late submission of extension request in January 2009 and delayed response by UNITAID. It took almost 1 year (December 2009) to agree on the project set up indicating coopera-

tion/communication constraints between the two parties. As a result, year 2009 was not covered by any agreement.
- Long response times. MDR reprogramming request submitted by GDF on 19 November 2010 was responded to with several months delay on 18 April 2011. (valid for 2nd line project).
- Although, GDF had chosen a flexible model for SRS, which changed several times, the SRS was still based on supplier willingness to keep a certain percentage of their stock.

Financial reporting findings common to all projects
The financial reporting requirements are mainly spelled out in report section C, only providing summary information on disbursements made, total budget available, target budget for reporting period, actual budget for reporting period, expenditures made and cash reconciliation etc. Expenditures vs. Budgets are given but only in a summary version for the entire project in the ARs. For a more detailed analysis and verification, additional details or reference documents are not available. Common budget items can not be readily identified. However, disbursements are made on time for those disbursements reported on. In general, inter-linkages of programmatic and financial developments were not well described.

MDR-TB specific financial reporting is supposed to include information “from the procurement agent on stockpile reimbursement activity/transactions”. Such a report is however not available.

As reported in section C of AR 2010 (First-Line Anti-TB Drugs Initiative), interest has been earned in the amount of 274'553 USD on the bank account and other income received. The interest earned has been added by GDF to the funds available for the stockpile as agreed on between UNITAID and GDF in the 1st Amendment of original LoA. Information is not available on interest earned for the MDR-TB SRS project.

4.7 Projects Strengths, Weaknesses, Opportunities and Threats (SWOT)

Listed below are essential items identified in the frame of this mid-term evaluation which could be considered in a formal SWOT analysis of the project. Strengths and weaknesses refer to internal factors while opportunities and threats represent external factors.

Table 18. Strengths, Weaknesses, Opportunities and Threats common to all projects.

Strengths	Weaknesses
- GDF collaboration with suppliers and regular meetings. - GDF flexibility and commitment to improvement. - Harmonization of GDF and Global Fund QA policies. - Willingness and capacity to revise and adjust project (targets, indicators). - Close collaboration with other actors in TB diagnostics and treatment.	- Pooling of country orders. - Technical collaboration with manufacturers. - Tracking system of the number of patients actually treated. - Pre qualification of products from local suppliers of high burdened countries. - Indicators to accurately measure GDF actual performance in key activities. - Means of verifications/reference data and agreed methodology. - SRS impact on treatment cost containment and drug prices.
Opportunities	**Threats**
- Renewed global interest in TB and MDR-TB. - Pre qualification of API. - GDF and GLC change in mandate and re structuring.	- Exchange-rate fluctuations and oil prices - Production bottlenecks/mishaps, limited number suppliers of eligible products with limited production capacity. - Slow innovation (small market)/long product development lead time for drugs.

Table 19. MDR-TB Scale-Up Initiative 2007-2012 including MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile: Strengths, Weaknesses, Opportunities and Threats.

Strengths	Weaknesses
- GDF SRS and OMS.	- Price transparency. - Negotiation and exchange rate fluctuation mitigation strategy. - Tier pricing in LTA. - GDF capacity to impact prices. - GDF Technical capacity to anticipate some of the problems faced by the project since its inception. - Technical assistance at country level to support national anti MDR TB program. - Relevance and impact of GDF support in supply chain management. - Link between GDF activities under the project and the TB Alliance. - Interest of MDR TB drug suppliers in which products comply with GDF QA policy in GDF EOI/ITB.
Opportunities	**Threats**
- Successful implementation of Expand-TB project. - The New Global Framework to support MDR TB management scale up. - Gen Xpert 90 minutes rapid test for the diagnostics of MDR TB and drug sensitivity.	- Sustainability of the SRS. - If countries directly procure anti MDR TB drugs outside of the GDF/GLC procurement arrangements, demand is likely to be less predictable, supply will be increasingly subject to disruption and prices are expected to increase because there will not be any pooling mechanism.

Table 20. First line TB drugs Initiative including SRS: Strengths, Weaknesses, Opportunities and Threats.

Strengths	Weaknesses
- GDF impact at both ends of the market. - GDF impact beyond drugs supply.	- Physical SRS never materialized. - No report on the use of UNITAID monies approved for a Stockpile and on the interests accrued. - Absence of information on freight costs.
Opportunities	**Threats**
- Increase in the number of suppliers of pre qualified products.	- Drug price increase and funding gap. - Low price negative impact on suppliers interest.

- **Strengths**

<u>Strengths common to all projects</u>

- GDF collaboration with suppliers and regular meetings.
- GDF flexibility and commitment to improvement.
- Harmonization of GDF and Global Fund QA policies.

- Willingness and capacity to revise and adjust project (targets, indicators).
- Close collaboration with other actors in TB diagnostics and treatment.

MDR-TB Scale-Up Initiative 2007-2012 including MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- GDF OMS and SRS effectively supported stock out prevention in all beneficiary countries.

First-Line Anti-TB Drugs Initiative

- GDF impact at both ends of the market with sufficient financial leverage:
    - to encourage DOTS expansion, ability to promote standardization of TB treatments,
    - to achieve price reduction.
- GDF transition grants have provided the project both with the "carrot" (i.e. leverage to ensure that countries accept technical and other requirements) and the "stick" (i.e. M&E to enforce performance) to ensure impact beyond supplying drugs alone.

- **Weaknesses**

Weaknesses common to all projects

- There have not been any attempts to pool country orders to assist suppliers in production planning.
- The projects did not include technical collaboration with FPP (and API) suppliers to reflect on more cost effective production and identify potential savings.
- The projects did not have any system to track the number of patients actually being treated with UNITAID funded anti TB drugs.
- Under all projects, GDF did not manage to convince local suppliers of high burdened countries to become pre-qualified. The projects did not have any impact on the fact that most people are treated for TB in the private sector (outside the national programmes) and for MDR TB outside GLC approved programmes and receive drugs which quality is not assured. According to MSF and the UNION, only 13% of the estimated MDR TB drug is channelled through the GDF.
- Projects lack of indicators to accurately measure GDF actual performance of key activities (cost containment and price reduction, delivery lead time…). Most GDF shortcomings are reported to be the result of exogenous factors. Some of these factors could have been anticipated and adequately planned for.
- Indicators featured in the project performance framework could not consistently be reported against as a result of recurrent lack of reference data (GPRM), misunderstanding about the indicator definition (new SLD drugs), lack of quantification methodology (lead time) or data collection/reporting system (number of patients treated and treatment outcome, size of the SRS).
- SRS were implemented concomitantly to Grants and Direct Procurement and hence the individual impact of SRS on treatment cost containment and drug prices can not be assessed.

MDR-TB Scale-Up Initiative 2007-2012 including MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- Price transparency is not ensured: GDF does not show the price of drugs on its website and hence does not comply with project MoAs.
- Lack of price negotiation and exchange rate fluctuation mitigation strategy: GDF established a task force for price negotiation but dissolved it soon after holding the first meetings and switched to competitive tenders (although not all products of the catalogue have enough suppliers to ensure competition).

- IDA signed LTAs with manufacturers to contain prices for a 12 to 24 month period but these agreements did not include tiered prices hence prices did not decrease when order volume increased.
- GDF capacity to impact prices remains to be demonstrated. The project performance framework changed over the implementation with a reduction of targets pertaining to price containment and price reduction but an increase of the budget (with the inclusion of India and increase o the SRS).
- Lack of technical capacity to anticipate some of the problems faced by the project since its inception (exchange rate fluctuation buffer, transportation buffer, change in the intensive phase length, change in treatment algorithm, patient treated estimate, change in the SRS model).
- There is a double bottle neck with GLC approval and national program low capacity to diagnose and enrol patients. As of end of 2009, GLC had approved treatment for over 63'000 MDR-TB patients in 111 programmes spanning 70 countries and territories but less than half (19'000 patients) were reported to have been enrolled in 44 GLC programmes. The project has not been able to reduce this gap because there is not sufficient technical assistance at country level to support national anti MDR TB programs.
- Treatment success in MDR-TB patients (documented for 60% of MDR TB patients treated) overall remains low even in well-resourced settings because of a high frequency of death, default and treatment failure, as well as many cases reported without definitive outcomes.
- Relevance and impact of GDF support in supply chain management remain to be demonstrated.
- There is no link between GDF activities under the project and the TB Alliance which has had new second line drugs in clinical trials although some synergies in the form of advanced purchases could have been considered.
- GDF current approach in procurement (EOI + LITB) does not appear to be sufficiently attractive to MDR TB drug suppliers who's product complies with GDF QA policy.
- GDF did not consistently reports on the interests accrued in its financial reports to UNITAID.

First-Line Anti-TB Drugs Initiative

- The SRS never materialized as a formal mechanism whereby countries could order drugs from an existing stock on supplier premises and have them delivered with shortened lead time to mitigate the risk of stock outs. The number of suppliers and their production capacity has never been large enough to allow the building of the SRS.
- The SRS aimed at decreasing the ratio of expensive freight/emergency orders: non expensive freight/non emergency orders but information on freight costs was not reported.

- **Opportunities**

Opportunities common to all projects

- There is a renewed global interest in TB and MDR-TB.
- Pre qualification of API is likely to shorten FPP pre qualification and hence facilitate entry of new suppliers.
- GDF and GLC change in mandate and restructuring are opportunities for both projects to increase their impact in the fight against TB and MDR TB. GDF regional presence is expected to strengthen communication with countries and potentially positively impact on countries forecasting and Supply Chain Management capacity. Convergence of GLC and GDF activities in technical assistance and monitoring is likely to increase the number of patients diagnosed and treated.

MDR-TB Scale-Up Initiative 2007-2012 including MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- Successful implementation of the Expand-TB project (aiming at increasing diagnostics and laboratory capacity) will result in an increased demand for MDR TRB drugs.
- The New Global Framework to support MDR TB management scale up.
- Gen Xpert 90 minutes rapid test for the diagnostics of MDR TB and drug sensitivity.

First-Line Anti-TB Drugs Initiative

- The increase in the number of prequalified suppliers might result in increasing the availability of products and decreasing their prices.

- **Threats**

Threats common to all projects

- Exchange-rate fluctuations and oil prices have a significant impact on API and FFP prices and GDF does not have any mechanism to mitigate this risk.
- GDF procurement model is highly exposed to production bottlenecks/mishaps as it does not allow to promptly switch suppliers owing to the limited number of suppliers of eligible products.
- The market is hampered by slow innovation (small market)/long product development lead time for drugs.

MDR-TB Scale-Up Initiative 2007-2012 including MDR-TB Acceleration of Access Initiative: Strategic Rotating Stockpile

- Maintain the gain:
    - Lack of sustainability of the SRS: This component has no long lasting effect as benefits wear off once funds dry up.
    - If countries directly procure anti MDR TB drugs outside of the GDF/GLC procurement arrangements, demand is likely to be less predictable, supply will be increasingly subject to disruption and prices are expected to increase because there will not be any pooling mechanism.

First-Line Anti-TB Drugs Initiative

- There is a risk with drug price increases (such as Streptomycin) and funding gaps (estimated to 48 Mio in 2012[17]) as the proportion of patients treated with sub standard and non FDC drugs could increase. According to Falling Short, more than 70% of first line TB drugs (FDC and non FDC) do not comply with GDF and Global Fund (in line with International Conference on Harmonization) QA policies.[18]
- When low is deemed too low: Negotiation of prices below a certain level could negatively impact the interest of suppliers in bidding or producing TB drugs. This could result in delays in supply production and delivery (as more profitable drugs would be produced at the expenses of TB drugs) and potentially in a reduction of the supplier base

[17] *WHO Global TB control 2011, http://www.who.int/tb/publications/global_report/2011/gtbr11_full.pdf*

[18] *Public first-line TB market across ten countries (China, Ethiopia, India, Indonesia, Kenya, Nigeria, Rwanda, South Africa, Uganda and Vietnam) in 2009 estimated at US$88.9 million*
Source: Clinton Health Access Initiative, 2009.

5 Annex. Approach and methods

This is a summative, external, independent mid-term evaluation with a SWOT analysis, including recommendations based on the findings of the evaluation.

The evaluation was conducted by a main evaluator supported by a second evaluator responsible for preparing the project outline, extracting the data in the evaluation matrix and contributing to the other tasks in the evaluation process, including report writing. Evaluators were supported by a financial expert, a procurement and supply management expert, the project leader and the project manager.

5.1 Evaluation components

The evaluation had three components: (1) four common evaluation areas, (2) project-specific questions and (3) an assessment of the quality of reporting.

(1) Common evaluation areas

The common evaluation areas have been provided in the RFP issues by UNITAID, they are compliant with the OECD evaluation criteria and are defined as follows:

- **Relevance**: consistency between the activities of the project with the project plan and with UNITAID's objectives and strategy.
- **Effectiveness**: degree of achievement of the objectives of the project.
- **Efficiency**: relation between the effort invested in carrying out the activities of the project and the results of the projects, mainly in procurement.
- **Impact**: effects of the project beyond the achievement of the short term objectives of the project.

For each evaluation area, 'questions', 'indicators', 'sources of information' and 'analytical methods' had been defined beforehand. 'Questions' were designed to unfold evaluation areas into items that could be described by quantitative or qualitative 'indicators'. For each indicator, sources of information where identified and the analytical methods to estimate each indicator were defined (see Annex 1 Evaluation Tool, common questions). All common questions were addressed consistently across all projects to minimise the risk of bias attributable to differences in the approaches by different evaluators.

(2) Project-specific questions

UNITAID, in the RFP, proposed a series of project-specific questions. These questions were further adapted in discussions between the team of assessors, implementing partners and UNITAID secretariat. A full list of the project-specific questions is found in Annex1: Evaluation Tools, project specific questions.

(3) Quality of reporting

The team of assessors was alerted by UNITAID that programmatic and financial reports of projects sent to UNITAID might pose challenges in terms of their completeness, consistency across projects and with the memorandum of understanding between UNITAID and the projects, and internal formal consistency (e.g. between the items formulated as objectives and as activities). Given that the evaluation of the project progress was mainly based on the information contained in semi-annual and annual programmatic and financial reports, reporting problems could affect the findings of the evaluation.

A guiding checklist was prepared to have a consistent assessment of the quality of reporting across evaluators and projects evaluated Annex 1: Evaluation Tools, reporting checklist.)

5.2 Methods

1. Sources of information

The sources of information to conduct the evaluation were:

- Memorandum of Agreements and Letters of Agreements between UNITAID and the project implementing partners and other legal documents where appropriate, particularly the amendment requests with annexes and exhibits;
- Annual project progress report 2010 for MDR-TB SRS (1 January 2010 to 31 December 2010) submitted to UNITAID on 15 March 2011; and the annual report for the First-line Anti-TB Drugs Initiative 2007-2011 (1 January 2010 to 31 December 2010) for which no submission date was available. The programmatic reports included financial report sections.
- Previous annual and interim progress reports.

2. Project outline

A preliminary reading of project documents suggested that not all projects were consistent in terms of what was considered to be an 'objective' and an 'activity', and in the links between them. The first step, therefore, consisted in creating a 'project outline' using a common log-frame to identify the objectives and the activities linked to them. An objective was defined as a statement which described what should be achieved at certain points in time and/or at the end of the project; an activity was defined as a description of the events that should occur in certain times and places, and involving certain people. Where possible, activities were linked to objectives, either based on the information contained in the reports or on the judgment of the evaluators. Any other information retrieved for the evaluation was referenced to the project outline. The project outline was adapted to reflect changes in the scope and objectives of the projects that took place in the course of implementation, ideally reflected in amendments to the MoA or LoA. The project outline included, among others:

- objectives and targets
- action plan (including dates and milestones)
- procurement plan
- budget and disbursement plan

3. Data extraction

Based on the log-frame, documents included in the evaluation were scrutinized to extract the relevant data for the evaluation. A set of templates were used to record the data and where necessary tables were also pasted into additional sheets. Data extraction followed the indicators attached to each evaluation question in the four evaluation areas and specific questions.

For market information, we relied on information provided in GDF reports which compared GDF prices with the Management Sciences for Health International Drug Price Indicator Guide for quality equivalent products (addendum to 2009 annual reports) and discussed the influence the project had on the market with both manufacturers and procurement agents. The contacted companies were International Dispensary Association (IDA), GiZ, Macleods and Lupin.

The UNITAID TB portfolio manager and representatives of the implementing partner GDF were contacted to discuss the project and to clarify issues related to the availability, reporting and quality of data.

4. Analysis

The evaluation in each area was a composite of the evaluation of each question based on the indicators, as defined in the evaluation matrix. In the analysis, quantitative indicators were calculated and qualitative indicators formulated. When information to estimate an indicator was missing, this was made explicit in order to avoid confounding missing indicators with poor performance.

The evaluation of each area was accompanied by an assessment of the quality of the underlying data. Data was considered of poor quality when it was partial (e.g. describing what happened in one country but not in another one), when sources were not indicated or when there were obvious inconsistencies not attributable to project performance (e.g. different figures for the same event in different reports).

When data is missing or of poor quality in a given evaluation area not much confidence can be placed on the truthfulness of the evaluation in reflecting the real situation of the project; on the contrary, when quality issues are minimal, the results of the evaluation can be reasonably trusted. The quality of the underlying data is explicitly described alongside the evaluation findings. Efforts have been made to provide explanations to the findings, based on the available data: reasons for success and failure. Where it has been deemed that data was insufficient to provide reliable explanations, no attempt was made to extrapolate from other projects or to speculate based on anecdotal evidence.

A meeting was held between all evaluators and the project leaders to review the findings of the evaluations. The review process included the project outline, the indicators and the data analysis. Where necessary, findings were fine tuned to reflect the status of the project limiting those aspects that could be seen as subjective.

A rating was attached to each common evaluation area. The rating was qualitative and based on consensus within the team of assessors, which included the evaluators of other projects. The rating had two parts: the proper rating of the evaluation area and an assessment of the quality of the underlying data, so as to weight the confidence that can be put in the rating itself. For a guide to the rating scale and an interpretation of the different categories see Table 21.

Table 21. Rating of evaluation areas and quality of data.

	Definition	Interpretation
Rating scale		
Good performance	All indicators showed acceptable or positive results, according to the targets set.	The project works as expected.
Some concerns	Most of the indicators showed acceptable or positive results, but there were isolated cases where indicators suggested poor performance.	The project needs minor adjustments to improve its performance or a further evaluation focusing on certain areas may be needed.
Serious concerns	Most of the indicators showed poor performance.	The project needs important adjustments to improve its performance.
Quality of data		
Good quality	Data to estimate all indicators was available without obvious inconsistencies.	The rating reasonably reflects the true performance of the project.
Moderate quality	Some data was missing or inconsistent, but most of the indicators could be estimated.	It is possible that additional data might change the rating of the project.
Poor quality	Most of the data was missing or inconsistent and only one or two indicators could be estimated.	There is major uncertainty about the extent to which the rating reflects the true performance of the project.

5. Validation exchanges with key stakeholders

Key clarification questions were shared and discussed with the UNITAID secretariat and the implementation partners. The aim of this exchange was to establish a common understanding of the project status, progress and key issues and to discuss open questions. An interview questionnaire was specifically developed for each meeting in order to focus on stakeholder relevant questions.

6. Analysis of project Strengths, Weaknesses, Opportunities and Threats

The analysis of project strengths, weaknesses, opportunities and threats was filled based on the analysis done along the evaluation matrix, differentiating internal factors that favour/hinder the implementation of the project (strengths, weaknesses) and external factors (opportunities/threats). It is a summary of the key factors influencing the achievement of project's objectives.

Rather than being a formal fully-fledged SWOT analysis, the items identified in the frame of this mid-term evaluation are proposed to be considered in a formal SWOT analysis of the project in case such an analysis is undertaken.

7. Issuing of recommendations

Recommendations were issued by consensus of the team of assessors involved in all projects, based on the findings of the evaluation. Recommendations prioritised what was understood as being the critical issues in each evaluation area and across all areas. Several options to address the critical issues were listed and assessed against two main criteria: (a) the available evidence that the recommendations would effectively address the critical issue identified; and (b) the feasibility of implementing the recommendation. Evidence was drawn from research, best practices or colloquial evidence. Recommendations were addressed to specific actors: projects implementation entities or UNITAID.

5.3 Project specific

The process to elaborate this mid-term review closely followed the general outline presented above. In early 2011, background documents (LoAs, MoAs progress reports) were obtained and reviewed and a project outline was elaborated. The evaluation matrix was then completed based on the 2nd Annual Report programmatic reports available for both projects including financial report sections, covering the project period 1 January – 30 December 2010. A clarification meeting was held with key representatives of UNITAID and GDF in order to discuss project specific questions posed by the team of assessors. The aim was to gain a deeper and common understanding of the project statuses and progress as well as the strengths and weaknesses. Further follow-up questions were posed in email exchanges between the evaluators and the implementing body. Additional phone interviews were held with first and second line suppliers of anti TB drugs and procurement agents in order to identify their perception of the SRS system.

The main obstacles during this review were the uncertainty about the mandate to include the MDR TB Scale-up Initiative 2007-2012 and the controversial information on the actual existence of a physical SRS for 1st-line Anti-TB drugs. A confirmed final decision for inclusion of the MDR TB Scale-up was communicated towards the end of the mid-term review.

The evaluators appreciated the commitment of the implementing body, suppliers and procurement agents to provide information, respond to questions and make time available for meetings and discussion.

6 Annex. Evaluation Tools

Table 22. Reporting checklist.

Reporting received from implementing partners
1.1 Are project reports (interim report, annual reports) submitted on time?
1.2 Are they many clarifications required by UNITAID following the transmission of reports?
1.3- Is the content of the reports according to the requirements in the project plan
1.4 Is the content of the report useful for decision making?
1.5 What is the internal UNITAID process for validating a progress report? How could it be improved?
Financial reporting
2.1 Are the reporting requirements clear in the project plan and MoU?
2.2 Does the financial reporting format allow identifying readily common budget items (e.g. salaries, travel, major acquisitions, and drugs/diagnostics)?
2.3 Does the financial reporting give a clear picture on activities implemented and expenditures occurred on the period compared to budget and work plan?
2.4 Does the project implementation follow performance based funding principles? Are the disbursements based on progress made?
2.5 Are interests received on bank accounts or others incomes reported and are they reimbursed to the program / deduced on disbursement requests?
2.6 Does the financial reporting include a cash reconciliation supported by financial statements and bank statements?
Programmatic reporting
3.1 Are indicators defined both at the process level and outcome/impact level?
3.2 Does the programmatic / procurement reporting follow UNITAID requirements in terms of content?
3.3 Does the programmatic reporting provide a clear and actionable picture of programme implementation?
3.4 Does the programmatic reporting provide a clear picture on procurement activities (order list, etc…)?

Table 23. Evaluation matrix of the common evaluation areas.

Evaluation area and question	Indicators	Sources	Methods
Relevance			
1- Are the activities and expected outputs of the project consistent with the objectives and expected outcomes as described in the project plan?			
1.1 Are the activities from the project plan consistent with the objectives?	Consistency Rates - Number objectives with activities / total (%) - Number activities related to objectives / total (%)	- In the project outline, match the activities with the objectives	Match activities planned to reach each objective Also indicate if some of the activities are not linked to any of the objectives, and question their relevance
1.2 Do indicators as defined in the project plan allow to measure progress on each of the objectives?	% of objectives measured at least with one relevant indicator	- In the project outline, match the objectives with indicators	Comment on the development of a logframe for the project
1.3 Are all activities implemented as scheduled for the period?	Activity completion rate - Number activities implemented / total	- Planned activities from project plan - Implemented activities from the last available progress report	Follow up on the completion of activities and milestones as described in the Project plan. Give reasons for delays.
1.4. Are disbursements according to current budget forecasts and expenditures on the progress report?	Budget execution rate % (Disbursements vs. Budget) Budget absorption rate % (Expenditures vs. Budget)	- Budget from project plan - Disbursements and Expenditures from financial reports	- Calculate total expenditures / Disbursements for the period / Budget - Verify that expenditures are in line with activities initially planned / implemented - Explain main variances
2- Is it possible to show how the project has contributed to UNITAID's overall goal of using innovative, global market-based approaches to improve public health by increasing access to quality products to treat, diagnose and prevent HIV/AIDS, tuberculosis and malaria			
2.1 Has the project already demonstrated the contribution of UNITAID to increased access to quality products to treat/diagnose HIV, TB, and Malaria?	Yes / No	- Progress reports - Estimated number of patients treated or diagnosed per country	
2.2 Are the numbers reported by the implementing partner reliable?	Yes / Mostly / No	- Description of methods to estimate patients treated (if available) - Interview UNITAID / partner	How did the partner estimate the number of estimated patients treated (or diagnosed)? Are the methods reliable? Does the partner have programmatic support in countries - ensuring that treatments procured are effectively dispensed? Can the numbers be cross-checked with number of treatments procured?
Effectiveness			
3- To what extent were the objectives of the project achieved?			
3.1 Were the targets of the project achieved in terms of Health Outcome (estimated number of patients treated or diagnosed)	% achievement rates on patient outcome indicators.	- Project outline - targets in terms of health outcomes - Results from the most recent progress report	- Comment on the achievements in terms of patient outcome(Number patients treated / diagnosed) against the targets - Comment on reliability of information

Evaluation area and question	Indicators	Sources	Methods
3.2 Were the targets of the project achieved in terms of Market outcome?	Include quantitative result / % achievement rate (or qualitative if % not applicable)	- Project outline - targets in terms of market outcome - Results from the most recent progress report - Verify with market information (WHO pre-qualified product/supplier list, MSH Drug price indicators)	Comment on the achievements in terms of market outcome (price, quality, availability, access)
4- To what extent are they likely to be achieved?			
4.1 Likelihood to achieve health outcomes objectives	High / Medium / Low	Progress reports / interviews	No data collection here - This should be answered in the evaluation based on what has been achieved and what is known on the project
4.2 Likelihood to achieve market objectives	High / Medium / Low	Interviews / Market knowledge	No data collection here - This should be answered in the evaluation based on what has been achieved and what is known on the market for the drug or diagnosis
5- What are the main factors influencing the achievement or non-achievement of the objectives?			
5.1. What were the reasons for patient outcome targets not met?	List of factors.	Progress reports / interviews	For the main patient outcome indicator, analyze the chain of events: - were the activities from project plan implemented? - if yes, what were the factors for non achievement of targets - separate between internal factors (related to partner's organization and project implementation) and external factors (country context, market, complementary funding,)
5.2. What were the reasons for market impact targets not met?	List of factors.	Progress reports / interviews	- were the activities from project plan implemented? - if yes, what were the factors for non achievement of targets
5.3. Was there an effective risk management plan in place during the project	Yes / Limited / No	Progress reports / interviews	1- Did the partner make an initial risk assessment 2- Were the issues that happened during implementation foreseen in the risk assessment? 3- Did the partner take mitigation measures to limit the impact of negative events?
Efficiency			
6- Are the project partners working closely with the relevant national authorities?			
6.1 Have MoU been signed with all beneficiary countries?	Number of MoU Signed / Total planned	- Latest progress report - Update by interviews	- Number of MoU signed against Number planned - Analyze the reasons for MoU not signed
7- Is the project's procurement model well defined and designed to identify and solve procurement-related problems as they arise?			
7.1 Is a procurement agent selected and operational for the project?	- Yes (Name) - In progress - Process not started	- Progress Update - Latest procurement review	
7.2 Is the product median price procured in line with the budget?	Median unit cost / Planned unit cost (%) for key selected products	- procurement orders - Targets and budget from initial project plan	- Select a few items driving the overall procurement budget - Comment on the reliability of information

Evaluation area and question	Indicators	Sources	Methods
7.3 What is the average lead time between Purchase order and reception of health products in country?	average lead time for all operational countries	- Project plan - Progress reports - Copy of order sent by the country, reception certificate	Target time - effective time (in months) Number of months Delay / Lead compared to project plan Calculate average lead time for all the countries (in the case there are minority of extremes values do not include them but mention into the comment) It is in line with initial plan?
7.4 How many stock-outs of more than 7 days were observed since the beginning of the project?	Number of stock-outs	- Progress reports if information is reported - Otherwise ask the implementing partner	Identify likely reasons for stock-outs, attribute stock-outs to reasons - Number of stock-outs with responsibility - Number of stock-out without responsibility
7.5 Is the procurement model functioning as designed in the project plan?	- Yes - No	- compare procurement model from project plan to reality	If deviations from the project plan are identified, try to obtain information on the reason of the change.
Impact			
8- Can the partner organization attribute UNITAID funding to medicines and diagnostics purchased and patients treated by beneficiary country in a timely manner?			
8.1 Did the project report on treatments/diagnostics procured per country under UNITAID Funding?	No of treatments/diagnostics procured per country	- Latest progress report	
8.2 Did the project report on patients treated/diagnosed per country under UNITAID scheme?	No of patients treated/diagnosed with UNITAID funding per country	- Latest progress report	

Table 24. Project specific questions.

GDF - Strategic Rotating Stock piles (SRS) for 1st and 2nd line drugs
1-How can we be sure that stockpiles for anti-TB medicines are being used for emergency orders only?
1st LINE TB
1.1 What is the definition of an emergency order? Was this definition modified during program implementation?
1.2 What is the % of anti TB medicine in the rotating stockpile used to respond for emergency order
1.3. What is the quantity of the drugs procured through SRS as a percentage of the TB drugs procured over a year?
1.4. What is the average lead time and the average lead time reduction since the SRS is in place?
2nd LINE TB
1.5 What is the definition of an emergency order? Was this definition modified during program implementation?
1.6 What is the % of anti TB medicine in the rotating stockpile used to respond for emergency order
1.7. What is the quantity of the drugs procured through SRS as a percentage of the TB drugs procured over a year?
1.8 What is the average lead time and the average lead time reduction since the SRs is in place?
2-How can we be sure that stockpiles for anti-TB medicines are being used for emergency orders only?
1st line TB medicine
2.1 Do all emergency orders respond to the above mentioned definition of emergency?
2.2-Ratio rotating stockpile running cost/non rotating medicine stockpile cost
2.3 Existence and cost of other alternatives for procurement of Second Line TB Drugs
2nd line TB medicine
2.4 Do all emergency orders respond to the above mentioned definition of emergency?
2.5-Ratio rotating stockpile running cost/non rotating medicine stockpile cost
2.6 Existence and cost of other alternative for procurement of Second Line TB Drugs
3-How will the benefits from the rotating stockpiles continue after funding from UNITAID has ended?
3.1. Existence of an official and functioning system or policy at the National TB program procurement unit ensuring that sufficient budget is earmarked for emergency order and that pre-qualified suppliers are pro actively contacted when the need arises
4-How has the SRS accelerated access (shorten delivery lead times) and ensured availability?
4.1. Number of days between emergency order and in country final destination delivery
4.2. Comparison between average lead time for emergency order and average lead time for ordinary order
4.3. Number of days between the time people are diagnosed with MDR TB and their enrolment in treatment
5-How has the SRS facilitated effective usage of the pooled procurement concept?
Not clear to the mid term review team, will be developed at a later stage
6-How has the SRS facilitated market stability for suppliers?
1st line TB medicine
6.1 Are manufacturers informed about the SRS and its way of functioning?
6.2 Did manufacturers see a difference once SRS was in place?
6.3. What are the perceived advantages of the SRS by the manufacturers?
6.4 Did the median price of products included in the SRS stabilize or decrease since SRS is in place?
2nd line TB medicine
6.1 Are manufacturers informed about the SRS and its way of functioning?
6.2 Did manufacturers see a difference once SRS was in place?
6.3. What are the perceived advantages of the SRS by the manufacturers?
6.4 Did the median price of products included in the SRS stabilize or decrease since SRS is in place?

7 Annex. Meetings with Stakeholders and List of Persons Interviewed

Table 25. Meetings with stakeholders and list of persons interviewed.

Stakeholder	Date and location	Name of person interviewed	Role in the project
GDF and UNITAID	Face-to-face meeting on 27 May 2011, Geneva.	Kaspars Lunte, Greg Martin	**Project Implementing Agency** representative and GDF project manager. Project Portfolio manager
GDF	Telephone interview	Kaspars Lunte	GDF MDR TB initiative project manager
GDF	Telephone interview Wednesday 21 September	John Loeber	First Line anti TB drugs SRS manager
GiZ	Telephone interview Tuesday 13 September	Phil Whitmore	First line anti TB drugs Procurement agent
IDA	Telephone interview Monday 12 September	Wendy Eggen	Anti MDR TB drugs Procurement agent
Lupin Pharma	Telephone interview Wednesday 21 September	Shrikant Kulkarni Mukul Jerath	First Line anti TB drugs manufacturer
Macleods	Telephone interview Monday 19 September	Vijay Agarwal	First Line anti TB and anti MDR TB drugs manufacturer

8 Annex. List of Documents Reviewed

Table 26. List of documents reviewed.

Document Title	Source	Year
MDR-TB Scale-Up Initiative and SRS		
Executive board resolutions and MoA		
MDR-TB Scale-Up Initiative		
Original MoA 2007-2011 MDR-TB including Annex 1 and all Exhibits 1-8	UNITAID	2007
Executive Board Resolution No. 5 dated 7-9 May 2007	UNITAID	2007
Executive Board Resolution No.7, dated 2-3 July 2008	UNITAID	2008
1st Amendment to Original MoA MDR TB including Annex 1 and all Exhibits 1-5	UNITAID	2009
Executive Board Resolution No. 7 dated 12-13 May 2009	UNITAID	2009
2nd Amendment to Original MoA 2007-2012 MDR TB including Annex 1 and all Exhibits 1- 7	UNITAID	2010
SRS		
MoA Acceleration of Access Initiative: Strategic Rotating Stockpile project plan and deliverables 2008-2011 including Annex 1	UNITAID	2008
Executive Board Resolution No 3 dated 2-3 April 2008	UNITIAD	2008
Progress Reports		
MDR-TB Scale-Up Initiative		
Interim Report MDR-TB 2007	UNITAID	2007
Interim Report MDR-TB 2008	UNITIAD	2008
Annual Report MDR-TB 2008	UNITAID	2009
Interim Report MDR-TB 2009	UNITAID	2009
Annual Report MDR-TB 2009	UNITAID	2010
Interim Report MDR-TB 2010	UNITAID	2010
Annual Report MDR-TB 2010	UNITAID	2011
SRS		
Inception Report SRS 2009	UNITIAD	2009
First-Line Anti-TB Drugs Initiative		
Executive board resolutions and LoA		
Original LoA 2007-2009 1st Line Anti-TB Drugs Initiative including Annex 1 and all Exhibits 1-6	UNITAID	2007
EB Resolution No.2 dated 2 9-10July 2007	UNITAID	2007
Request for no-cost extension until 31 December 2011, 30 January 2009	UNITIAD	2009
1st Amendment to LoA 2007-20011 1st Line Anti-TB Drugs Initiative including Annex 1 and updated Exhibits 1A, 1B, 2, 3A, 3B, 4 and 5, 4 December 2009	UNITAID	2009
Progress Reports		
Interim Report First-line Anti-TB Drugs Initiative 2007	UNITAID	2007
Interim Report First-line Anti-TB Drugs Initiative 2008	UNITAID	2008

Annual Report First-line Anti-TB Drugs Initiative 2008	UNITAID	2009
Interim Report First-line Anti-TB Drugs Initiative 2009	UNITAID	No submission date
Annual Report First-line Anti-TB Drugs Initiative 2009 and Addendum	UNITAID	2010
Interim Report First-line Anti-TB Drugs Initiative 2010	UNITAID	2010
Annual Report First-line Anti-TB Drugs Initiative 2010	UNITAID	No submission date