

DISCLAIMER

Views expressed in this report are those of the authors. The authors have been commissioned by the Technical Evaluation Reference Group (TERG) of the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) to conduct an assessment to provide input into TERG's recommendations or observations, where relevant and applicable, to the Global Fund. This assessment does not necessarily reflect the views of the Global Fund or the TERG.

This report shall not be duplicated, used, or disclosed – in whole or in part without proper attribution.

Table of Contents

ACRONYMS AND ABBREVIATIONS	V
EXECUTIVE SUMMARY	VIII
CHAPTER 1. OVERVIEW OF PCE IN 2018	1
CHAPTER 2. METHODS FRAMEWORK, ANALYTICAL APPROACH, AND BASELINE DATA	1
2.1 Data Limitations for PCE	3
2.2 Burden of Disease in Guatemala	3
2.3 Disease specific intervention coverage	5
CHAPTER 3. GLOBAL FUND GRANT IMPLEMENTATION	6
3.1 Global Fund Grants: TB	6
Global Fund TB Investments	7
2016-2019 TB Grant - Outputs and Outcomes	9
2019-2022 TB Grant - Linking Inputs and Activities	11
3.2 Global Fund Grants: HIV	12
Analysis of inputs, activities and outputs for HIV	14
3.3 Global Fund Grants: Malaria	16
2011-2018 Malaria Grants - Outputs and Outcomes	17
The Malaria Grants - Analysis of Inputs and Upcoming Activities	19
3.4 Setting of targets	21
HIV/AIDS	21
Malaria	22
TB	23
4. GLOBAL FUND BUSINESS MODEL IN PRACTICE	24
4.1 Barriers and Facilitators to Grant Implementation of the HIV Extension	24
4.2 TB Grant	26
Drug and laboratory procurement and distribution	26
National Tuberculosis Program Geographic Prioritization	28
4.3 Sustainability & Transition Planning	29
Co-financing	29
CCM Re-engineering	30
4.4 Key and Vulnerable Populations	31
KP: Incarcerated populations	31
Human Rights	33
4.5 Resilient & Sustainable Systems for Health	35
Community Responses and Systems	36
4.6 Other aspects of the business model	37
Partnerships	37
Value for Money	38
Country Ownership	41
CHAPTER 5. SUMMARY ANALYSIS AND STRATEGIC CONSIDERATIONS	43
5.1 Country Context	43
5.2 Barriers to Implementation of Global Fund Investments	43
5.3 Improved Country Investment Prioritization and Resource Allocation	43

5.4 Effective distribution of Global Fund resources _____	44
5.5 STC Policy / RSSH _____	44
Factors influencing sustainability considerations of Global Fund investments _____	44
CCM Functionality _____	45
5.6 Resilient & Sustainable Systems for Health _____	45
5.7 Gender / Human Rights / Key and Vulnerable Populations _____	46
5.8 Strategic Considerations _____	46
CHAPTER 6. DISSEMINATION OF PCE RESULTS _____	47
CHAPTER 7. PLANS FOR 2019 _____	53
REFERENCES _____	53
ANNEXES _____	I
ANNEX I. PROGRESS OF THE PCE IN GUATEMALA, 2018 _____	I
ANNEX II. EQS LINKED TO GLOBAL FUND _____	II
ANNEX III. TB RESULTS CHAIN _____	III
Inputs _____	III
Activities _____	V
Outputs _____	VI
Outcomes _____	VIII
Impact _____	X
Data Limitations _____	XIII
ANNEX IV. BASELINE DATA SOURCES FOR PCE _____	XIV
ANNEX V. PROCESS EVALUATION DATA SOURCES _____	XV
ANNEX VI. PRIORITIZATION OF DEPARTMENTS FOR THE NATIONAL TUBERCULOSIS PROGRAM _____	XVI
ANNEX VII. PRESENT SITUATION OF HIV INFORMATION SYSTEM IN GUATEMALA _____	XXI
ANNEX VIII. CHARACTERISTICS OF CIVIL SOCIETY ORGANIZATIONS _____	XXII
ANNEX IX. SUMMARY OF DISSEMINATION ACTIVITIES _____	XXIII
ANNEX X. CLASSIFICATION OF MODULES AND INTERVENTIONS INTO FIVE BROAD BUDGET CATEGORIES _____	XXIV

Acronyms and abbreviations

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretroviral drug
CAS	Colectivo Amigos contra el SIDA
CCM	Country Coordinating Mechanism
CDC	Centers for Disease Control and Prevention
CHAI	Clinton Health Access Initiative
CIESAR	Centro de Investigación Epidemiológica en Salud Sexual y Reproductiva
COMISCA	Council of Health Ministries of Central America and Dominican Republic
CSO	Civil Society Organization
SW	Sex Worker
CT	Country Team
DAS	Dirección de Area de Salud (Health Area Office)
DOTS	Directly Observed Therapy, Short-course
EMMIE	Elimination of Malaria in Mesoamerica and Hispaniola Island
EQs	Evaluation Questions
FUNDAMACO	Fundación Marco Antonio
GBD	Global Burden of Disease study
HIV	Human Immunodeficiency Virus
HIVOS	Humanist Institute for Cooperation with Developing Countries
HMIS	Health Management Information System
IDB	Inter-American Development Bank
IDEI	Asociación de Investigación Desarrollo y Educación Integral
IHME	Institute for Health Metrics and Evaluation
INCAP	Institute of Nutrition for Central America and Panama
IRS	Indoor Residual Spraying
KII	Key Informant Interview
KP	Key population in the context of the report refers to HIV stigmatized groups, including but not limited to men who have sex with men, transgender women and prison inmates

KVP	Key and vulnerable population in the context of the report refers to people with increased risk for malaria and TB based on a specific context or condition
LA	Legal advice
LFA	Local Fund Agent
LLIN	Long-Lasting Insecticide-Treated net
LMI	Lower-Middle Income
M&E	Monitoring and Evaluation
MANGUA	Sistema de registro electrónico de información clínica en VIH/Sida (Electronic Registry System for HIV Clinical information)
MDR TB	Multi-drug resistant tuberculosis
MIS	Modelo Integral de Salud (Integrated Model of Health)
MoH	Ministry of Health
MSM	Men who have Sex with Men
NASA	National Aids Spending Assessment
NGO	Non-Governmental Organization
NMS	National Malaria Subprogram
NSP	National Strategic Plan
NTP	National Tuberculosis Program
OMES	Organización Mujeres en Superación (Organization for Improvement of Women)
PAHO	Pan American Health Organization
PCE	Prospective Country Evaluation
PEC	Programa de Extensión de Cobertura (outreach health model)
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PLHIV	People living with HIV
PR	Principal Recipient
PU/DR	Progress update and disbursement request
RCM	Regional Coordination Mechanism for Mesoamerica
RDT	Rapid diagnostic test
RMEI	Regional Malaria Elimination Initiative
RSSH	Resilient and sustainable systems for health

SEGEPLAN	Secretaría de Planificación y Programación de la Presidencia (Presidency Planning and Programming Secretariat)
SICOIN	Sistema de Contabilidad Integrada (Integrated Accounting System)
SIGPRO	Sistema Integral de Gestión de Proyectos (Project Management Integrated System)
SIGSA	Sistema de Información Gerencial de Salud (Health Management Information System – HMIS)
SR	Sub-recipient
STC	Sustainability, transition and co-financing
STI	Sexually transmitted infection
TB	Tuberculosis disease
TBNET	The Tuberculosis Network European Trials Group
TEPHINET	Training Programs in Epidemiology and Public Health Interventions Network
TERG	Technical Evaluation Reference Group
ToR	Terms of Reference
TRP	Technical Review Panel
TW	Transgender women
UAI	Unidades de Atención Integral (Integrated Care Units)
UMI	Upper-Middle Income
UVG	University del Valle of Guatemala
VfM	Value for money
VICITS	Vigilancia Centinela de las Infecciones de Transmisión Sexual (Sentinel Surveillance of Sexually Transmitted Infections Strategy)
WHO	World Health Organization

Executive Summary

The Prospective Country Evaluation (PCE) is an independent evaluation of the Global Fund commissioned by the Technical Evaluation Reference Group (TERG). The PCE is carrying out an assessment of the Global Fund business model in eight countries, Guatemala being one of them. Guatemala brings a unique perspective to the PCE as a Central American country with a concentrated HIV epidemic and seeking to eliminate malaria and tuberculosis (TB). Over the last decade, the country has received significant investment from the Global Fund (over US\$171 million) and is projected to transition from Global Fund support for the tuberculosis and malaria national programs during 2020 to 2022.

Guatemala is classified as an Upper-Middle Income (UMI) country with high HIV and moderate malaria burden, and in 2018 shifted from moderate to low TB burden. Throughout the years, the Guatemalan government has increased its contribution for the national response towards HIV, TB, and malaria; nevertheless, the Global Fund is still a major contributor to TB and malaria accounting for 23% and 22% respectively of total investment for these two programs. In the case of HIV, the contribution of the Global Fund has decreased from 28% in 2013 to 11% in 2018 according to the National AIDS Spending Assessment (NASA).

In 2018, Guatemala managed six Global Fund grants, including two grant extensions (HIV and malaria), three grants approved to start implementation in 2019 (HIV, TB, and malaria), and a TB grant that has been in implementation since 2016.

The PCE compiled and analyzed data on grant implementation by national programs as well as grant investments, and country approaches to Global Fund strategic objectives and policies, for example Key Populations (KP) and Key and Vulnerable Populations (KVP). Findings are analyzed along the results chain, from inputs to outputs and outcomes, and eventually, to impact. For the present annual report, based on data collected during 2018, the PCE has focused on the TB grant in full implementation; during 2019, the PCE will assess the malaria and HIV new grants as they initiate implementation.

Key Findings: Implementation of Global Fund Grants and Policies

Guatemala has experienced adverse political events since 2015. Since then, several changes in leadership have taken place, including four changes of Ministers of Health during the last three years. Shifts in government authorities and key staff combined with elaborate administrative controls have affected grant performance. Despite these factors, the PCE to date has independently confirmed significant advances for the three programs receiving Global Fund investment, while recognizing important challenges ahead. The key findings are presented for the three diseases with emphasis on the TB grant in full implementation during 2018.

The strategic investments in TB, malaria, and HIV made by the Global Fund have been successful in improving treatment and prevention objectives, but challenges still exist around case detection.

Background. Antiretroviral drug (ARV) coverage has tripled since the first Global Fund grant in 2004, but still reaches only 38% of those diagnosed, as reported by the National Cascade of Treatment Continuum 2016. The other pillars of the cascade are likewise far from reaching the 90-90-90 goals.

The National TB Program (NTP) is nearing the World Health Organization (WHO) 90% target in treatment success reaching 88% success rate in 2018. Nevertheless, the rate has leveled off since 2012 with only incremental improvements during the last six years; treatment outcomes for HIV-TB co-infection are lower (74% success rate). There are several reasons that explain this outcome, among them undesirable cumulative side effects of two long-term drug regimens.

The National Malaria Subprogram (NMS) has succeeded in increasing the percentage of persons who receive a diagnosis and are treated within three days, but is struggling with getting people to seek a test promptly when

symptoms start. Even though there has been an improvement from less than 20% in 2015 to 40% in 2018, there is a persistent gap.

Outcomes. The three disease programs are underperforming in case detection, with the lowest levels of detection among HIV positive persons.

- The HIV national program and the new PR are aiming at a strategy of multifunctional community educators to improve testing yields, linkage and adherence. The intention is to better approach KP, particularly transgender women. According to reports by the former PR, HIVOS [Humanist Institute for Cooperation with Developing Countries], KPs are reached effectively with prevention packages. Nevertheless, the number of new HIV cases detected among transgender women is suboptimal with a reactivity rate of 6% over a target of 10.5% in the period from January to November 2018 (last PU/DR available to PCE). For MSM, testing yields were reported at 5.8% for a target of 7% during the same period. The KP size estimates are extrapolated from national estimates, which have a margin of error that could account for low reactivity encountered. In response to these issues, the new PR INCAP will launch a prevalence study at subnational level to update and refine current estimates.
- Another area of low performance in HIV is linkage to care and treatment of diagnosed HIV cases. Far from reaching the WHO goals, this persistent gap has consequences of high mortality rates.
- The NTP is planning to overcome a 20% gap between WHO TB case estimates and country case notifications. For this purpose, they plan to improve active case detection by substantially increasing the number of outreach health workers in the 2019-2022 grant.
- The NMS has performed well at detecting the specific foci that produce 95% of the cases in the country, but the challenge ahead is to manage these key areas effectively and improve follow up of cases in migrant agricultural workers.

The implementation of the Sustainability, Transition and Co-financing (STC) is still incipient, but there is evidence of progress toward sustainability through co-financing and preparedness for transition.

Guatemala's unstable political context directly affects budget implementation, which poses a potential obstacle for sustainability and transition.

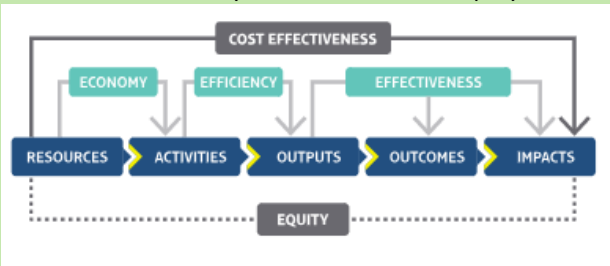
The NTP has made the most progress towards sustainability by drafting and approving a fully costed TB National Strategic Plan (NSP), including a sustainability plan. The Global Fund is assisting the HIV national program to refine their sustainability plan. Once approved, it will be included as an annex to the HIV NSP. The NMS will advance their sustainability planning, when more information on the Regional Malaria Elimination Initiative is made known to stakeholders.

Guatemala has met Willingness to Pay commitments for upcoming grants and has demonstrated good intentions as government allocations for the three diseases increased steadily since 2014. Nevertheless, challenges with low budget execution must be overcome. Unfortunately, this situation is directly influenced by political instability. In the aftermath of the 2015 political crisis, government expenditure fell to 84%, but recovered to 93% a year later when a new government was elected. The increase in expenditure was not due to better administration, but as the result of catching-up on delayed payment of contracts incurred during the crisis.

The trend observed during the first year of the current government was not sustained as expenditures fell to 86% in 2017 when the MoH underwent several changes to the General Law for Procurement of Goods and Services. Failure to train the financial and administrative staff by the Ministry of Finance led to stalling of procurement during 2017.

The PCE identified positive examples of Value for Money (VfM) in the design and implementation of the programs.

Value for Money: Maximizing the impact and outcomes of Global Fund investments through economy, efficiency, effectiveness and equity.



- The 2019 malaria grant adopted **focus management** strategy aligned with WHO guidance to be effective in achieving elimination.
- The NTP developed a new prioritization process utilizing epidemiological and socio-demographic variables to be more inclusive of populations that harbor higher risk.
- The HIV program has prioritized areas based on HIV notifications of cases and presence of KP to go “where the virus is.”

Stakeholders reported efficiency gains in the grant extension with PR HIVOS by reducing the number of sub-recipients (SRs), and by prioritizing their mix of interventions geographically. National programs made strides in the four pillars of VfM (equity, efficiency, effectiveness and economy) by better prioritizing their interventions.

A main VfM issue identified by the PCE is the challenge around the MoH processes to efficiently procure goods and services, which results in underutilization of budget and overall low expenditures of domestic funds in the three diseases.

The TB program has executed less than 50% of its allocated budget in past years (2015-2017). Budget execution data for 2018 will be officially released in April 2019 and added to the current analysis.

The Country Coordinating Mechanism (CCM) was reformed in the past year and already shows improvement in its leadership capacity.

As the country unexpectedly faced two iteration reviews for the HIV and the malaria funding requests, the CT promoted a restructuring of the CCM. In the last quarter of 2018, the CCM underwent a successful reform to a more balanced, streamlined CCM, which is anticipated to be more efficient and representative of stakeholders of the three diseases. Guatemala is now participating in the CCM Evolution initiative and is expected to further improve technical and leadership skills through this process.

The PCE and numerous stakeholders have asserted efficiency loss due to parallel reporting systems. However, there is an encouraging trend in upcoming funding requests to include RSSH investments placing emphasis on the improvement of information systems.

The upcoming Global Fund grants include financing to improve health management information systems (HMIS) as requested by the country. For HIV, the new PR INCAP will receive technical assistance from MEASURE Evaluation.

RSSH – Data Systems

There are examples of parallel program information systems presenting inconsistencies due to the lack of interoperability (i.e. HIV and TB notifications cannot be linked with treatment outcomes). Additionally, there are cases of lost information due to data aggregation in different databases.

Some information is only registered in physical records and not readily available outside of the paper format, and sometimes data is not disaggregated by demographic variables such as gender, age, and ethnicity.

The Guatemala HIV grant has 4.1% of the budget allocated to RSSH activities but does not include RSSH specific performance indicators. The funding request for malaria does include one specific indicator on RSSH related to coverage.

For example, the new 2018-2020 HIV grant decreased interventions for female sex workers due to the evidence showing declining HIV incidence among this population. In contrast, investment in activities for transgender women has increased substantially, reflecting the high HIV prevalence among this population.

Likewise, the NTP has taken a step forward in prioritizing vulnerable populations beyond areas with known high TB incidence to areas that have

high vulnerability but are reporting few cases. For this purpose, the NTP devised a scoring system based on a combination of socio-demographic variables in addition to epidemiology data; areas with higher scores were prioritized. The PCE team revised the prioritization and provided feedback to the NTP, which resulted in the addition of departments not previously included. The NTP will also scale up interventions directed at the highly vulnerable prison inmates. In the case of malaria, the NMS has prioritized elimination actions to very specific foci in three departments that report 95% of cases.

Considering the above evidence, findings, and implications, several strategic considerations emerge that may be relevant to the national programs, in-country stakeholders, and health authorities.

Strategic Considerations for National Programs

1

The PCE considers it necessary to review the methodology for estimating Key Population sizes for HIV at subnational sites. Current data for KP site estimates (and expected number of PLHIV) at the municipality level are extrapolated from national estimates, which are not representative and are outdated.

2

The NTP has identified incarcerated individuals as a KP. To define the burden of the disease in prisons, a better estimate of incidence should be implemented by screening detainees at admission. Initially it could be conducted as a pilot in selected detention centers. The costs of this endeavor would need to be programmed in the budget, mainly during reprogramming of unused grant and domestic funds.

3

The revised geographic prioritization proposed by the PCE, reviewed and implemented by the NTP, could improve the effectiveness of interventions by increasing TB case detection.

4

Inclusion of the Strategic Planning Unit of the MoH (*Unidad de Planificación Estratégica - UPE*) into CCM discussions on STC and meet with the CT when considered relevant.

Strategic Considerations for Stakeholders

1

On the topic of human rights, stakeholders must pursue the continuance of successful activities, building on the experience of KP themselves. For example, public monitoring initiative, which rendered satisfactory results.

2

The three programs must consider the mismatch between the discourse for protection and promotion of human rights and the low budget allocated in the grants for these activities.

Strategic Considerations for Government Authorities

1

The Minister of Finance must implement a continuous training program for MoH financial units in the use of the Law of Procurement of Goods and Services (*Ley de Compras y Contrataciones*) given inefficiency observed in budget execution.

2

The Presidency Planning and Programming Secretariat (SEGEPLAN) should focus on building capacity in the MoH for an adequate **management by results** (GpR) given deficiencies found in operative planning (POA) and failure to link expected results to budget implementation at all levels of the MoH.

Strategic Considerations from Stakeholders during Dissemination Workshop

On 7 March 2019, the PCE team held a dissemination workshop with the participation of 87 stakeholders from MoH, civil society, HIV PR INCAP, external partners, IHME/PATH consortium, CCM Secretariat and TERG and CT representatives from the Global Fund. During the workshop, the 2018 results were presented and validated. Five topics were discussed in depth at group tables: 1) VfM focused on planning /MoH expenditures; 2) HIV human rights; 3) CCM - what to be expected for the future? & 4) Immediate challenges with parallel information systems; and 5) Community response.

All tables had engaging and passionate discussions on the five topics and provided a series of considerations detailed in the present report. Among the main issues that emerged were the following:

- There is a high possibility of the CCM not continuing to exist once there is no support from the Global Fund.
- The effects of the changes that took place within the CCM during the past year are too early to assess.
- Participating civil society groups celebrated the focus on gender and human rights given by the PCE; it was recognized that human rights protection is still highly dependent on external donors, which poses a high risk when the country transitions from Global Fund funding or when other funding sources end.
- Community response can improve in the measure that people trust public institutions; volunteers need more training and to be well supplied. Supervising technicians need more financial support to mobilize to work sites.

- New strategies for improving performance on the HIV cascade face some skepticism among HIV stakeholders. For example, the group expressed that the strategy of multifunctional educators will be successful as long as they are well trained and fit job profiles; there is a recognition of the benefit to receive a comprehensive service provided by a single educator, but it also harbors a high risk given the concentration of responsibilities.
- Civil society must get involved in monitoring the quality of budget execution and not circumscribe to the programmatic aspects of grants.
- HIV leaders expressed fear of violence from security forces and fanatic groups for their actions in favor of the human rights of the LGBT community.

Plans of PCE for 2019:

- Continuous monitoring of early implementation of the grants to start up in 2019 and the initiation of the new TB grant, based on the business model of the Global Fund.
- Deepen the root cause analysis to understand the barriers to and facilitators of grant implementation.
- Conduct “deep dives” on the links between activities and results along the chains of results to help explain the observed trends in selected topics to be agreed upon with national programs and HIV PR.
- Provide timely feedback to the main stakeholders as PCE advances in deep dives and other topics.
- Conduct impact analyses based on mathematical models and structural equations when there are complete series of data at the sub national level.
- Create alternative models (e.g. causal inferences) when complete data series are not available
- Estimate statistical correlations between adjacent elements of the results chain (e.g. resources vs. products, products vs. coverage, etc.)

Chapter 1. Overview of PCE in 2018

The Prospective Country Evaluation (PCE) is an independent evaluation of the effectiveness of the Global Fund implemented in eight countries. The Technical Evaluation Reference Group (TERG) of the Global Fund commissioned the PCE. The PCE evaluates how Global Fund policies and processes play out in the country and seeks to provide high quality and timely information to national programs and Global Fund policymakers. The main objectives of the PCE in Guatemala during 2018 were to evaluate aspects of the Global Fund business model, associated investments, and grants performance. The PCE also intends to provide useful information to the Country Team (CT). Furthermore, the PCE has provided specific recommendations for program improvement, which have been acknowledged by the CT, for example the geographic reprioritization for the TB grant.¹

The Global Fund classifies Guatemala as a core portfolio country, with a high HIV burden, and not high burden for tuberculosis (TB) and malaria. (1) The country does not have any new grants starting in 2018; the implementation of the current TB grant started in July 2016 and will end in June 2019 and current malaria and HIV grants are both extensions of prior grants that will be coming to closure in December 2018. New HIV and malaria grants have been approved for grant making and will start in January 2019. The Principal Recipient (PR) for TB and malaria will continue to be the Ministry of Health (MoH). For the approved HIV grant, the PR will change from The Humanist Institute for Cooperation with Developing Countries (HIVOS) to the Institute of Nutrition for Central America and Panama (INCAP) starting in January 2019. Table 3 shows a summary of Global Fund grants.

The PCE in 2018 focused on the HIV and malaria grant extensions and the implementation of the ongoing TB grant, while following and analyzing upcoming grants for 2019. The PCE has carried out numerous activities to achieve its objectives, from the development of country-specific analysis methods to reinforcing relationships with the Country Coordination Mechanism (CCM), stakeholders, and counterparts in the Global Fund. Refer to Annex I for a summary of the PCE progress and activities in 2018. Due to the implementation status of the approved grants, this report places more emphasis on the processes and activities of the National Tuberculosis Program (NTP). The NTP and the PCE team have worked closely together throughout this process. The upcoming 2019-2022 TB grant will focus on improving case detection and screening to close a persistent gap between estimated and notified cases.

Throughout the evaluation, the PCE has kept stakeholders informed of evaluation activities and has taken opportunities to add value by sharing key findings to improve program implementation. For example, the PCE has included following the transition from HIVOS to INCAP, the new PR for HIV. The PCE also took the opportunity to co-organize with the CCM and MoH an event for HIV Sub-Recipients (SR) under HIVOS to share their longstanding experiences and lessons learned with INCAP in anticipation of their upcoming grant.

Chapter 2. Methods framework, analytical approach, and baseline data

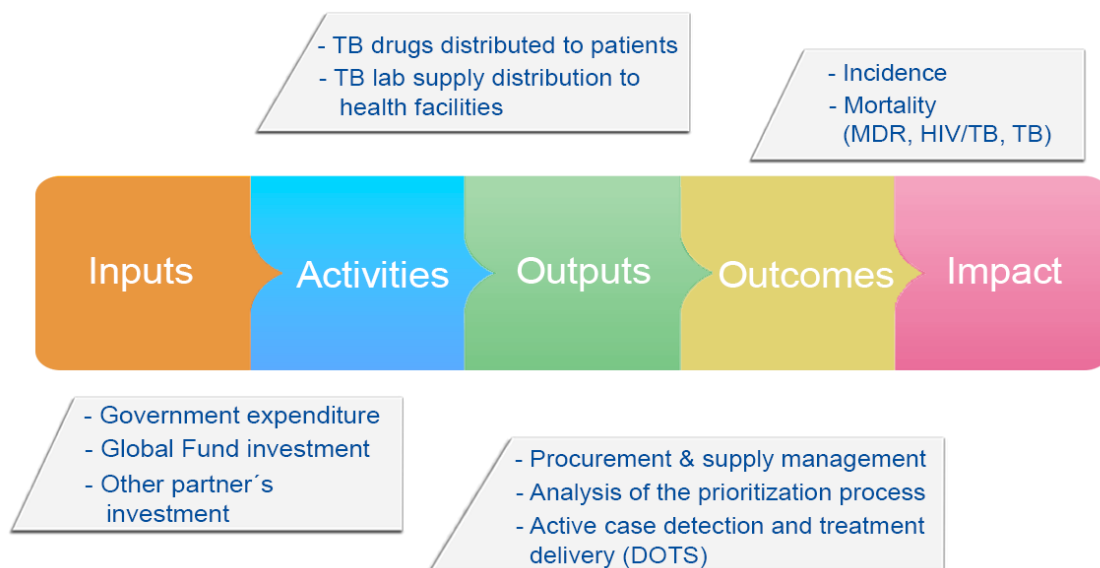
The overall framework of the PCE comprises a set of evaluation questions (EQs), which were validated with a wide array of stakeholders during the inception phase of the PCE. The PCE EQs are linked to five thematic areas that encompass Global Fund principles and strategic objectives: 1) KP & KVP; 2) value for money (VfM); 3) resilient and sustainable systems for health (RSSH); 4) country ownership; 5) partnerships; 6) sustainability, co-financing and transition (STC). The analyses presented in this report correspond to a subset of evaluation questions and their respective thematic areas, which can be found in Annex II.

The PCE developed disease-specific results chains and adapted them to the Guatemala country context. The results chains will be used as an organizational tool to identify the relationships between activities, outputs,

¹ Interview with Fund Portfolio Manager for Guatemala CT, December 2018

and outcomes. Following pathways through the results chain, the PCE can identify bottlenecks and assist stakeholders to implement corrective measures early in the grants. As stated, the PCE has focused heavily on trends and distribution of TB-related health outputs and outcomes in 2018, and the extent to which the Global Fund resources contribute to improvements. Figure 1 shows an overview of the TB results chain (Refer to Annex III for the complete Results Chain developed by the PCE)

Figure 1. Tuberculosis Results Chain



The robustness of key findings in the report was rated according to three common criteria across the PCE: number and triangulation of sources, and quality of the data. Each finding was ranked from 1 to 4 depending on the strength of evidence, as described in table 1.

- 1. Number of sources:** Refers to the number of different sources of evidence (qualitative, quantitative, desk review) that support the identified key finding.
- 2. Triangulation:** Refers to the breadth of qualitative and quantitative data sources (e.g., surveys, databases, key informant interviews (KII), etc.). Greater triangulation across multiple sources equates to findings that are more robust.
- 3. Quality of the data:** Criteria for considering quality include completeness of databases consulted, prospective vs. retrospective (data from 2017 to 2018 vs. historic data), reliability of experts consulted, and recentness of events investigated.

Table 1. Criteria for Ranking Strength of Evidence of PCE Key Findings

Rank	Rationale
1	The finding is supported by multiple data sources (good triangulation), which are generally of strong quality.
2	The finding is supported by multiple data sources (moderate triangulation) of lesser quality, or the finding is supported by fewer data sources of higher quality.
3	The finding is supported by few data sources (limited triangulation) of lesser quality.

4	The finding is supported by very limited evidence (single source) or by incomplete or unreliable evidence. In the context of this prospective evaluation, findings with this ranking may be preliminary or emerging, with active and ongoing data collection to follow-up.
----------	--

The PCE is conducting a mixed methods analysis of the data collected. For quantitative analysis, the PCE used the following sources: a) grant analysis, b) grant tracking, and c) input-output assessment from a variety of databases provided by the national programs, PRs, and other data banks like the Global Burden of Disease study (GBD) from IHME and WHO/Pan-American Health Organization (PAHO) estimations. Additional data sources include the health management information systems (HMIS or SIGSA for its acronym in Spanish), Global Fund detailed budgets and Global Fund progress update and disbursement requests (PU/DR). See Annex IV for a detailed list of baseline data and sources. For qualitative analysis of processes, the PCE used the following methods: a) KIIs with national and global stakeholders, b) fact-checking meetings and calls (including visits to national programs for specific consultations with technical experts), c) non-participant meeting observations, and d) document review. See Annex V for a detailed list of process evaluation sources.

2.1 Data Limitations for PCE

Reliance on existing data such as HMIS, program data, and surveys - which are subject to availability and data quality of underlying data sources - has proven to be a significant challenge for the evaluation. The PRs all have known limitations in their information systems, many of which have been prioritized in the most recent funding requests for the three diseases. MEASURE Evaluation will provide technical assistance to current HIV PR to move from the prior information system (SIGPRO) to an open source system. (2) Given the shortcomings of the HMIS, the national programs have a variety of parallel databases. However, these parallel systems further complicate data management and quality by being duplicative or incomplete, and/or measuring inconsistent indicators between systems. Additionally, the system to track commodity inventories and distribution to decentralized administrative units around the country is only partially developed. Nonetheless, as more trust has been developed between the national programs and the PCE team, access to more recent data and databases has improved substantially despite the limitations described above.

For the PCE, these limitations hinder prospective analysis, which relies on utilizing timely or recently updated data. In some cases, data is simply not available. Most data are available at the department-level. Regardless that some databases include information at the municipality level, they often lack standard reference codes for municipalities (and are instead identified by names), which contributes to errors. The PCE intends to overcome this shortcoming by using a script tool to map names and convert them to standardized codes. In general, the limitations found in the information systems affect ongoing monitoring and evaluation and have become an urgent concern to address at the national level.

2.2 Burden of Disease in Guatemala

In Guatemala, the burden of the three diseases is predominantly concentrated in specific populations. The HIV epidemic disproportionately affects men who have sex with men (MSM) and transgender women. Despite interventions, mortality remains high due to late diagnosis and low adherence to antiretroviral therapy (ART). Therefore, it is necessary to improve the performance of linkage to care and treatment retention. Guatemala has not achieved malaria elimination², despite a 91% decline of cases from 2000 to 2014. (3) (8) The burden of malaria currently falls on a few specific communities; therefore, interventions are being revised and scaled up in these foci to achieve elimination by 2020. The NTP faces important challenges to overcome gaps in TB case detection and prompt diagnosis. For the three diseases, the burden mostly lies on the poor and underserved

² WHO/PAHO defines malaria elimination as the interruption of local transmission [reduction to zero incidence of indigenous cases] of a specified malaria parasite species in a defined geographic area.

rural populations who lack adequate health coverage. Indigenous populations are also at higher risk due to worse socioeconomic conditions.

Table 2 shows the comparative incidence and mortality rates per disease as reported by GBD for Guatemala and three neighboring countries: El Salvador, Honduras and Mexico. For HIV, the four countries shown have concentrated epidemics among key and vulnerable populations (KVP). El Salvador has both the highest HIV incidence and mortality rates, followed by Mexico and Guatemala. Honduras reports the lowest incidence and mortality. A significant reduction of malaria cases in the region prompted the launch of the initiative for Malaria Elimination in Mesoamerica and Hispaniola Island (EMMIE). The EMMIE was created with the active involvement of the national malaria programs of nine countries, the Regional Coordination Mechanism for Mesoamerica (RCM) and the Council of Health Ministries of Central America (COMISCA) and the Dominican Republic. (4) The EMMIE initiative received start up funding from the Global Fund in 2014. EMMIE worked to respond to the Declaration of Elimination of Malaria by 2020 in the region. As of 2018, the work continues via the Regional Malaria Elimination Initiative (RMEI), described more fully in section 3.7 of this report. In the region, El Salvador and Mexico are among four of the countries in the Mesoamerican region currently in elimination stage, while Guatemala and Honduras are aiming to reach zero cases by 2020 (national elimination) and certification by 2025. (3)(5)

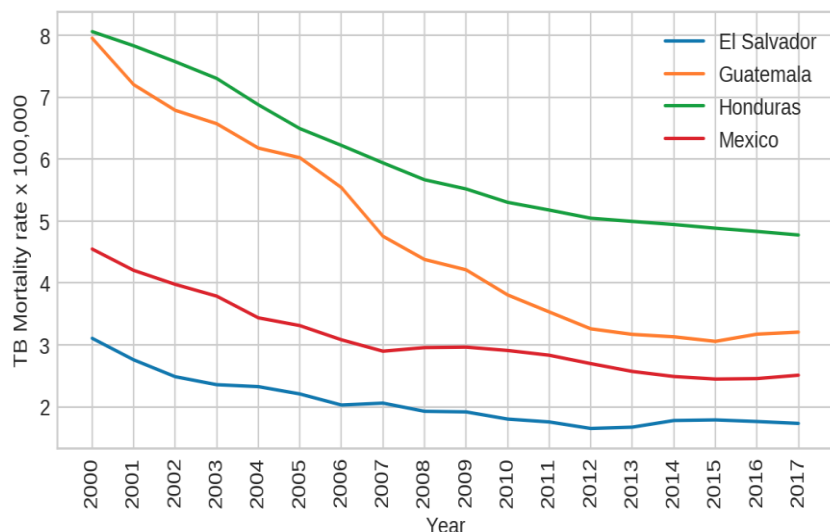
Guatemala has leveled off incidence of TB as shown below. Honduras has the highest incidence in neighboring countries. El Salvador shows an upward trend, which could be due to intensified case detection and an increase in predisposing conditions among vulnerable populations, such as prison inmates. Mexico has the lowest incidence in the region, at 17.2/100,000. El Salvador is the country with lowest mortality rates followed by Mexico, Guatemala and Honduras as presented in figure 2.

Table 2. Burden of HIV, malaria and TB in Guatemala, 2017

Country	Disease	Incidence per 100,000			Mortality rate per 100,000		
		2015	2016	2017	2015	2016	2017
Guatemala	HIV	11.2	12.3	13.6	3.0	3.3	3.3
El Salvador		26.2	23.6	20.5	12.3	12.3	11.7
Honduras		5.5	5.3	5.0	0.4	0.4	0.4
Mexico		15	15.3	15.7	4.3	4.1	4
Guatemala	Malaria	86	83	82.1	0.1	0.1	0.1
El Salvador		0.3	0.3	0.3	0	0	0
Honduras		100	90.2	86.8	0.4	0.4	0.4
Mexico		1.2	1.1	1.0	0	0	0
Guatemala	TB	20.7	20.6	20.5	3.1	3.2	3.2
El Salvador		26.3	27.4	28.6	1.8	1.8	1.7
Honduras		34.7	34.5	34.5	4.9	4.8	4.8
Mexico		16.8	17	17.2	2.4	2.5	2.5

Source: Global Burden of Disease Study/Institute of Health Metrics & Evaluation

Figure 2. Trends of TB mortality in a subset of countries in the region



Source: Global Burden of Disease Database/Institute of Health Metrics & Evaluation

2.3 Disease specific intervention coverage

Historically, overall coverage of health services and access to health care in Guatemala has been inadequate. (6) The primary care model, *Programa de Extensión de Cobertura (PEC)*, launched in 1997 helped to close the coverage gap, but was abruptly ended in 2015. Low health coverage affects national programs and contributes to dependence on external aid for epidemic response, disease prevention and community mobilization. Currently, most of the funding for HIV prevention aimed at key and vulnerable populations is provided by external aid. Coverage targets for the grants is summarized below:

- The HIV grant extension aimed to provide coverage of prevention packages for 78% of MSM estimated to live in eight prioritized departments (comprising 18 municipalities with highest burden of HIV), and 88% of estimated transgender women living in 34 municipalities in 16 prioritized departments out of 340 municipalities and 22 departments in the whole country.
- For the upcoming 2019-20221 HIV grant, coverage has shifted to 11 new municipalities characterized by high population density and high economic activity.
- The coverage foreseen for the upcoming grants for malaria and TB is the following:
- For malaria, the grant extension and the approved 2019-2021 grant intends to cover three prioritized departments with 60 municipalities located along the Pacific and Atlantic coasts and one in the northern region, which report 95% of all malaria cases in the country. In targeted municipalities, an adequate management of active foci is the main strategy for elimination following PAHO guidelines and methodology.
- For TB, the national program has prioritized 47 municipalities in 10 departments identified as high risk for TB based on socio-demographic criteria (discussed more in section 4.3). The targeted area covers 32% of the total country population, 75% of new TB cases and 52% of MDR-TB cases (using data from last two years), and 73% of all TB-HIV co-infections.
- The TB grant will also extend coverage from 8 to the totality of 21 prisons in the country, including two prisons for women. It is estimated that the incarcerated population comprises more than 23,000 inmates.

Chapter 3. Global Fund Grant Implementation

Guatemala faced an uncommon situation when both HIV and malaria funding requests were sent to iteration in 2017. Both funding requests are now approved for grant making and will start in 2019. The 2016-2019 TB grant is currently in the final stage of implementation. A new TB funding request has been approved and grant making is underway with implementation set to begin in July 2019. As the three grants under implementation in 2018 were on track for closure, the PCE placed focus on the influence of Global Fund on national program outcomes and the preparations for upcoming grants. A summary of grants is presented in Table 3.

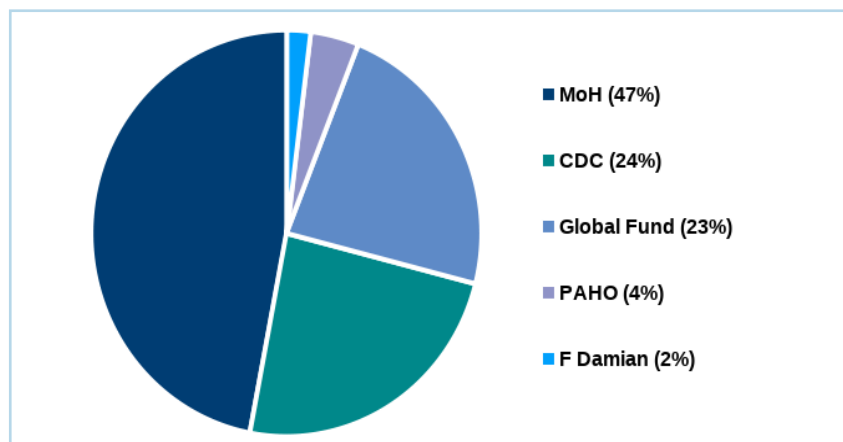
Table 3: Summary of Global Fund Grants for Guatemala 2018-2022

Type of Grants	Amount USD	Stage	Start-End Dates	Transition Dates	Status	Distinguishing Factors
Grant Extension HIVOS	4.9 million	Concentrated Epidemic	Jan 2018 Dec 2018	Oct 1 to Dec 31, 2018	Extension: Jan 1 to Dec 31, 2018	PR not re-selected for next grant
Grant Extension Malaria	0.7 million	Seeking elimination	July 2018 Dec 2018		Extension: July 1 to Dec 31, 2018	Emphasizes foci w/ characterization of priority foci for new grant. Micro plans were drafted w/ support from CHAI.
HIV INCAP	14.7 million	Concentrated Epidemic	Oct 2018 Dec 2020	Oct 1 to Dec 2018	Funding Request approved, pending official signature of agreement	New PR faces a learning curve, due to no prior experience in HIV work
Malaria	5.6 million	Seeking elimination	Jan 2019 Jun 2021		Funding Request approved, pending official signature of agreement	Foreseeable additional funding sources with an Inter-American Development Bank (IDB) loan and donation
TB	6.5 million	Concentrated in KVP	July 2016 June 2019		In execution	
	5.8 million	Concentrated in KVP	June 2019 June 2022		Funding Request approved, in grant making	Lessons learned from HIV and malaria grants helpful to drafting new TB funding request

3.1 Global Fund Grants: TB

As shown in figure 3, the MoH currently covers 47% of TB funding landscape in the country. The Global Fund has played a strong role in the TB funding landscape, covering approximately 23% of the TB national response in 2018. The U.S. Centers for Disease Control and Prevention (CDC) have contributed notably as well accounting for 24%, primarily for HIV-TB co-infection. PAHO and Damien Foundation Belgium are technical partners, contributing 4% and 2%, respectively.

Figure 3. TB Funding Landscape 2018



Source: National TB Program Funding Landscape/Funding Request 2019-2022

Global Fund TB Investment

The CCM submitted a full review for the 2019 TB grant. The Technical Review Panel (TRP) recommended the proposal for grant making in August 2018 with an implementation start date of July 1, 2019. The total budget for the 2019-2022 grant is US\$5,849,480, approximately 10% decrease in comparison to allocation for the 2016-2019 grant, (US\$6,522,671). The MoH is progressively taking over the financing of drugs, diagnostics (such as GeneXpert MTB/RIF cartridges) and technical staff. The MoH allocation is projected to increase by US\$4.8 million from 2019-2022 as stated in the Willingness to Pay Agreement, signed by the Minister of Health in February 2018. (7) In this document, the Ministry of Health commits to investing an additional US\$4,772,806 for the three national programs, out of which USD 877,423 will go to the NTP as shown in table 4 below.

For HIV, the MoH has committed to progressively assume human resource costs from 2019 to 2021. Nevertheless, the government will also need to assume other crucial items currently financed by the Global Fund, such as antiretroviral drugs (ARVs) for PrEP & PEP, antibiotics for opportunistic infections (OI), viral load supplies, and rapid diagnostic tests (RDTs). For malaria, there is a Management Action drafted by the National Malaria Subprogram (NMS), regarding the takeover of current staff by MoH. For TB, the discussion for takeover of staff (11 nurses and 47 assistant nurses) is underway during grant making phase. The MoH will assume responsibility for 50% of field staff during 2020, followed by another 50% in 2021. The MoH has committed as well to assume responsibility for procurement of second-line drugs during this period as shown in table 4 below.

Table 4. Progressive increase of MoH responsibility to finance the three diseases

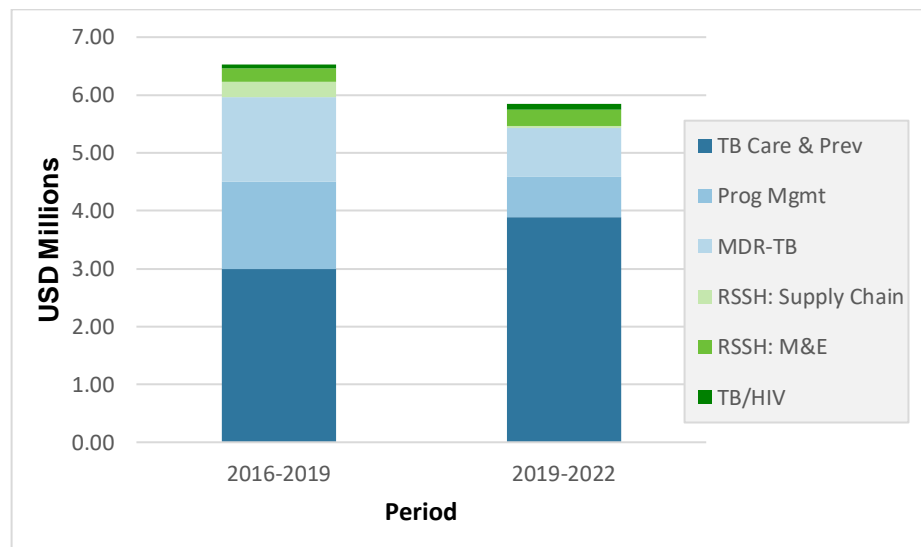
Program	Description	2019, USD	2020, USD	2021, USD	Total USD
HIV	Human resources	980,000	983,000	987,585	2,950,585
TB	Second line drugs	290,000	292,000	295,423	877,423
Malaria	Human resources	315,000	300,000	329,798	944,798
Total		1,585,000	1,575,000	1,612,806	4,772,806

Source: Willingness to Pay, MoH Feb. 2018

The budget for the upcoming TB grant (2019-2022) has the highest allocation for care and prevention (77%). This category is disaggregated into case detection and diagnosis, treatment and prevention at the community level, and collaborative actions with other sectors, such as for HIV-TB co-infection. Funds for case detection

include salaries for the TB outreach teams (*extramuros*) dedicated to active case detection and diagnosis. The second highest allocation is for diagnosis and treatment of MDR-TB module, where the largest proportion will go to the procurement of lab supplies and testing for drug resistance, followed by community mobilization to support adherence to treatment among MDR-TB patients (Figure 4). Program management costs underwent significant reduction due to decreased allocations for vehicle maintenance and fuel.

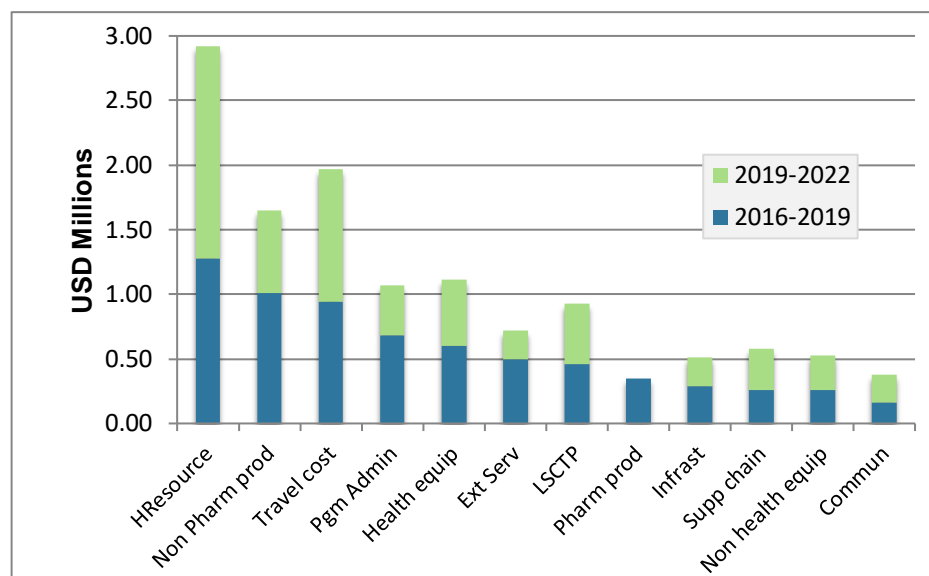
Figure 4. Budget distribution for TB grants



Source: National TB Program Funding Request budgets, 2018

Figure 5 shows disaggregation by cost category, where human resources (staff salaries) is the highest expenditure, with an increase in the upcoming grant explained by the growth of the outreach teams. The second highest allocation is for training-related travel. Non-pharmaceutical products have decreased due to partial funding by the MoH of Xpert cartridges and other supplies for sputum tests.

Figure 5. Distribution of administrative costs, salaries and commodities



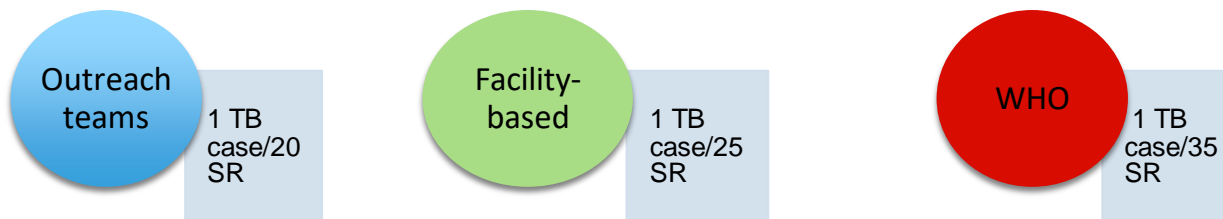
Source: National TB Program Funding Request budgets, 2018

2016-2019 TB Grant - Outputs and Outcomes

Global Fund Investment in TB. The Global Fund investment in TB will continue to focus on care and prevention (Figure 4). The national program has made important efforts to improve access to TB diagnostics, care, and treatment. As an indication of this success, the Global Fund recently changed Guatemala’s TB burden status from moderate to low. In the following section, the PCE describes some of the outputs and outcomes to show the extent to which TB program gaps were addressed through implementation of strategies funded by the Global Fund directly or indirectly.

TB 2016-2019 Grant - Key Observation	Evidence Rating	Thematic areas
The strategic investments in TB made by the Global Fund have been successful in making progress towards improved case detection and diagnosis, and in maintaining high treatment success. However, there are still challenges faced in case detection and HIV/TB coordination, which will be addressed in the next grant.	Rating: 1 Sources: TB program databases Grant analysis Laboratory study (JSI) Xpert database	STC Policy VfM RSSH

TB Outreach Strategy. The Global Fund has supported the TB outreach strategy in prioritized municipalities since late 2016. Following the implementation of this strategy (extramuros), there was an increase by 11% of confirmed new TB cases. The outreach teams focus on active case detection through contact investigation and provide follow-up to support adherence to treatment. The PCE found that outreach teams achieved a higher rate of confirmed new TB cases over the number of “symptomatic respiratory cases” (SR) persons with respiratory symptoms screened in comparison to health units:



This outcome is also better than WHO estimates for Guatemala of 1/35. “Symptomatic respiratory cases” (SR) as a sign for TB are individuals older than 15 years of age with productive cough (with phlegm) persisting for 15 days or more. Other symptoms such as weight loss, night sweats and general malaise are frequently associated to the persisting cough. Further research is necessary to assess the outreach teams’ relative effectiveness and learn from high performing teams. As mentioned above, the number of persons for outreach activities will increase substantially in the upcoming 2019-2022 grant.

Implications/Strategic Considerations: The outreach strategy has shown promising results in active case detection - important for closing the gap between detected and estimated cases - but has been dependent on Global Fund financing. Even though there is a co-financing proposal, it is necessary to plan on MoH taking responsibility of outreach activities by 2022. However, this activity is not included The Willingness to Pay document signed by the Minister of Health early this year. Additionally, efforts for TB outreach for people living in remote areas can be more costly when compared to services reaching more accessible/connected populations.

TB Case Detection. The introduction of Xpert, a new and more sensitive diagnostic method, corresponded with an increase in diagnosis of new cases, particularly among high-risk groups. PCE analysis showed no gender differences in terms of access to Xpert services. The number of bacteriologically confirmed cases improved by

13% from 2015 to 2016, despite a decrease in screening of persons with respiratory symptoms. During this period, laboratories were equipped with Xpert machines and lab staff was trained. Technical and financial assistance was provided by the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) and the CDC and scaled up in 2016 with Global Fund investment. Currently, there are 38 laboratories with Xpert module: 15 for TB (of which two are used for TB and STIs), and five for HIV.

TB Case Detection Costs. Guatemala benefits from the concessionary cost negotiated between manufacturers and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), USAID and the Bill and Melinda Gates Foundation. The MoH purchases from the Global Drug Facility at a price of US\$9.98 per cartridge plus 17% customs and transportation costs (to the central warehouse in Guatemala City). The total unit cost of an Xpert cartridge for the MoH is US\$11.67. The University Research Corporation procured cartridges in 2018 through a private supplier, Labymed, S.A of Guatemala, at a unit cost of US\$38.93. The cost includes taxes and transportation to any facility in the country. (7) For the final year of the current TB grant, the allocation for Xpert cartridges amounts to 44% of the total three-year budget. The program planned to perform 14,000 tests during 2018. To June 2018, they had reached 30% of the planned target. The forecast is to perform another 30% by the end of the year and continue into 2019. The costs for maintenance of equipment are budgeted at US\$1,980 per machine per year (7). Associated costs add at least additional US\$4 - US\$6 to cartridge unit cost, for a total of US\$16 to US\$18 per cartridge. In comparison, sputum microscopy costs US\$3 to US\$5 per sample.

Implication/Strategic Considerations: Xpert is substantially more expensive than sputum microscopy for TB diagnosis, but it has high specificity and sensitivity. Sputum smear microscopy lacks the sensitivity and specificity for accurate diagnosis of TB in children and people living with HIV (PLHIV). As the use of Xpert becomes more widespread, the government needs to prepare to finance a more expensive technology. There is commitment from the MoH for progressive procurement of cartridges as follows: 28% in 2019; 35% in 2020; 40% in 2021, and 42% by the end of the grant in 2022. After 2022, the government will be responsible for procurement of all cartridges and related costs presently funded by the GF and PEPFAR.

TB Treatment. The TB treatment success rate has remained stable at 85%-88.5% since 2012 and is nearing the WHO target of >90%. This is higher than the treatment success rates reported for the WHO region of the Americas (75%) and globally (82%). (9) The PCE observed a positive shift toward an increased number of cases of *confirmed as cured* (currently at 58%), indicating that follow-up is improving. For a case to be defined as cured the patient must have a negative bacteriologic test during the last month of treatment. A combination of up-scaled community outreach, increased availability of diagnostic facilities and better-trained staff is rendering results. The Global Fund has supported all these efforts, and the next grant includes financing to continue TB field staff training on updated guidelines (TB manuals).

Treatment success is lower in persons with HIV co-infection (Figure 6), as seen worldwide. Patients struggle to adhere to two long-term therapies and suffer cumulative drug toxicity. Additionally, diagnosis of TB in persons living with HIV tends to be delayed due to subclinical presentations. (11) The 2019-2022 grant includes

strategies for closer coordination between the HIV and TB programs, aimed at improving early diagnosis and follow-up.

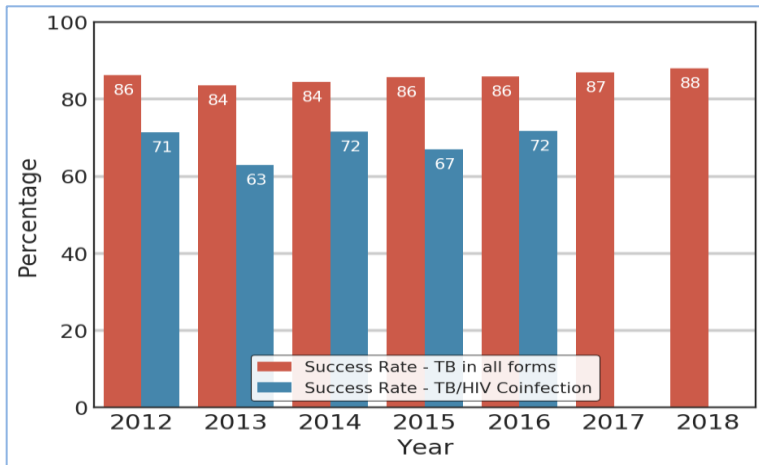


Figure 6. Comparison of Treatment Success in TB and in HIV/TB co-infection, 2012-2018
(No information is yet available for TB/HIV co-infection for years 2017 and 2018)

Source: National TB Program treatment cohort database

Implication/Strategic Considerations:

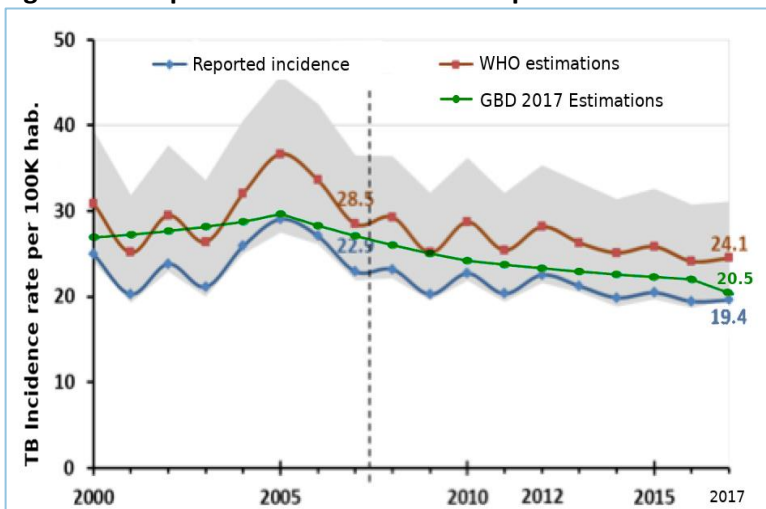
Currently, fewer than 50% of PLHIV are screened for TB, while more than 95% of TB patients know their HIV status, underscoring the importance of coordinated work with

National HIV Program to standardize screening protocols. Globally only 60% of TB patients know their HIV status, so Guatemala is achieving a much higher HIV testing rate. (9) Additionally, at a regional level, the proportion of TB cases that know their HIV status averages at 81%. (10) Scaling-up of outreach teams is expected to improve adherence to treatment by allowing on-site follow up of persons with HIV-TB co-infection, thereby reducing the number of persons lost to treatment.

2019-2022 TB Grant - Linking Inputs and Activities

According to WHO and GBD estimates, in the last decade there has been a sustained decrease in TB incidence and mortality in Guatemala (Figure 7). Targets for TB grants were calculated considering several factors, among them WHO estimates, the National Strategic Plan (NSP), End TB Strategy and historical TB data³.

Figure 7. Comparison of Estimated and Reported TB incidence



Source: WHO/GBD estimates and NTP cases notifications

The target for 2022 is to reach an incidence rate of 23 per 100,000 persons. The ambition is to reach WHO targets, but this may not be possible in the foreseeable future if requisite additional efforts and investments

³ As stated in TB Funding Request, Performance Framework, 2016-2019

are not in place. Targets for incidence or mortality have not been met. There is a gap between national case notifications and international incidence estimates (20% versus WHO estimates and 19% with GBD) (12)(13)

This fact underlines the need to increase active case detection and upscale more accurate diagnostic methods, as well as intensify community involvement to support care of TB patients and their family contacts.

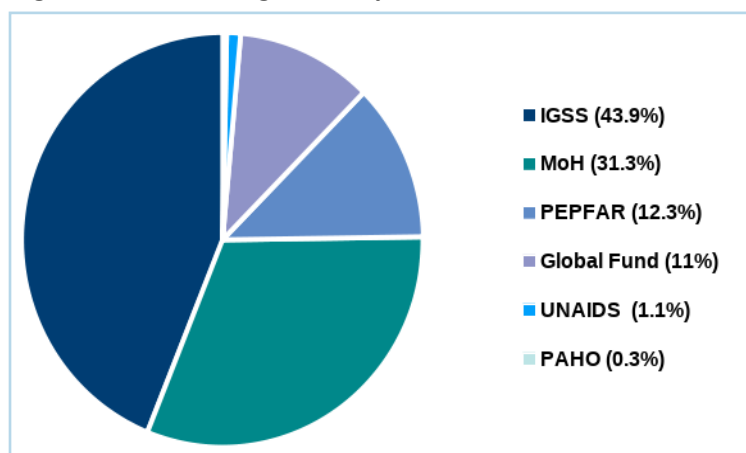
As mentioned above, treatment success rates have been relatively stable since 2007 at around 85% with a slight increase to 88% reported in the 2017 cohort data. There has also been a gradual increase in the detection of MDR TB cases. Notably, initiation of MDR TB treatment has increased by 3.5 times since the beginning of the Global Fund's first grant in 2007, from 21 to 75 cases in 2017, likely influenced by better diagnostic tools, such as Xpert. Additionally, more than 300 laboratories were scaled up with laboratory supplies and uninterruptible power supplies, improved biosecurity and sample quality and overall capacity of through Global Fund investment. Despite this, the TB program is still faced with the challenges of providing timely diagnostic testing and results, and overall reducing TB mortality and incidence. To overcome obstacles, the NTP is planning to have a team of specialized providers in district hospitals strategically located, in addition to widespread use of Xpert in conformity with updated guidelines and up scaling outreach teams as mentioned above. (14)

Global Fund grant performance frameworks and key milestones in 2018. In August 2018, the CT requested the NTP to adjust Performance Framework targets to align with updated PAHO estimates, which required modification of the performance framework. The TB grant progress update/ disbursement request (PU/DR) was submitted in October 2018 and has passed revision by the local fund agent (LFA). At the time of submission, the PU/DR is not available.

3.2 Global Fund Grants: HIV

The Global Fund has provided funding to the National HIV Program since 2004. For year 2018, the contribution of the Global Fund to the HIV program was approximately 11% (Figure 8). The 2015 National Aids Spending Assessment (NASA) reports that public investment goes primarily to treatment (ARV therapy and other related illnesses), while external financing goes to prevention for KP. (15) All civil society organizations are funded either by the Global Fund or by PEPFAR (CDC/USAID CAR). The public sector has shown progressive increases in financing the national response to HIV. According to NASA 2015 and the Global Burden of Disease Health Financing Collaborator Network, the investment of the public sector in HIV increased from 57% in 2014 to 64% in 2015 (last measurement published) (16) Currently, public investment is 75%, with IGSS contributing to 44% and the MoH to 31%, (Figure 8).

Figure 8. HIV Funding Landscape 2018

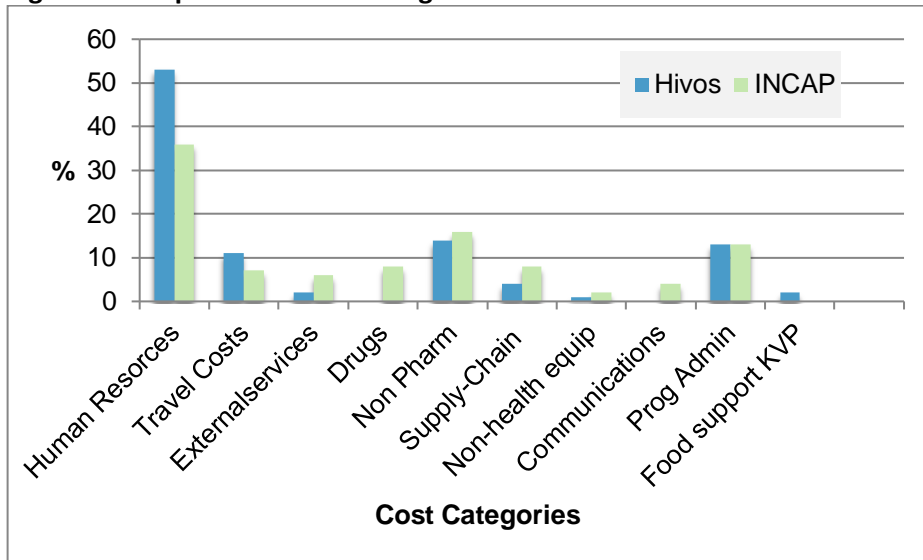


Source: National HIV Program Funding Landscape/Funding Request 2019-2022

The distribution of the budget between the 2018 HIV grant extension and the 2018-2020⁴ grant reflects a shifting of strategic focus as the trends of the disease change and government take over progresses. The main changes in the new grant are found in human resources and pharmaceutical products, both assumed almost entirely by the MoH. Another characteristic of this grant is a higher placement of funds for external services, including legal advice for human rights violations, increasing from 2% to 5% of the budget. In the grant extension, most of these interventions were implemented by the SRs. The administrative costs remain at 13% (Figure 9).

⁴ Date for initiation of the implementation of the grant is stated in the Funding Request as October 1, 2018 (overlap with the extension grant in the last quarter) to December 31, 2020.

Figure 9. Comparison of Cost Categories - HIVOS vs. INCAP

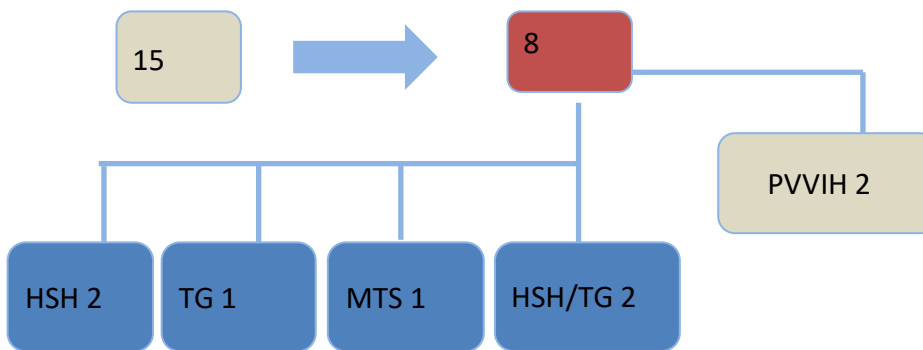


Source: HIV GF Funding Request Budgets, HIVOS 2018 and INCAP 2019

Analysis of inputs, activities and outputs for HIV

Number and size of grants approved for start-up in 2018. The 2017 HIV funding request was categorized as a full review. In October 2017, the funding request submitted for 2018-2020 was sent to iteration following TRP review. Consequently, the CCM presented a request to extend HIVOS as PR for 12 additional months to ensure continuation of HIV services. The extension focused interventions in a total of 8 departments for MSM, 16 departments for transgender women and one for sex workers (SW). Target areas were prioritized based on HIV positivity rates (2-7%) and estimates of KP sizes. The number of SRs was reduced from fifteen in the prior grant to eight, as presented in Figure 10. HIVOS selection of SR was based on past performance.

Figure 10: Distribution of Sub-recipients by KP group

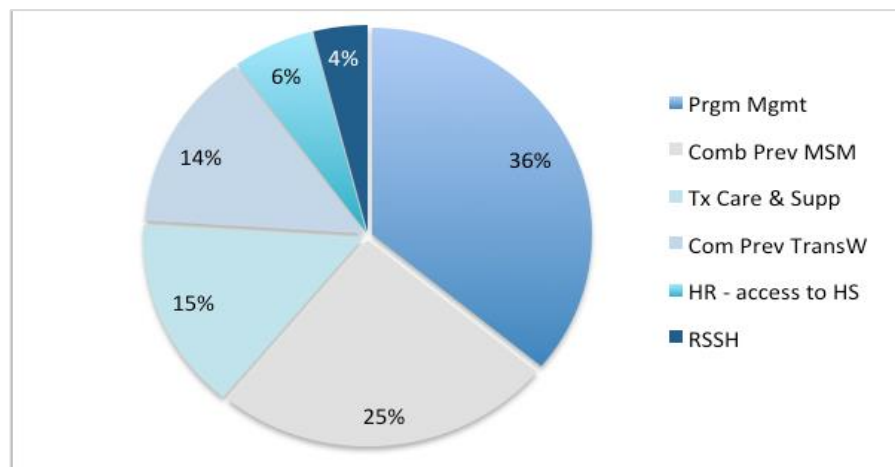


Global Fund grant arrangements in place. The 2018 grant extension aimed to achieve coverage of 70-80% of the estimated MSM and transgender women in the selected municipalities. Emphasis was placed on delivery of prevention packages and HIV testing. The budget for the one-year extension was US\$ \$4,909,344. The extension budget was taken from the total amount provided for the 2018-2020 grant leaving US\$14,761,217 for the 2019-2020 period.

Timeline to receive first disbursement and first tranche to SRs. For the extension, the highest allocation was for the first quarter (Q1); usually more funds are allocated early in the implementation. The initial disbursement for the extension experienced a three-month delay, which subsequently caused a lag in the first tranche to SRs. HIVOS (PR) was able to provide loans to some SRs, while others funded their activities, but

field-based activities were slowed down. The budget allocation by module is shown in Figure 11. MSM, as the largest KP group and the highest target, received the largest allocation for combined prevention (25%), followed by treatment, care and support for people living with HIV (15%) and combined prevention for transgender women (14%).

Figure 11. Distribution of HIVOS HIV Extension Annual Budget by Module



Source: HIV Funding Request Budget, HIVOS 2017

Transition from HIVOS to INCAP started in August and continued through December 2018. To date, it has primarily included transference of computer equipment, vehicles and information. The information system, *Sistema Integral de Gestión de Proyectos* (SIGPRO), will not be adopted by the new PR due to limitations related to continuous licensing costs and lack of interoperability with the government HMIS (SIGSA).

Global Fund grant performance frameworks and key milestones in 2018. The extension and the new grant emphasize prevention services for KP and diagnosis for proper linkage of HIV positive cases to care and treatment. The prevention package is comprised of condoms and informative resources; the extended package includes rapid testing for HIV and syphilis. The performance framework for the grant extension established targets for prevention (Objective 1) and for advocacy and legal advice (Objective 2) for 2018. The SRs were successful in reaching coverage targets for prevention and testing (over 100%). Preliminary data from SIGPRO to November 2018 shows that testing targets were surpassed, potentially because individuals who have a negative test were instructed to get another test every three months. The accumulated follow-up tests and new individuals who are screened for the first time could explain that more than 2,700 tests above the target were performed in MSM (118%) and over 690 more in trans women (124%). A similar situation occurred with prevention packages where the expected outcome was also surpassed in MSM (19,348 reached/16,812 expected) and trans women (3,526 reached /2,835 expected).

It is noteworthy to mention that data from the second semester was obtained directly from the SIGPRO database by the PCE team and has not been officially submitted in the PU/DR; it could undergo some changes when further analyzed by the PR team. Nevertheless, the trend observed during the first semester PU/DR is consistent with these results. Despite overachievement for coverage indicators, the testing yield and linkage to care was below targets for most SRs, as discussed in the next section. Performance of the indicator “new HIV diagnosed cases linked to care” was 48% for MSM and trans women combined. The new PR plans to update the prevalence studies to obtain more representative and updated data. The most recent measurement covered only two cities for MSM and only the capital city for female trans and was further extrapolated to other sites. (17)

Targets for human rights indicators achieved satisfactory results. A summary of Performance Framework indicator targets and outcomes to November 2018 is presented in table 5.

Table 5. Performance Framework outcomes vs. targets to November 2018

Performance Indicator	Annual Target	Outcome (Nov 18)
Number of MSM who received a prevention package	16,812	115% 19,348 MSM
Number of MSM who received testing and counseling	15,131	118% 17,911 MSM
Number of female trans who received a prevention package:	3,261	235% 7,678 transgender women
Number of trans women who received testing and counseling	2,835	124% 3,526 transgender women
New HIV+ diagnosed people linked to care	1,057	48% 512 new cases: 481 MSM & 91 transgender women
Citizen monitoring activities in health facilities	70	Rating: 3 (completed) 73 cycles of CM 12 MSM, 31 sex workers, 15 transgender women, 15 PLHIV
Legal advice (LA)	1747 PLHIV and/or KP	Rating 3 1730 KP 483 MSM, 1036 sex workers 102 transgender women, 109 PLHIV

Source: SIGPRO database

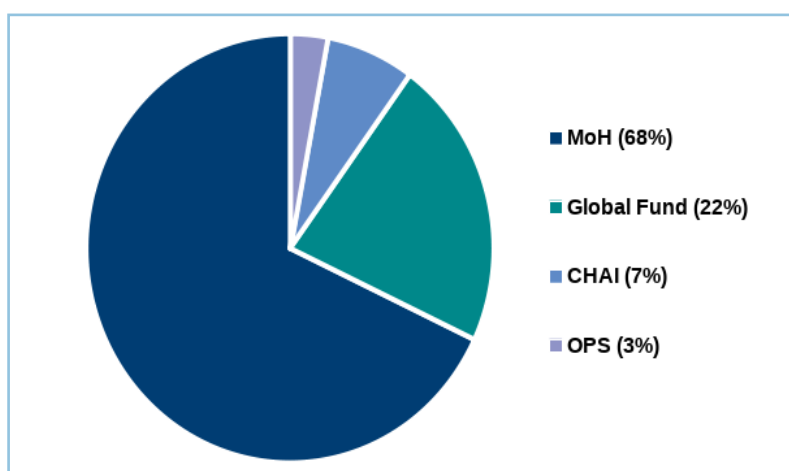
3.3 Global Fund Grants: Malaria

At the time of the initial Global Fund grant in 2005, the number of malaria cases in Guatemala was estimated to be among the highest in Central America, primarily *P. vivax* cases. The malaria program utilized the grant resources to reduce the incidence of *P. vivax* malaria while also gradually eliminating *P. falciparum* transmission. More than a decade later, with continued support of the Global Fund and an investment of US\$37.9 million to date, the burden of malaria has reduced significantly. Between 2005 and 2017, the numbers of cases by *P. vivax* decreased by 88%, and only three cases of malaria by *P. falciparum* were reported in 2017. (8) Since 2005, the main vector control measure has been widespread distribution of long lasting impregnated nets (LLIN), with procurement financed exclusively by the Global Fund. In a recent survey conducted by CIP Gallup in 2017, the number of children who slept under a LLIN the night before was 94% compared to 6% in 2005. The same survey reported that 92% of pregnant women and 85% of adults had slept under a bed net the night before. Nevertheless, the MoH continues to struggle with malaria in certain departments like Escuintla, which has reported more than 60% of the cases during the last three years. Cases are concentrated in a few municipalities and influenced by seasonal migrant workers. Furthermore, there are still some municipalities on the Pacific coast with high incidence but failure to consistently use LLINs (only 50% of households as reported by a KAP survey implemented by the SPM). (18)

Global Fund grant arrangements. As of 2018, the Global Fund is estimated to cover almost one-fourth of the malaria funding landscape (Figure 13), but the investment amount is decreasing. The 2011-2018 Global Fund malaria grant amounted to US\$25,306,710. For the subsequent 2019-2021 grant, the amount requested was

US\$6,362,560. However the TRP recommended the proposal for iteration for Window 5 (April 30, 2018). The reasons for the iteration were the lack of focused interventions, which were not tailored to address KVP or were not specific enough for the epidemiological heterogeneity of the country. The Global Fund granted a 6-month extension requested by the CCM for US\$716,023, which will be deducted from the upcoming grant allocation. The decision to grant an extension was supported by the good performance of the current grant (B1 for programmatic results and downgraded to B2 for suboptimal financial execution). The reasons for sub execution were attributed by the NMS to excessive administrative controls after the government suffered a corruption scandal in 2015. The grant extension prevented the interruption of essential services in three prioritized departments of the country (Escuintla, Alta Verapaz and Izabal). The main actions funded by the upcoming grant will be vector control, case management and specific activities to mitigate gaps in the supply chain and the information system. The MoH is financing 68% of the malaria response, followed by the Global Fund, which provides 22%. CHAI and PAHO provide technical, contributing with 7% and 3% of the funding landscape (Figure 12).

Figure 12: Funding Landscape Malaria 2018



Source: Global Fund Malaria Funding Request, Funding Landscape, 2018

Global Fund grant performance frameworks and key milestones in 2018 Extension Grant. There are no milestones reported at this time, as the first PU/DR will be submitted in 2019. Milestones proposed for programmatic modules are related to vector control (80% coverage of LLIN and indoor residual spraying (IRS) in pilot areas), foci investigation, and case management, supply chain, and improvement of information system.

2011-2018 Malaria Grants - Outputs and Outcomes

Malaria - Key Observations	Evidence Rating	Thematic Areas
LLINs are distributed in larger numbers to departments with higher incidence of malaria, but contextual factors also influence patterns of distribution (areas of high receptivity and vulnerability). There has been an overall improvement in case management indicators. However, over half of people with malaria symptoms still do not seek timely testing. On the other hand, a positive finding is that 97% of those who seek care are tested and receive diagnosis within three days of diagnosis; 85% are treated within three days.	Rating: 1 Sources: Malaria notifications database LLIN Distribution Plan LLIN Database KIIs/Expert Consultations	VfM KVP

Distribution of LLINs. It is expected that LLIN distribution would follow incidence trends. The PCE findings show that more nets were provided to areas with higher incidence but while it is a main driver, other factors also come into play. Moreover, there are departments with low incidence receiving nets in low numbers for other reasons; see table 6 for a summary of factors that influence distribution. Procurement of LLINs continues to be covered by the Global Fund. In the 2019-2021 grant, 60% of LLINs will be procured in year 1; 28% of the budget will be allocated to LLINs associated costs for distribution and logistics. It is planned that savings identified during the grant making will cover the programmatic gap of 40% of LLINs.⁵

Table 6. Factors Influencing Distribution of LLINs

Classification	Characteristics	Examples
High Incidence Strata 3	Contribute with >90% of malaria cases in the country	Foci in Escuintla, Alta Verapaz & Izabal
Receptive Areas Strata 2	Predisposing climatic and environmental conditions	Lowlands
Vulnerable Areas Strata 1 or 2	Patterns of migration from low to high incidence departments associated with difficult socio-economic conditions that prevent adequate follow-up on return. Closeness to high incidence areas and international borders.	Quiché, Huehuetenango and San Marcos Zacapa, Jalapa, Jutiapa
Social Conflict	In isolated cases, it has been necessary to distribute nets to non-targeted communities when requested by neighboring villages to avoid conflict	Huehuetenango
Strata 1: Departments	Limited or no distribution	Sacatepéquez, Guatemala City, Totonicapán

Case Management. Since 2015, there has been a 33% increase in the number of persons who seek care upon the appearance of malaria symptoms and are tested within three days⁶. Despite this improvement, more than half of affected persons fail to seek a test and treatment within three days. Possible reasons for improvement identified by the PCE team are the following: a) better access to blood smears and rapid diagnosis tests (RDTs) in selected areas and b) laboratory network and voluntary collaborators are better stocked and trained to perform blood smears / RDT and provide treatment.⁷ Improvements notwithstanding, the challenge is that 54% of cases still delay more than three days between the initiation of symptoms and testing, with no significant behavior difference by sex.

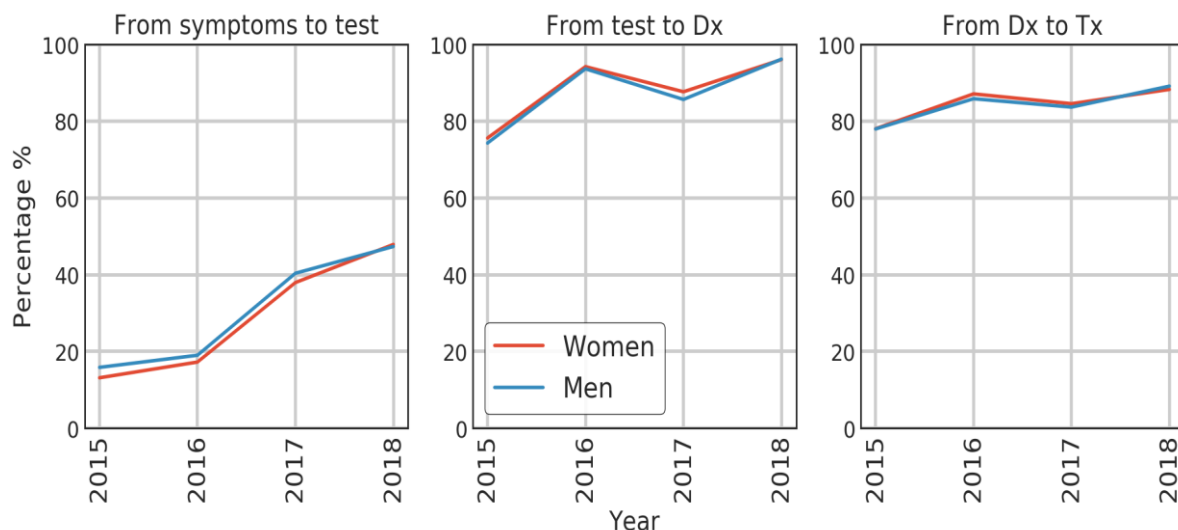
On the positive side, there has been a steep increase of persons who seek a test and are diagnosed within three days, from 78% in 2015 to 98% in 2018. The percentage of persons who are treated within three days has also improved but there is a loss of 8% from diagnosis to treatment (Figure 13).

⁵KII CT, PCE Team, Dec. 6, 2018

⁶National Malaria Subprogram (NMS), Dashboard 2015-mid 2018

⁷ PCE analysis of data obtained from the malaria sub-program, KIIs and consultations with experts.

Figure 13. Delays in testing, diagnosis and treatment by sex (showing cases under 3 days only)



Source: National Subprogram of Malaria databases

Implications/Strategic Considerations

The criteria for distribution of LLINs are currently not well documented, hindering the proper assessment of cost efficiency of the process and the potential effect on the epidemic. The PCE is interested in supporting the effort to properly document the rationale of distribution. The dependency on the Global Fund for procurement of LLINs is a topic to be addressed in sustainability and transition planning. After analyzing several variables, the PCE did not find evidence of gender disparities in the delivery of malaria services to the population.

The implication of low performance in capturing infected persons within the three-day period is that the parasite starts to replicate in liver cells after three days. The PCE will continue to investigate the reasons behind the delay, which partly is due to non-specific initial symptoms, which can be confused with other febrile illnesses such as acute respiratory infections.

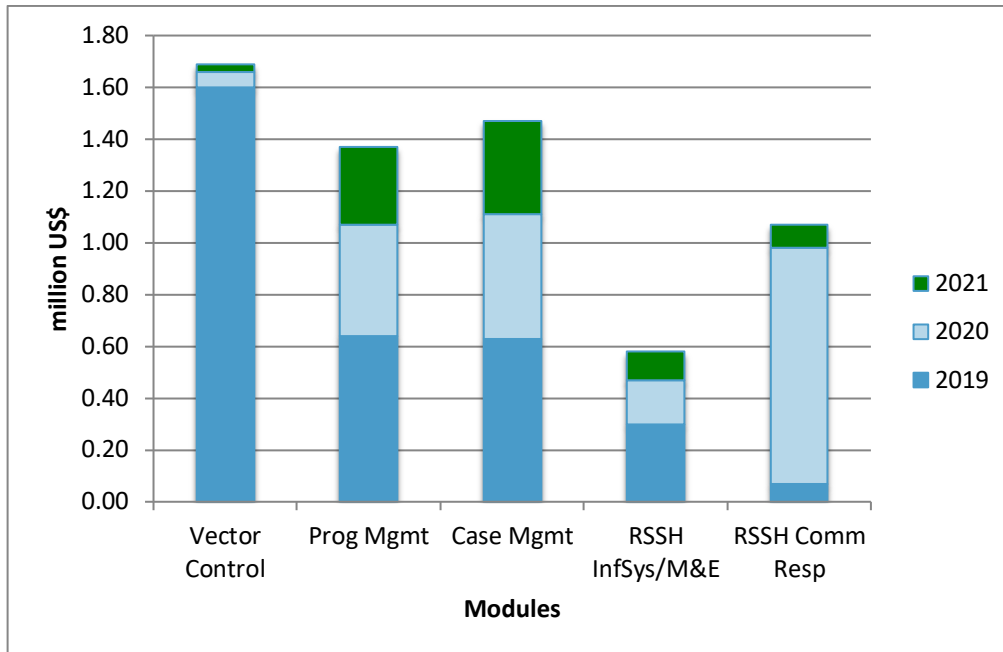
The Malaria Grants - Analysis of Inputs and Upcoming Activities

The 2018-2022 NSP and the 2019-2021 funding request goals are aimed at malaria elimination following the strategy of detection, treatment, research and response recommended by PAHO. The NMS, assisted by Clinton Health Access Initiative (CHAI) and PAHO, drafted a subset of mini plans around the NSP, estimating that US\$67,640,849 would be necessary for malaria elimination by 2020. The NMS identified the foci in Escuintla supported by CHAI; during the extension, it is expected that foci characterization for Alta Verapaz and Izabal will be completed.

The 2019-2021 total grant allocation amounts to US\$5,582,629; implementation start date is January 1, 2019. The highest allocation is for vector control, which is mainly for procurement of LLINs. Most of procurement will take place in Year 1 (2019). There is a full dependence on the Global Fund for LLIN procurement, with no clear plans for the country to assume responsibility by the end of the grant. Allocations for program and case management are similar through the three years and represent approximately a fourth of the total budget.

RSSH is subdivided into support for the malaria information system, monitoring and evaluation (M&E), and community response to the epidemic (Figure 14). The updated and improved malaria information module, created and piloted with the support of CHAI, and integrated in the HMIS, is expected to be fully functional during 2019. The PCE is planning to follow community response in depth during 2019 to better assess the work of malaria volunteer collaborators, their link to the local health network and to the community.

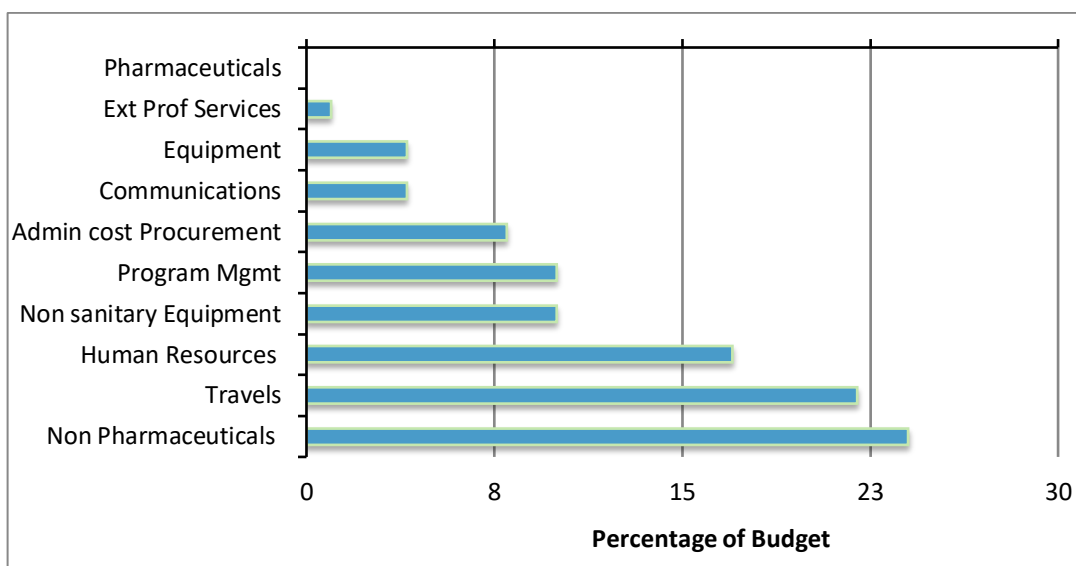
Figure 14. Annual Budget Distribution of Malaria Grant - 2019-2021



Source: Malaria Funding Request to the Global Fund: Budget, MoH 2018

The budget analysis by cost categories shows that Non Pharmaceuticals (mainly bed nets and lab supplies) and travel related expenses have the largest allocation of funds. The third largest allocation corresponds to human resources (Figure 15 below), which poses concerns for MoH take over. The Global Fund has covered salaries of most of the staff at the central level (22 persons) and field supervisors during the past grant. The NMS has drafted a plan for the incorporation of the staff by the MoH, which is planned for a gradual take over by 2021 (8). The malaria volunteer collaborators have been instrumental in achieving coverage of diagnosis and treatment but face the limitations of any volunteer work in terms of insufficient training, limited time for activities and mobilization restraints. It should be noted that there is no allocation for pharmaceutical products in the new grant because the MoH procures all malaria medication.

Figure 15. Distribution of cost categories for the total malaria grant (2019-2021)



Source: Malaria Funding Request to the Global Fund: Budget, MoH 2018

The CCM voted to maintain the MoH as the PR aiming at sustainability, being the natural leader to advance the country toward malaria elimination. Guatemala is committed to eliminating malaria as part of the initiative “Elimination of Malaria in Mesoamerica and the Hispaniola Island (EMMIE), financed by the Global Fund. An evaluation of the EMMIE grant determined that the countries in Central America and Hispaniola Island have made significant progress in reducing malaria, with cases declining by 90% in the past two decades. Despite the successes, the evaluation determined that the region is not currently on the trajectory needed to achieve the goal of elimination by 2020. On March 2018, the Global Fund Board approved funding of US\$6.0 million for the Regional Malaria Elimination Initiative (RMEI) in the Mesoamerica region. (19) Following up on the EMMIE, the Inter-American Development Bank (IDB), designated as the PR for the RMEI grant, is establishing a multi-donor trust designed to build upon the work at country level. One of the aims of the RMEI is to ensure that national strategic plans align with regional objectives and develop strategies to address programmatic and financial gaps. PAHO is part of the RMEI and was designated as a technical and administrative facilitator for the NMS to overcome bottlenecks encountered by government PRs. Bottlenecks are frequently a result of increased control measures to avoid fraud and corruption. For example, approval of funds for a training event can take more than three months. Disbursements that are critical for training, such as travel costs, venues and materials are similarly affected. It is expected that PAHO will help expedite implementation circumventing the elaborated procedures encountered by MoH staff.

3.4 Setting of targets

Program target setting was based on estimations of the three main parameters below, with some variations between the three national programs:

- a) Population of KP or KVP in prioritized municipalities
- b) Prevalence/incidence
- c) International standards, for example, commitment to reach the UNAIDS 90-90-90 goals for HIV or PAHO guidelines for elimination of malaria.

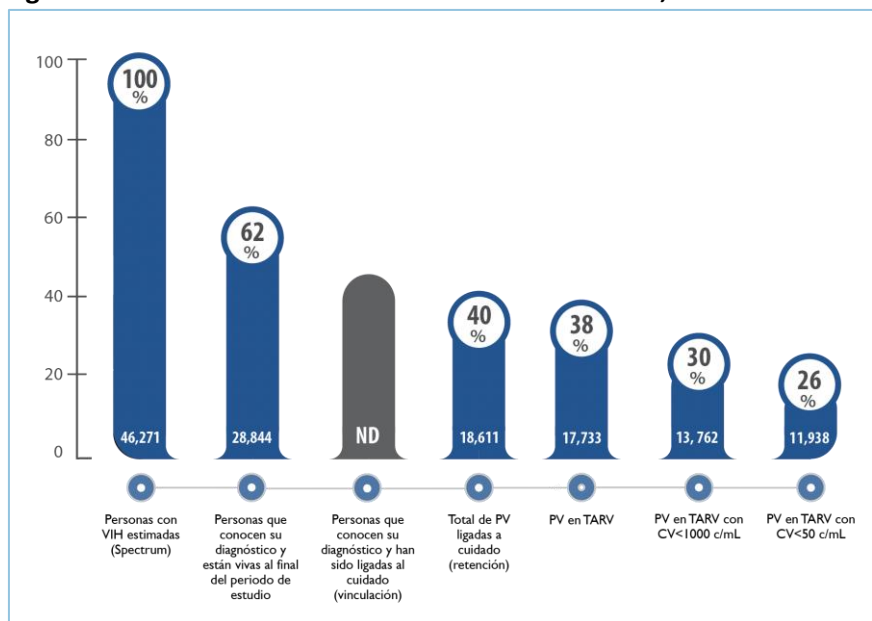
As a guiding principle, the Global Fund grants contribute to achieve goals established in the national strategic plans (NSP). The budget is allocated accordingly, with contributions from the government and cooperation agencies. NSPs are also aligned with the Institutional Strategic Plan of the MoH (2018), which contains country indicators for the three diseases declared national priorities. (20)

HIV/AIDS

The NSP for HIV/AIDS/STI was updated and approved for the period 2017-2021 by the MoH. (21) The NSP states that the country will pursue achievement of the UNAIDS 90-90-90 goals. Guatemala ratified in 2016 the UN Declaration to fast track the end of the epidemic by 2030. To reach the 90-90-90 goals, the HIV program has used Spectrum 2017 estimations⁸ to establish a baseline of the **number of infected persons, new infections and AIDS deaths**. Based on these estimates, the HIV program set targets for the Cascade of HIV Treatment to **Reach** (diagnose 90% of new cases), **Test** (positivity yields per KP) and **Treat** (90% coverage with 90% viral suppression). According to UNAIDS data, in 2016, there were 46,000 people living with HIV, among whom 36% were accessing antiretroviral therapy (ARV) and approximately 25% had suppressed viral loads. See figure 16.

⁸ Spectrum is the UNAIDS approach to national estimates based on surveillance data to estimate the trend of prevalence. This prevalence trend is used, along with demographic estimates from the UN Population Division and patterns of the epidemic, to estimate the number of people infected, the number of new infections and AIDS deaths.

Figure 16. Continuous Cascade of HIV Care Guatemala, December 2016



Source: National Report on the Continuous Cascade of HIV Care, INDICATORS OF SURVIVAL AND IMMUNOLOGIC SITUATION IN GUATEMALA, 2016 PNS/MoH; Social Security Institute (IGSS); Integrated HIV Care Units (UAI); Military Medical Center: San José Hospice and USAID- CAPACITY project in Central America

The Global Fund grant for the period 2018-2020 aims to contribute to NSP targets for MSM and trans women, as well as for PLHIV. The grant is focused on 21 prioritized municipalities distributed in ten departments out of twenty-two in the country. Targets were based on the following parameters:

- For prevention packages (condoms and information), 90% of estimated KP in the municipality; population sizes come from survey information.⁹ (22)
- For detection of new cases, the expected positivity yield multiplied by 90% of KP in the municipality/100. Positivity rates were established at 4.7% for MSM and 13% for Trans women based on average reported by the HIV program from years 2015-2017.
- For ARV therapy, the base of estimation again is to treat 90% of those diagnosed. Nevertheless, the national guideline institutes treatment of 100% of diagnosed positive (REACH-TEST-TREAT). The Global Fund will finance ARV therapy for 50% of new cases in the preferential first line protocol and half of PLHIV who will migrate to this protocol in 2020. (22)

Malaria

The setting of targets for the NMS is focused on the commitment of the country to eliminate malaria by 2020. For the two main goals to achieve elimination there are specific indicators with corresponding targets. Targets are defined based on baseline data generated by the HMIS and the NMS.

Goal 1: Interrupt the transmission of local malaria by *Plasmodium vivax* by year 2020

The NSM has gone from targeting municipalities reporting more cases by a stratification system to specific foci management. Elimination of malaria foci is the main activity during the late attack and consolidation phases of malaria eradication/elimination campaigns. As malaria transmission stops in most of the areas, the remaining cases are entrenched in a few localities. The malaria NSP and the FR have set the following targets following the Global Malaria Programme framework for elimination: (23)

⁹ Modes of Transmission 2013

- Total number of malaria active foci investigated and classified. No baseline data is available to date but it is expected that the methodology used in Escuintla, a high burden department, will be utilized in the other two high burden departments to achieve targets.
- Reduction of active foci from 438 in baseline data from 2016 to 108 in year one and to zero for years two and three. Targets are set based on reports on foci submitted by all health districts.
- Total number of confirmed malaria cases fully investigated and classified. No baseline available to set specific target because this data is not properly captured in the HMIS. Adjustments to HMIS are underway to accurately track confirmed malaria cases investigated and classified.
- Decrease the gap between initiation of symptoms and treatment to achieve 80% of cases treated within 72 hours. This target is based on data from HMIS, currently reported in 45% by NSM (dashboard 2017).
- Widespread distribution of LLINs to achieve an increase in usage by 10% in relation to baseline (85%). A recent KAP study revealed that usage was as low as 50% in families in the southern coast region. A strong IEC campaign will be launched to promote usage. (18)
- As alternative use of indoors residual spraying (IRS) will be expanded to communities in high burden area La Gomera to 97% of households. Target set based on 95% acceptance by the population of IRS in a pilot during 2017. (8)
- Reduction of positive blood smears/rapid tests by 30% in relation to baseline data. The number of registered positive cases is the aggregation of malaria case notifications to HMIS from all health districts. The WHO target for elimination is that monthly slide or rapid diagnostic test (RDT) positivity rate among febrile patients with suspected malaria is consistently lower than 5% throughout the year, which indicates manageable malaria caseloads.
- Positive cases are expected to proceed from active foci so a reduction in foci activity should be observed as well.

Goal 2: Sustained interruption of transmission by Plasmodium falciparum

As with *P. vivax*, the targets are based in case notification and investigation of suspected cases by *P. falciparum*. The last reported *P. falciparum* cases in Guatemala date back to 2016.

TB

Setting of targets for the TB grant is based in the NSP, which was completed and costed by the time the funding request was drafted. (24) The NSP follows PAHO guidelines. The main goal of the NSP is to **close epidemiologic and programmatic gaps and implementing actions focused on KVP.**

For this purpose, the NTP has defined targets for the following objectives:

- Improve case detection of TB, both susceptible to first line treatment as for resistant and multi-drug resistant TB. The targets are set to close the gap in detection using WHO incidence estimation. Currently, the NTP is reporting based on case notifications from health districts and cohort databases.
- Treatment success targets are based on baseline trends reported by the NTP cohort databases and notifications to HMIS. The target for 2022 is to reach more than a 90% success rate based on a baseline figure of 87%. Several strategies will be implemented to achieve the target as described in the present report. For resistant TB, the target is set at reaching 80.5% by year 2022 from a baseline of 51%. A more widespread use of Xpert is intended to support the achievement of the ambitious target set.
- HIV co-infection will continue to be a focus of Global Fund TB Grant. Based on data generated both by HIV program as the NTP, the targets to date are below expected.

- Targets have been set for detection of contact in children under 5 years. The denominator was estimated based on expected TB cases times three. Baseline data generated by the NTP and reported to HMIS was used to set target even though the increase over the grant period is very ambitious, from 2017 data reporting 887 to 4,947.
- Targets have been set for specific focus of NTP on KP/KVP, with emphasis on prison inmates. Case detection reported to date shows an upward trend, but detection has not increased at the same pace as inmate population growth, which has tripled. Targets set for case detection and treatment for all prison inmates in correctional centers is based on NTP databases complemented by statistics from the penitentiary system. The goal is to increase case detection by year 2022 by 30%. To accomplish this goal, the NTP allocated 6% of Global Fund grant budget to this group defined as KP.

In summary, targets for TB are based on 2017 baseline data collected by the program and generated by health districts around the country and the HMIS. The indicator target baseline is also guided by international standards (WHO/PAHO initiatives, for example, END TB) as reflected on the NSP.

4. Global Fund business model in practice

In this chapter, the Global Fund structures and policies that influence grant implementation are assessed, as well as the operationalization of Global Fund principles and strategic objectives. This section is organized by key findings identified by the PCE and includes barriers and facilitators to implementation and their connection to the Global Fund business model or contextual factors.

4.1 Barriers and Facilitators to Grant Implementation of the HIV Extension

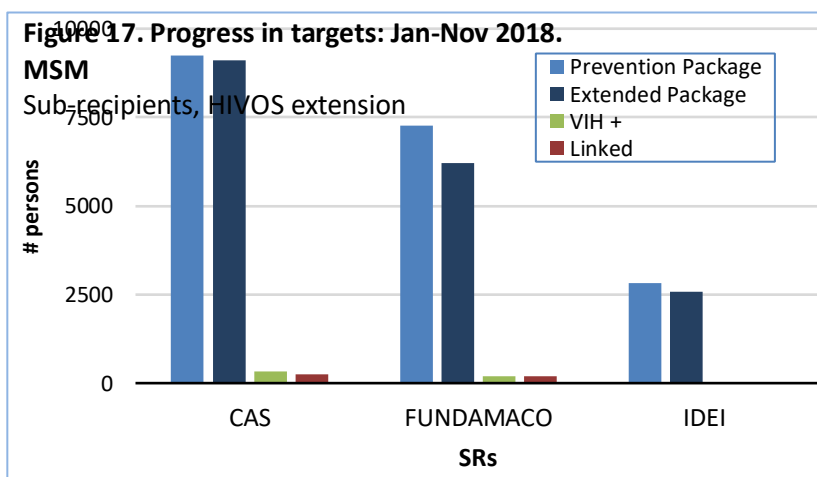
The grant extension was a mitigation measure to avoid interruption of HIV services while decisions about the funding request iteration were resolved. Funding (US\$4.5M) was subtracted from the upcoming (2019-2021) grant. The new PR will face the challenge of limited experience in HIV, a shift to a new information system and delays in contracting SRs. The PCE analyzed two key findings for the extension, one for prevention (Objective 1), and the other for human rights (Objective 2); findings and analysis of the latter is presented as a cross cutting topic (page 34).

Finding Statement 1 - HIV Prevention	Evidence Rating	Thematic Areas
Outcomes on HIV testing and linkage to health care show that SRs have reached coverage targets for testing but have failed to meet the target for diagnosis of new cases and linkage to care. The reasons for failing to reach targets may be related to gaps in finding key populations “where the virus is”, and challenges related to inherent characteristics of KVP (high-risk behavior, substance abuse, and mobility).	Rating: 1 Sources: PU/DR KIIs	KVP VfM STC Policy

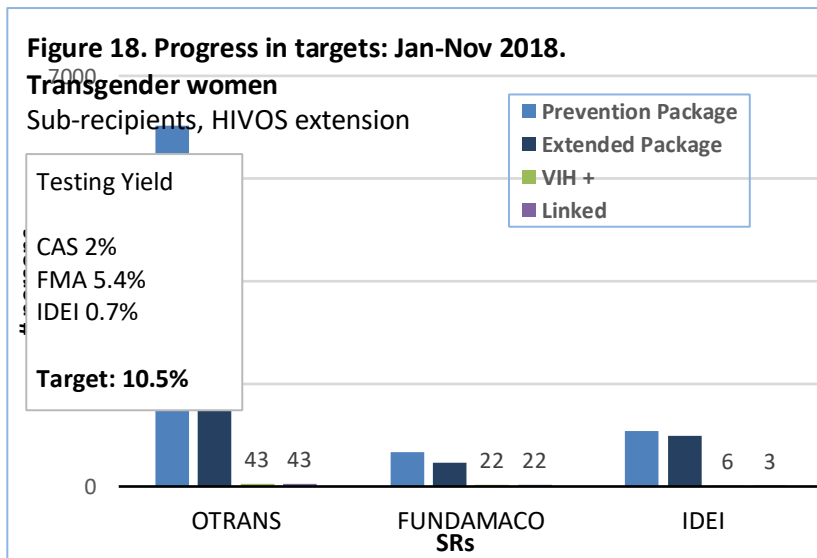
Although, the four SRs reached the targets for delivery of a basic and extended package, they failed to achieve expected detection of new HIV cases. One SR, CAS, achieved the best testing yield for MSM, at 4%, but is still far from reaching expected reactivity rates. FUNDAMACO followed with 3% and IDEI reported results that resemble the general population, with results lower than 1% (Figures 18 and 19). Regarding direct costs, there is variability in the cost of diagnosing a positive test between SRs. CAS is the most efficient, with a cost of

US\$94 per positive case; in comparison, it costs IDEI US\$114 to diagnose one positive case¹⁰. Associated costs were not considered as PCE is still analyzing this issue and no data has been found in available sources.

The outcomes in linkage to care were also suboptimal. According to UNAIDS, 90% of diagnosed persons must be linked to care and treatment. Out of the four SRs, only FUNDAMACO achieved this target for MSM, linking 100% of diagnosed, while CAS linked 73% and IDEI 70% (Figure 17). For transgender women, SRs did not meet targets, except for FUNDAMACO, which again linked 100% of HIV+ cases to care but obtained a low testing yield of 5% over a target of 10.5% (Figure 18). The PCE identified several barriers to successful linkage to care. For two out of the four SRs this was their first experience linking HIV-positive persons to care. Key informants from these SRs described insufficient training of navigators. Particularly, SR staff and hired navigators were not skilled in managing the emotional components of working with those who are diagnosed with HIV. Key informants also described characteristics of KPs, including high mobility, sexual work (one out of four trans women are active in sex work), and alcohol and substance abuse that present barriers for linkage to care and treatment. INCAP, the new PR, has established a reactivity rate of 3.6% for MSM (5% in Guatemala City and 2% in other departments), and 6% for transgender women for all regions. These targets are even lower than previous ones and lower than estimated prevalence, but closer to current achievement of SRs (Figures 17 and 18).



Source: HIVOS SIGPRO database (preliminary to PU/DR)



Source: HIVOS SIGPRO database (preliminary to PU/DR)

¹⁰ HIVOS Procurement Plan and SIGPRO. This cost refers only to the direct cost of a rapid test (i.e. Determine), plus a confirmatory test with a different principle, a lancet and alcohol pad and 17% of customs and transport to HIV Program warehouse.

There are two significant facilitators identified in the execution of the Global Fund grants. One has been the requirement to develop clear implementation strategies. The Global Fund’s TRP has provided critical guidance and urged local stakeholders to produce technically sound requests and the CT has proved supportive in its technical assistance. A second factor has been the role of the CCM. The CCM is an exceptional coordinating model unique to the Global Fund, which provides non-governmental oversight and stakeholder representation. While the local CCM has undergone difficulties with functionality, its pivotal role in consolidating KPs civil society organizations should be noted. During 2018, the main hindering factor was the contractual and disbursement processes in the HIV extension, which were delayed by three months.

Implications/ Strategic Considerations

- HIV prevalence may be overestimated for some targeted areas given that the Tephinet Baseline Survey was estimated for only two cities. For the rest of cities/municipalities they were estimated using mathematical models. (17)
- Inexperience of some SRs in linkage to care requires assistance in training navigators to better understand strategies. Sharing lessons learned from the Key Population Implementation of Science Project is a potential resource.

4.2 TB Grant

Drug and laboratory procurement and distribution

Finding Statement 2 - TB	Evidence Rating	Thematic Areas
The national TB procurement processes created both barriers and facilitators to overall program implementation. Identified barriers in laboratory services will be addressed by the National Tuberculosis Program in the upcoming 2019-2022 grant.	Rating: 1 Sources: KIs Process maps	RSSH

Improved TB drug procurement and distribution processes have contributed to high treatment success rates within the country. According to NTP staff, the main bottleneck is a long procurement process, which takes between six to eight months. The lengthy process is partly exacerbated by frequent delays in disbursement of funds from the MoH. Notwithstanding, since 2015 there have been no significant stock-outs due to careful planning and the use of alert mechanisms like QuanTB software, which issues warnings to prevent stock-outs and drug expiration. Other mechanisms include using existing stocks for new patients (and replacing with new stocks), interdepartmental sharing of medications and local procurement when necessary. The Global Fund provided technical and financial assistance to improve the TB drug management system and provided the resources to hire a specialist to manage the drug inventory.

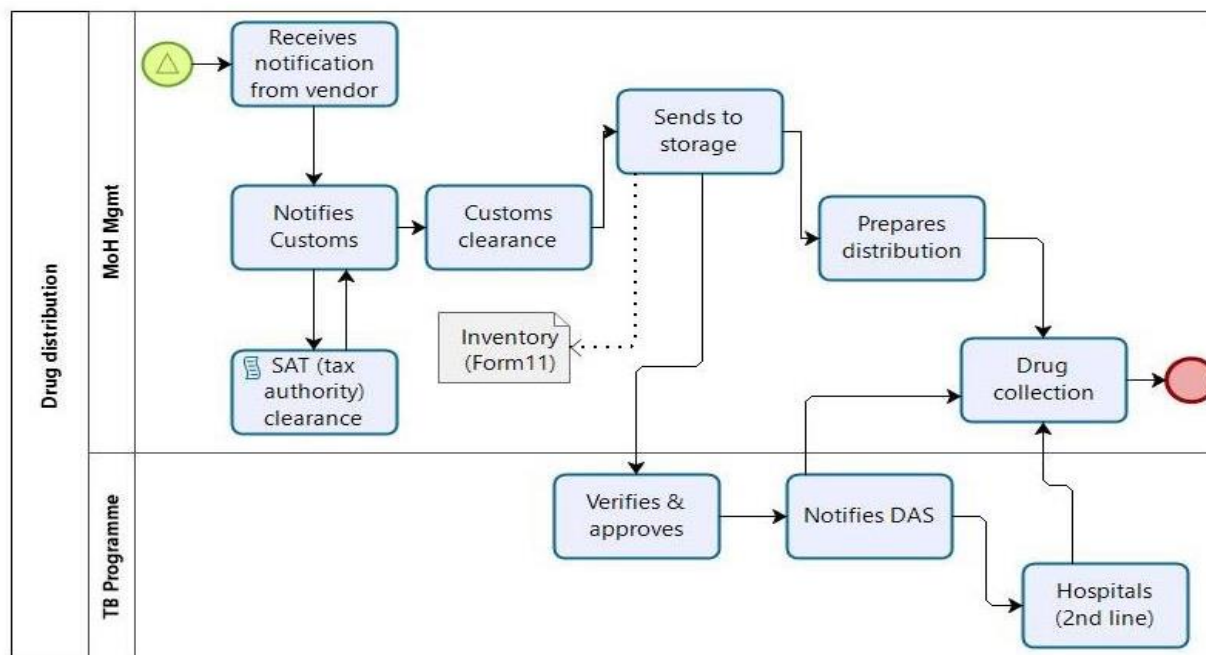
There are two main mechanisms for TB drug acquisition: first line drugs are purchased through PAHO’s regional initiative with MoH resources, and all second line drugs are purchased through the Global Fund Strategic Fund. Both procurement processes are lengthy and conducted annually. QuanTB estimates drug volumes and alerts on possible stock-outs at the central level. Once drugs arrive in the country, the NTP notifies each health district (Figure 19) and although QuanTB tracks inventory of drugs at the central level, neither the NTP nor MoH logistics system can track the supplies at the district level. In the upcoming grant, most purchases will be through PAHO’s initiative, as the MoH will be taking responsibility for procurement of all second line drugs and Xpert cartridges. Most lab supplies are procured directly by the MoH, with some supplies purchased through the Global Drug Facility. Two bottlenecks were identified for diagnostic testing processes, both related to sample transport. The first transport bottleneck is from village to health center (sputum specimens) and secondarily from health centers to hospital labs with Xpert machines. In the upcoming grant, the NTP has included funds for more expedient sample transportation and proper equipment.

Implication/Strategic Considerations

There is a need for improvement of drug inventory management systems that connect both district and central levels. The Global Fund will finance a module in the new grant for improvement of procurement and supply chain systems (US\$35,251.68).

The diagnostic testing process is lagging in capacity to test and provide results in a timely fashion. It is expected that the improved logistic chains will also directly influence this process.

Figure 19. Drug distribution map: TB program



Finding Statement 3 -TB 2019-2022 Funding Request	Evidence Rating	Thematic Areas
A well-coordinated and committed team working to develop the TB funding request, together with a comprehensive and costed NSP and technical assistance, led to a well harmonized and approved funding request.	Rating: 1 Sources: KIs RCA	STC RSSH

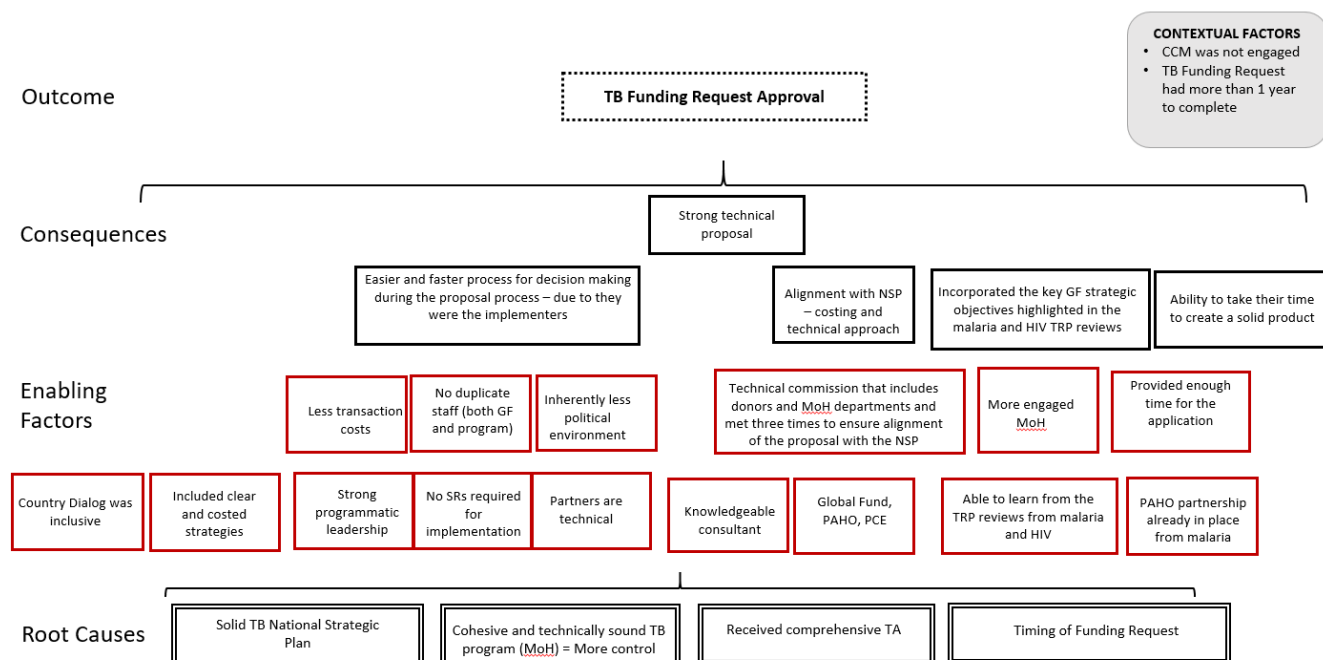
Following the recent iteration outcomes for both the HIV and malaria funding requests, the successful TB submission allowed for comparison of the funding request processes to identify best practices. For drafting the 2018 TB funding request, the NTP followed a different strategy, namely that the program received direct guidance from a knowledgeable consultant from PAHO and CT support. According to the PCE assessment, the TB funding request is better organized and easier to follow with most of the TRP comments from the malaria and HIV funding requests directly addressed. In addition, Global Fund strategic objectives are well developed, and included targets clearly linked to the budget. See Figure 20 for a root cause analysis, which include the determining factors for the success submission.

Other factors that contributed to the success of the grant include:

- The grant defines supervision and monitoring adequately and at different levels.
- Partnerships are well thought-out and described.

- Innovative community engagement methodology to improve adherence and case detection: ENGAGE-TB closely linked to outreach teams and PAHO's *Grandes Ciudades* (Great Cities) strategy for management of TB in large urban areas.

Figure 20: Root Cause Analysis: Rapid approval of NTP funding request



National Tuberculosis Program Geographic Prioritization

The NTP refined the geographic prioritization process for the 2019 grant. To increase the probabilities of reaching vulnerable populations, they developed an index comprised by a set of 16 socio-demographic variables in addition to epidemiologic criteria. Vulnerable populations for TB include indigenous populations, persons living in poverty, HIV+ individuals, incarcerated persons and those with co-morbidities like diabetes mellitus and renal insufficiency, which increase the risk of progression from latent TB to active TB. Based on the variables, a department received a score. 47 municipalities in 10 out of 22 departments were selected based on highest scores.

The PCE team analyzed the methodology and determined that it could be improved if the variables were processed differently, including standardization of all variables missing in the previous exercise. Based on the Z-scores obtained, some parameters were adjusted. The full methodology is explained in Annex VI for further reference. After careful consideration, the PCE proposed to include seven departments and withdraw three. The revised classification index was presented to the Technical Evaluation Reference Group (TERG) focal points for Guatemala and the CT. The NTP and CT reached consensus to follow the Strategic Considerations of the PCE team and adjusted the geographic scope to include other areas not considered before.

Implication/Strategic Considerations

The results of the geographic re-prioritization proposed by the PCE could improve efficiency at identifying persons with TB who are at risk of being missed by current approaches. Further, as shown by higher index score related with more risk factors, timely actions could be implemented in places that are not reporting many cases yet but were found highly vulnerable. Prioritization, however conceived, is a complementary tool to the knowledge that experience has taught stakeholders.

4.3 Sustainability & Transition Planning

The three national programs are at different stages regarding sustainability and transition planning. (25) Malaria and TB programs are projected to transition from Global Fund resources due to the expected shift in country income status from upper-low middle income to upper-middle income in 2020-2022. The government has made strides in improving overall program and financial sustainability as well as planning for transition. Currently, the MoH is covering 68%, 75%, and 47% of malaria, HIV, and TB programs expenditures through government resources. (10,12,26) In addition, in response to the STC policy, the MoH has established drug procurement from the PAHO Strategic Fund for the three diseases, which facilitates substantial savings but requires immediate availability of funds to place orders on fixed deadlines.

The NTP has made significant progress towards sustainability and transition planning, with support of the Global Fund. The newly developed NSP includes a clear sustainability, transition and co-financing section, which include a plan for a progressive government take-over of program costs. Support for technical assistance on developing the costed NSP, and specific STC related section, was provided by the Global Fund. Procurement of second line TB drugs by the Global Fund is currently executed through the Global Drug Facility, while the MoH funds first line treatment. In the new grant, the MoH will assume responsibility for all TB treatments, including Xpert tests. There is also a MoH commitment to assume responsibility for all outreach teams and technical staff by 2022.

STC was not originally considered in the HIV NSP and therefore an STC-focused annex to the NSP has been developed to address this omission. The CT and CCM have planned three workshops (two have already taken place) aimed at building capacity among civil society, MoH authorities and other HIV stakeholders on sustainability and transition. The transition of funding to the MoH for ARVs, HIV tests and staff has progressed well, but there are no current proposals to assume prevention costs, particularly for KVPs, which are currently highly dependent on the Global Fund and other donor support.

Detailed micro-plans provide the NMS with a solid tool for STC; the programmatic plans prepared by the IDB for RMEI are based on them. RMEI will be valuable for the region to reach malaria elimination by 2020, but political aspects are taking longer than expected. Currently, the MoH is responsible for treatment, diagnostic supplies, and the salaries of some malaria personnel, but the NMS faces important challenges, including acquisition of LLINs, complementary diagnostic supplies and personnel currently paid by the grant. There is a commitment from the MoH to assume responsibility for the malaria team, but its large size may pose some difficulties.

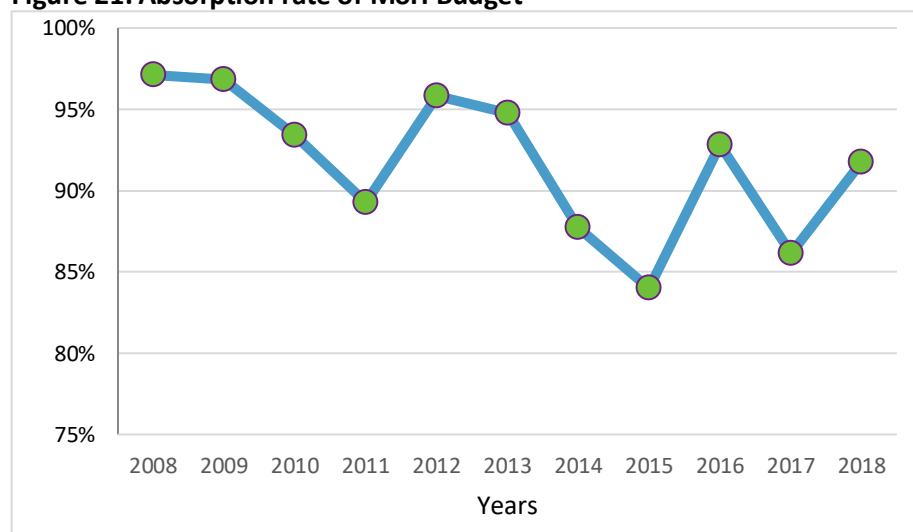
Co-financing

Co-financing is the first step toward sustainability and even though the MoH has allocated financial resources for the three diseases, there are problems with execution. Political instability poses barriers for a successful implementation of STC policy. For example, continuous changes in MoH authorities provoke erratic fluctuations in budget absorption rates. As shown in Figure 21 the proportion of budget execution was higher in the period 2011 to 2013 in comparison with the period 2014 to 2017, which can be traced back to changes in the General Budget Law including the cancellation of the outreach program which contracted out services from NGOs (Programa de Extensión de Cobertura - PEC). After this change, all budget transfers to NGOs totaling several million dollars abruptly ended in 2014.

Subsequently, in 2015 a political crisis ensued which led to the fall of the President of the Republic who was forced to resign when his administration was faced with a corruption scandal. In the aftermath of the crisis, government expenditures fell to 84%, with a recovery to 93% a year later when a new government was elected. The increase in expenditures was not due to better administration but catch up of payments delayed by the crisis.

The trend observed during the first year of the current government was not sustained and expenditures fell to 86% in 2017 when the MoH undergoes several changes in the Minister of Health, intensified by changes to the General Law of Procurement of Goods and Services.¹¹ Failure of the Ministry of Finances to update the administrative staff in the reforms to the law caused stalling of procurement in the MoH. A gradual recovery was observed during 2018 probably as a result of staff becoming more knowledgeable in the procurement processes. The unstable political context of Guatemala directly impacts budget implementation, which hampers compliance with co-financing as established in the new model that requires national investment to grow to achieve RSSH and universal coverage. Figure 21 shows the variability in budget absorption by the MoH.

Figure 21. Absorption rate of MoH Budget



Source: SICOIN

Implications/Strategic Considerations:

The political instability prevalent in the country causes high turnover among key decision-makers in the MoH. In addition, the absence of a comprehensive health care model prevents a rational targeting of financial support to maximize investments from the Global Fund and other donors. Lastly, the STC policy also relies on adequate budget execution, which will ultimately result in increased investment in health.

The STC implementation requires full involvement of the CCM, government, external donors and stakeholders. PCE recommends including the Planning Unit of the MoH into CCM discussions on STC. Low investment in health (as a proportion of GDP) and lack of transparency and efficiency in the government is a major challenge to close the funding gaps identified in the national strategic plans. Due to frequent changes in leadership, the MoH has not historically been able to provide longer-term policies. Nevertheless, the possibilities of more funding coming into the country for malaria, the approval of new grants for the three diseases, and a renewed CCM are positive factors for a successful response to the epidemics and successful transition.

CCM Re-engineering

At the beginning of the PCE, the Guatemalan CCM consisted of 22 members, mostly from civil society and involved in a single disease (HIV). Interviews conducted during the HIV funding request to 22 stakeholders indicated high levels of dissatisfaction with the CCM, especially regarding weak leadership, inadequate representation, and inconsistent application of the norms regulating conflict of interest. The situation was

¹¹ Modification to procurement law allowed higher ceilings for direct purchases and inverse auctions, which should have favored expenditures but were not understood by financial units. Contrary to what was pursued, expenditures suffered a decline.

particularly troublesome as it coincided with management difficulties at the MoH, resulting in a poor leadership of the public sector in the CCM.

In March 2018, the Guatemalan CCM voted for an in-depth reform, and a six-member interim CCM was elected. With the support of the CT, two consultants provided technical assistance; the interim CCM worked steadily to draw new rules and regulations, including for conflict of interest, election procedures, communication guidelines and a manual on strategic monitoring. It reduced its composition to 11 seats: four to the public sector, two to international partners and five to organized civil society. Each seat has an incumbent and an alternate representative. The new CCM took office by mid-August 2018; and at the same time, a new three-member board and a five-member Strategic Monitoring Committee were elected. The positions last two years and re-elections are allowed.

The current CCM has been transformed and has adopted the improvements listed in the Global Fund’s new CCM Policy. A smaller CCM is expected to function more efficiently and the provisions for managing conflicts of interest will confer transparency and objectivity, especially as former members tended to be SRs. The new CCM aims to enhance public sector engagement and has included new stakeholders: The Planning and Programming Secretariat (SEGEPLAN) and the Human Rights Ombudsman¹². There are also significant inclusions in the civil society sector, now giving more balanced participation to KVP of the three diseases.

To improve its performance and its involvement in the oversight of grants, the Guatemalan CCM has been chosen as one of the 16 countries that will be supported in the CCM Evolution pilot project. This support is especially needed, as the new CMM faces important challenges. Historically, a frequent setback faced by the CCM has been the lack of a steady commitment among its members, and even the interim CCM faced similar difficulties. Opening new spaces for stakeholders with no previous participation in the CCM is commendable, but the board will need to design ways to promote consistent participation as well as training on the CCM Policies. The five-member Strategic Monitoring Committee will also require close technical support.

4.4 Key and Vulnerable Populations

Finding Statement 5 - Prioritization of communities for TB interventions	Evidence Rating	Thematic Areas
The National Tuberculosis Program has put increased emphasis on strategies and activities that support identification and treatment of populations most vulnerable and high-risk for TB.	Rating: 1 Sources: Grant analysis Prison population database Funding Request 2019-2022	KVP Human rights Partnership VfM

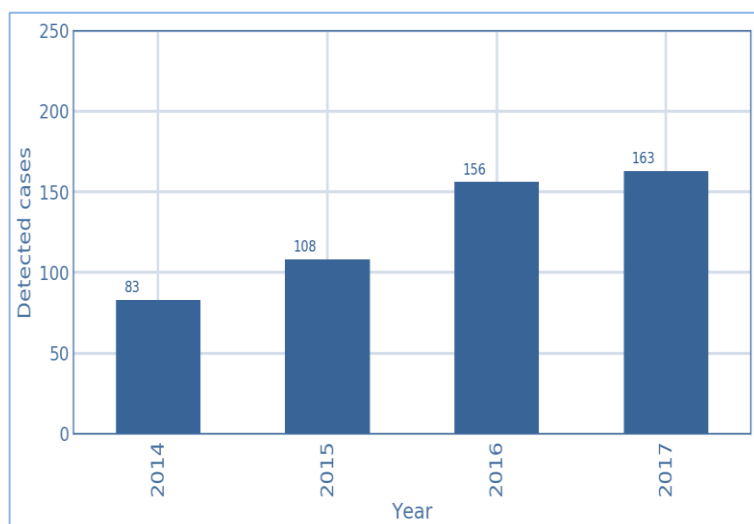
KP: Incarcerated populations

The incidence of TB among incarcerated populations is reported worldwide to be higher than among the general population; in Guatemala the notification of cases has increased throughout the years as the inmate populations has tripled. (26) The Global Fund has defined inmates as a KP and the NTP has likewise prioritized prisoners as vulnerable to TB. The program has implemented TB prevention and care activities in prisons since 2016, with significant support from the Global Fund. There has been a modest increase in detection of TB cases in prisons in the last four years from 83 cases in 2014 to 163 in 2017, despite serious prison overcrowding. For the upcoming 2019 grant, the NTP proposed to increase coverage from eight to the totality of prisons in the country (twenty-one holding approximately 23,600 inmates).

¹² The Ministry of Finance was invited but declined to participate

Main drivers of the TB epidemic in prisons are overcrowding and lack of adequate health care. Overcrowding has reached 300% and there are only 11 physicians to cover 21 prisons. (26) The increase in detection of TB cases between 2014-2017 underscores the need for adequate management of TB disease (Figure 22).

Figure 22. Trend of TB cases detected in prisoners, 2014 -2017



Source: National TB Database, 2017

Despite adverse conditions, the PCE found that there is high success in treatment among inmates with bacteriologically confirmed TB, once a case is identified.¹³ Nevertheless, isolation of diagnosed cases is deficient due to lack of adequate infrastructure. Adequate infection control measures in prison clinics are also lacking. With severe overcrowding, starting timely treatment is crucial to prevent transmission. Even though incidence is mentioned in the funding request, currently there is no data on true incidence because prisoners are not pre-screened on admission and there is a lack of accurate medical history. It is not known if cases detected in prison inmates were pre-existing, or if the person developed TB during imprisonment. To mention other PCE countries, Myanmar is screening prisoners for TB at admission in a pilot in two prisons using chest x-rays. Results of this pilot will be followed by the PCE and made available to the NTP as soon as they report advances.

The upcoming grant proposes to provide coverage to all incarcerated persons in the totality of 21 prisons in the country, including two for women and four juvenile correctional institutions. The NTP has implemented several strategies to address the burden of TB in prisons, all of which will be continued and expanded in the new grant. Total allocation for this component is US\$289,677, equivalent to 5% of total budget. Major costs are procurement of Xpert cartridges (US\$130,239 for 14,000 cartridges) and refurbishment of the health clinics inside two prisons (US\$75,000). The Global Fund will also contribute US\$34,435 to finance a comprehensive “master plan” aimed at improving logistics throughout the health network, including a courier system to send samples to referral labs.

Implications/Strategic Considerations:

The partnership with the penitentiary system is a good example of the Global Fund business model in action. Other donors are not currently working with prison populations. To effectively approach TB in prisons, in addition to programmatic interventions, there needs to be stronger political will to address the factors predisposing inmates to TB. An upcoming new model for the penitentiary system will favor the implementation of comprehensive health care; it also has the potential to reduce the burden of the disease. If

¹³ Cohort database

successful, this model can be shared with other countries since it is a common problem in Central America and other regions around the world. The PCE will follow implementation with special interest.

Currently there is no screening at admission to penitentiary centers. Therefore, it is unknown if cases detected, are new or pre-existing so PCE recommends to define them as notified cases or notification rate, not as incidence. On the other hand, screening for TB at admission will improve case detection and allow a more accurate assessment of the situation of TB in prisons. The NTP may consider implementing pre-screening in selected prisons where more cases have been reported or in those located in prioritized departments. The associated additional costs will depend on the method used and could be negotiated with the penitentiary system or eventual reprogramming of Global Fund grant money.

Human Rights

Finding Statement 4 - Human Rights	Evidence Rating	Thematic Areas
<p>Of the current grants under implementation, only the HIV extension includes specific activities related to reducing human rights-related barriers to accessing health services. External consultants on human rights will replace civil society implementers in the upcoming 2019-2022 grant.</p> <p>In the new TB grant, close to US\$130,000 has been allocated for activities to reduce barriers to access to health care, which amounts to 2.3% of the total budget. The malaria upcoming grant does not include any human rights activities.</p>	<p>Rating: 1 Sources: PU/DR KII</p>	<p>HR VfM</p>

The HIV extension grant dedicated 6% of the budget (\$174,500) to reduce human rights-related barriers to health services while the upcoming HIV INCAP grant has allocated 5.3% to this objective, most of it concentrated in the first year (Y1 US\$572,000; Y2 US\$181,100; Y3 US\$36,000). The current TB grant does not include specific human rights activities, but the upcoming grant allocates 2.3% of the budget towards several activities, including social mobilization, training of local leaders and IEC materials all aiming at reducing stigma and discrimination and improve adhesion to treatment. The PCE reviewed the implementation of activities aimed at removing human rights related barriers to health services under the HIVOS Grant Extension. Two of the three activities, legal advice and public monitoring, are summarized below.

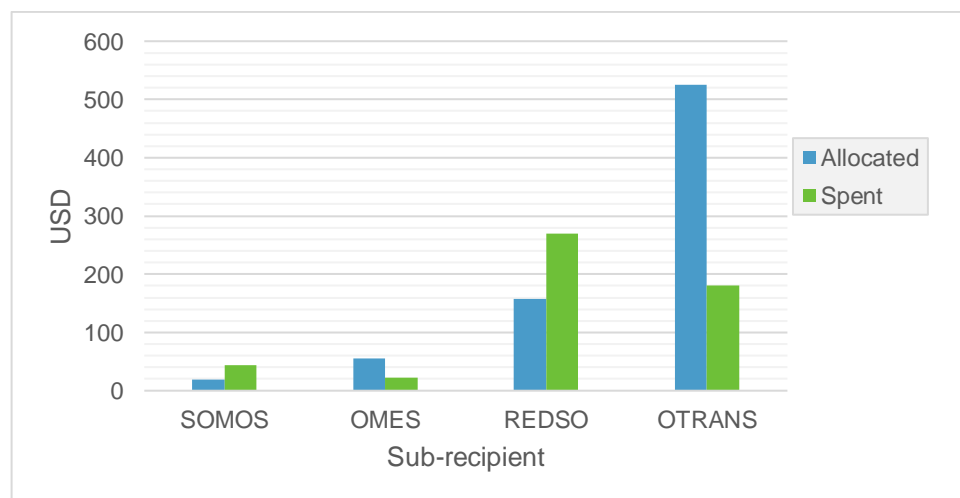
Legal services in the context of the HIV response are meant to assist people to address issues that affect their access to health care and general well-being. In tandem with *Red Legal* (a civil society network providing legal assistance to KVP), the PR developed a methodology to report specific human rights violations and provide responsive legal aid. Legal advice has been provided by a variety of actors. For the ongoing extension, HIVOS selected four SRs to implement the legal services, each with a specific KP (see Table 8). The targets assigned to each SR varied greatly, with little relationship between target and resources allocated. In addition, SOMOS, the SR with the highest target, had no experience providing legal aid. Results were wide-ranging, as was the efficiency of each SR.

Table 8. Results vs. Resources for Legal Advice - January – November 2018

SR	KVP	Target	Results		Resources allocated (USD)	Cost per target case	Cost per actual case
			No.	%		USD	USD
SOMOS	MSM	1110	483	43.51	20,875.01	19	43
OMES	CSW	416	1036	249.04	23,427.13	56	23
REDSO	PLHIV	186	109	58.60	29,480.24	158	270
OTRANS	TW	35	102	291.43	18,366.28	525	180
TOTAL		1747	1730	99.03	92,148.66	525	53

The resources allocated for each legal advice (according to targets) and corresponding cost or resources spent on each legal advice provided during this period is shown in Figure 23. OMES was the most efficient SR, spending US\$23 per case, while REDSO was the least efficient at US\$270 per case. Three of the four SRs were able to exceed their targets and thus lower its costs per case; SOMOS met less than half of its target and the actual cost per legal advice was much higher than expected.

Figure 23. Cost of Legal Advice per Sub-recipient



Source: HIVOS PUDR Semester 1

Public monitoring of HIV health services aimed to provide an accountability system for KVP and improve the overall quality of services. The activity involved observation and assessment of care provided in public health facilities by SRs personnel. The findings of service monitoring were discussed with health providers to improve their performance in meeting KVP needs. HIVOS has been conducting this monitoring since 2014 using other funding sources. The use of Global Fund financing allowed the use of tablets and open source software to collect and analyze data. The intervention continued in the grant extension phase, but the open-access platform is no longer working. This has been a successful implementation that, in addition to procuring better health care, has empowered KVP to demand respectful care as discussed further in this report. As of November 2018, all targets had been met.

Implication/Strategic Considerations

More work needs to be done with the national TB and malaria programs to identify effective ways to embed human rights into their programming. Public monitoring is an effective activity to address human rights

barriers to accessing health services and should be continued throughout the HIV grant cycles. The potential detrimental effect of the shift to external consultants as planned in the upcoming grant must be assessed.

4.5 Resilient & Sustainable Systems for Health

Finding Statement 6 - RSSH	Evidence Rating	Thematic Areas
<p>Health Information Systems</p> <ul style="list-style-type: none"> - Investment in long-term solutions for information systems is key to RSSH. - Parallel systems enable recipients to perform M&E and planning despite their limitations and inconsistencies. - Upcoming Global Fund investments include strengthening information systems across disease areas. <p>Community Response</p> <ul style="list-style-type: none"> - Each disease program has followed a different approach to community strengthening. Malaria has hundreds of volunteers, dispersed and receiving limited training and resources. TB will increase the number of outreach workers who will encourage the formation of local “TB clubs”. In HIV, the Global Fund has supported effective community-based monitoring that helped improve the quality and coverage of care. The intervention is perceived as empowering to KVP, but it will be downscaled in the upcoming grant. <p>Tracking RSSH Investment</p> <ul style="list-style-type: none"> - There is an encouraging trend of upcoming funding requests including RSSH investments, but there are issues around the lack of RSSH indicators in performance frameworks. 	<p>Rating: 1</p> <p>Sources: Programs databases Document review KIIs</p>	<p>RSSH Gender VfM Human Rights Key pop</p>

The upcoming HIV (2018-2020), TB (2019-2022) and malaria (2018-2021) grants include RSSH. Specific RSSH activities have a heavy focus on health information systems. For instance, the largest single activity in these grants is “Strengthening M&E System of the National HIV Program”, with an allocation of US\$500,000 in the final budget. There is a trend of budgeting a large proportion of RSSH resources towards Health Information Systems (HIS) and M&E, as they comprise the third largest module in the previous grant window, totaling US\$2,257,543 across five grants in the 2014-2017 period (behind Community Responses and Systems, and Procurement and Supply Management Systems).

While there have been successes in standardizing reporting (for example, SIGSA 2 and all its appendices), challenges remain with parallel information systems and gaps in data timely availability, consistency and utilization, from the internal context to external evaluators and different organizations within the government of Guatemala. Parallel information systems often present inconsistencies and lack of interoperability (for example, HIV and TB case notifications and diagnosis cannot be linked with treatment outcomes). Another issue is loss of information due to the aggregation of data. Some information is only available in physical records and not readily available. Sometimes data is not disaggregated by important demographic variables such as gender, age and ethnicity. These parallel information systems are usually inefficient and prone to errors. In the case of the NTP, each *Dirección de Área de Salud* (Health Area Office) review and aggregate data and sends it to the national programs central offices where it is processed manually and entered into a single database. One consequence of this slow process is that as of October 2018, the NTP has not been able to provide a finished treatment cohort database for 2017. These inefficiencies delay decision-making processes, especially for short-term needs and emergent situations.

HIV treatment data is entered in the *Sistema de registro electrónico de información clínica en VIH/Sida* (MANGUA), a system that has intellectual property issues and has not been integrated into the HMIS (SIGSA). The HIV program receives aggregated data from the UAIs, sometimes belatedly, which does not allow tracking subnational information. HIVOS developed their own information system (*Sistema Integral de Gestión de Proyectos*, SIGPRO) to monitor preventive activities not captured by the HMIS, and to follow up on planned grant activities. However, due to concerns over the cost of copyrights of the platform, which eventually will need to be assumed by the government, INCAP will not use SIGPRO. The preferred option is to use an open source information system, which can allow modifications and does not carry costs for the MoH. HIV SR's have not been using the central HMIS to input HIV tests data but used SIGPRO for this data. A summary of characteristics of current HMIS in the country is presented in Annex VII.

Financial and inventory data is managed in parallel systems by each PR or health facility. Such data is not usually intended to track resources in detail from procurement to the consumption. This data is available in separate documents, but not in a digitized database. Most of the financial data used by the PCE comes from *Sistema de Contabilidad Integrada* (SICOIN), a public finance information system that contains aggregated data.

Tracking RSSH Investments

While there is an encouraging trend in upcoming funding requests to include RSSH investments, there are issues around the lack of RSSH indicators included in the performance frameworks. The upcoming Guatemala HIV grant has allocated 4.1% of the budget to RSSH activities but does not include RSSH specific performance indicators. The funding request for malaria does include one RSSH specific indicator related to coverage. This finding is corroborated with the recent TERG RSSH review of RSSH investments globally. (27)

Community Responses and Systems

The engagement and strengthening of community organizations is critical given the direct relationship they have with the KVP. In Guatemala, community response varies according to the disease. In malaria, there are hundreds of volunteers providing diagnosis and some of them, treatment. In TB, there are a few associations of those affected by the disease and hired outreach workers conduct community-wide prevention and information activities. HIV is more complex, as there are multiple civil society organizations providing prevention, treatment and promotion of human rights. Their characteristics of human rights organizations are summarized in Annex VIII. With the exception of HIV, very little has been done to provide enabling environments for these community workers and volunteers. Moreover, out of the six core components of community systems proposed by the Global Fund, none are currently in place and only a few will be implemented in the upcoming grants.

Community engagement for TB is in early stages. Since 2015, the TB program has been addressing community involvement through hired community outreach workers in prioritized municipalities who, in addition to improving detection and directly observed therapy, short-course (DOTS), also organize awareness sessions. An increase in community outreach workers is planned in the upcoming grant intended to intensify their role in prevention, support the establishment of community organizations (TB clubs), and extend the PAHO initiative "TB in big cities." (28)

Community volunteers have been an integral part of the malaria program since the 1970s. Their participation in the Global Fund grants has been limited to diagnosis and treatment in their communities. There are over a thousand volunteers, but only 380 are followed closely by the DAS; they reside in the two prioritized departments, Escuintla and Alta Verapaz. Throughout their history, volunteers have received limited provision of technical, material and financial support. In the upcoming grant, volunteers will be asked to upscale their performance and cover 32% of all testing. Testing results will be tracked down to the person who performed the test. The malaria grant includes resources for training volunteers, but other needs or ways to engage

volunteers are not described in the FR. In prioritized areas, malaria volunteers will be equipped with rapid tests financed by the grant, while in the rest of areas they are provided only with supplies for blood smears. There is no exact data on how many volunteers dispense anti-malarial treatment, but in prioritized areas, most are trained to dispense treatment.

The Global Fund approved funding for community-based organizations (SRs of the HIV grant) to monitor and analyze the quality of HIV services delivered in public facilities. The SRs implementing the intervention consider that public monitoring has been an empowering process. The largest impact was probably brought by OMES, an organization for sex workers that was successful in changing HIV and related care practices at public facilities. OMES monitored the quality of service delivery including tracking stocks of drugs to treat sexually transmitted infections. They feel certain that the intervention was instrumental in bringing about better care. As one of the members said, “Change does not happen only by imparting workshops and raising awareness, but by being there, showing up at the health facilities and supporting better care.” Significant improvements were also reported by transgender women who gained more respect from health providers as well as the acquiescence of two major hospitals to disaggregate data by KP. Other KP reported similar gains. Notwithstanding, in the upcoming HIV grant public monitoring will be discontinued as such. The modality changed drastically as the PR opted to hire external consultants to implement services related to human rights of KP. As a stakeholder said, “from being implementers we will turn into competing consultants.”

Implication/Strategic Considerations

The 2018-2020, the HIV grant has included budget to address data system issues. USAID will contribute by financing technical assistance from MEASURE Evaluation to the new PR and the plan is to use a comprehensive platform like DHIS2 across existing data systems. The TB and malaria programs have been offered technical assistance from MEASURE Evaluation to provide similar support to their information services. It is expected that quality and timeliness of data will improve.

By excluding community response in monitoring the performance of health services, previous achievements will be undermined. The new PR should reconsider the active involvement of stakeholders in the implementation of activities to remove barriers to health care as well as other human rights activities.

4.6 Other aspects of the business model

Partnerships

Finding Statement 7 - Partnership	Evidence Rating	Thematic Areas
The Global Fund is a main driver for establishing alliances for joint and coordinated work in the country.	Rating: 1 Sources: KII/Expert Consultation	RSSH

The Global Fund encourages partnership between governments, international development partners, civil society, the private sector and communities living or affected by the three diseases. This section will focus on the role of international development partners. PAHO is possibly the oldest technical partner and the only one serving all three diseases. PAHO’s main contribution is technical assistance, although its financial support does not fully demonstrate the full extent of its steady technical assistance. In the forthcoming malaria and TB grants, PAHO will act as a technical and economic enabler to facilitate absorption and avoid potential bottlenecks.

As part of PEPFAR response to HIV/AIDS epidemic, CDC CAR has implemented the Sentinel Surveillance of Sexually Transmitted Infections Strategy (VICITS) that offers a combined prevention program through health facilities for diagnostic and treatment of high-risk population. USAID has funded several projects implemented by non-governmental organizations (NGOs) as part of the HIV/AIDS Central America Regional Program, and for the next grant cycle, MEASURE Evaluation will support the HIV PR with its information system; support is also

being considered for malaria and TB. The health information system of the latter will be improved with the Global Fund grant and CHAI is working on a module that will provide information in real time with geographical reference. The information system is expected to be in place at the end of 2019.

CHAI and PAHO are important partners in the national response for malaria and both support the *Plan Escuintla*, a project located at the department with the highest cases of malaria and the one showing the greatest complexity in reducing the prevalence of the disease. CHAI is also supporting a pilot study for indoor residual spraying (IRS) and the development of the micro-plans that provide detailed budgeting of the NSP. The MoH has involved the private sector and is providing training for its lab technicians and health providers servicing the agroindustry workers. In exchange, clinics refer their clients to public health facilities, where they receive free treatment. RMEI, promoted by IDB, is offering both a grant and a loan.

STOP TB funded the introduction of Xpert in 2014 and CDC/UCR followed with Xpert equipment and the creation of a TB module for SIGSA in 2015; UCR continues offering technical assistance and financial support for handling hospital infections and HIV/TB co-infections, especially for UAI. The Damien Foundation provides technical assistance to health areas and former TB patient clubs. PAHO offers technical support with special emphasis on MDR and gives financial support for some of the activities of the Green Light Committee, expert consultations and local training. PAHO recently piloted the Great Cities strategy in a health facility in Guatemala City, and plans to extend it in 2019. There are conversations for alliances with the Institute of Social Security and private hospitals as well as with the Tuberculosis Network European Trials Group (TBNET) and CureTB for detection and treatment of TB patients deported to Guatemala. CDC/URC and PAHO are also giving technical assistance to PNT and the HIV National program for the creation of a committee of HIV/TB co-infection.

Value for Money

The PCE sees VfM as a crosscutting thematic area spanning issues related to economy, efficiency, effectiveness and equity of interventions and Global Fund investment. As such, this report presents VfM-related findings and evidence in many of the above sections. The PCE has noted multiple positive VfM findings. Notably, stakeholders have reported efficiency gains in the HIVOS Grant Extension (section 4.1) by minimizing the number of SRs, and effectiveness gains by prioritizing their mix of interventions geographically. In the TB program, stakeholders anticipate improvements in supply chain efficiency and treatment success to result from improved procurement and supply mechanisms (section 4.1).

In addition, economy has notably improved in recent years. Unit prices for Abacavir (a common ARV), Ethionamide and Cycloserine (second-line TB medications) have fallen below the global reference prices in recent years according to the Global Fund's Price and Quality Reporting datasets. (29) For example, unit prices for Cycloserine were as high as 21 cents (USD) above the mean reference price in 2008 but have since fallen to 8.6 cents below the reference price in 2018. Not only is this leading to cost savings under the Global Fund grants, but it enables programs to produce more with the same level of investment.

On the other hand, the PCE has also identified some areas for improvement in VfM. In both the TB and malaria programs for example, interventions to prevent human rights-related barriers to services (equity) may need to be more effectively incorporated in NSPs (section 4.3). Additionally, the PCE's own analysis of the geographic prioritization of TB interventions suggests that efficiency and equity in the national TB program may be enhanced with a different prioritization system (section 4.3). Finally, the PCE and numerous stakeholders have asserted some efficiency loss due to parallel reporting systems, both from the administrative burden in places on M&E staff and from the logistical complexities that arise for supply management (section 4.3).

Efforts to engage more marginalized populations, as well as recent emphasis on active case detection should, if implemented effectively, result in a more inclusive patient pool and increasing costs of detecting remaining

missing cases (section 3.1). As data become available for 2017 and 2018, we expect the trend to continue. The PCE will continue monitoring similar analyses, expanding to malaria and HIV as well.

Financial national response to HIV, malaria and TB

Guatemala has an advanced financial tool to track budget formulation and execution, the Integrated Accounting System (Sistema de Contabilidad Integrada - SICOIN). The PCE has used SICOIN to analyze the national response to the three diseases, from three budget “moments”: i) allocated budget, ii) operational budget, and iii) expenditures.¹⁴ In the structure of the MoH budget, HIV and TB are classified as programs from an accounting point of view while malaria is classified as an activity (being a subprogram of the vector-transmitted diseases program).

The government has shown a trend to allocate increasing funds to the three diseases as shown in table 10. In the case of TB, budget allocation increased from \$1.43 m in 2013 to \$3.54 m in 2016. There is a decline by 37% in 2017, which is also observed in HIV and malaria.

To follow the sequence, the PCE compared the allocated and the operative budget, which is actually measuring the accuracy of the planning exercise for the period. Accurate planning should have a variation of less than 15% between allocated and current operational budget as set forth in the Annual Operative Plan of the different programs in the MoH (AOP or POA in Spanish). In the case of TB, during 2016 this variation was 34%, going from \$3.5 million allocation to \$2.3 million when adjusted by the MoH. The same situation was observed for the HIV and malaria programs during the period 2014-2015 demonstrating deficiencies in the planning exercise, which need to be resolved in order to have a trustworthy budget (Table 10). The PCE team will pursue further explanations on these gaps with the persons responsible for planning and financial decisions.

The third component of the budget was analyzed to track expenditures, which correspond to resources utilized to implement the planned activities during the budget cycle (current operative budget divided by executed budget). The results obtained (last row of table 10) show that HIV and malaria had an upward trend during years 2015 to 2017 and a decreasing trend for TB during the same period.

Table 10. Structure and behavior of budget implementation of domestic funds for TB, HIV and malaria, 2011 - 2017

All financial sources excluding donations							
Allocated Budget							
Program ¹⁵	2011	2012	2013	2014	2015	2016	2017
Tuberculosis	0.06	0.46	1.39	1.41	2.57	3.54	2.30
HIV	6.56	5.02	7.03	7.14	13.88	8.02	14.02
Malaria	0.02	0.32	1.43	1.46	3.78	2.24	5.75
Current Operational Budget							
Program	2011	2012	2013	2014	2015	2016	2017
Tuberculosis	0.06	0.23	1.34	1.28	2.64	2.27	2.24
HIV	6.42	5.15	6.80	13.25	13.88	11.93	16.10
Malaria	0.01	0.45	1.39	2.81	2.72	3.44	5.48
Expenditure							
Program	2011	2012	2013	2014	2015	2016	2017

¹⁴ Budget allocation occurs when it is approved by the Congress of the Republic; Current budget is the institutional target to achieve during the budget cycle (annual), and Executed budget corresponds to actual expenditures or the absorption of the budget during the annual cycle.

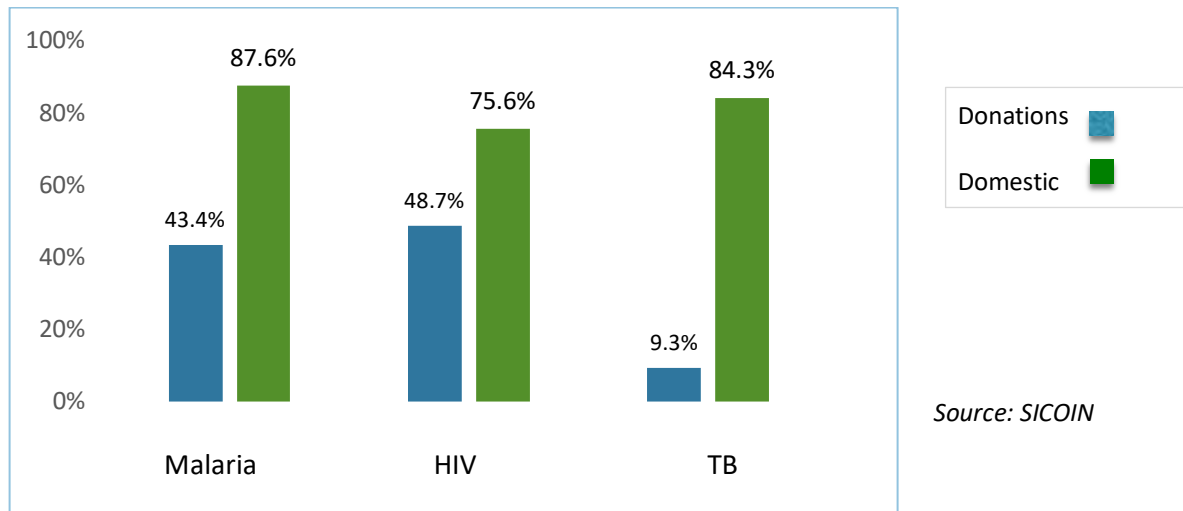
¹⁵ Note: Numbers in light blue correspond to programmatic classification as activities. For TB and HIV, the classification changed to programs in 2012 but malaria continues to be classified as an activity of the larger program Vector-transmitted diseases.

Tuberculosis	0.06	0.23	1.23	1.06	2.39	1.86	1.77
HIV	6.33	5.12	6.30	11.26	8.20	10.33	13.22
Malaria	0.01	0.45	1.16	2.34	2.24	2.95	3.37

Source: SICOIN

Regardless of the variations from one year to another, the execution of the budget has been suboptimal for the three diseases. For example, during the period 2017-2017 the malaria and HIV programs executed less than 50% of donation funds, while TB only spent 9%. Expenditure of domestic funds was better for malaria at 88%, followed by TB 84% but was only 75% for HIV, (Figure 24).

Figure 24. Comparison of expenditure rates for programs of malaria, HIV and TB, 2015 -2017

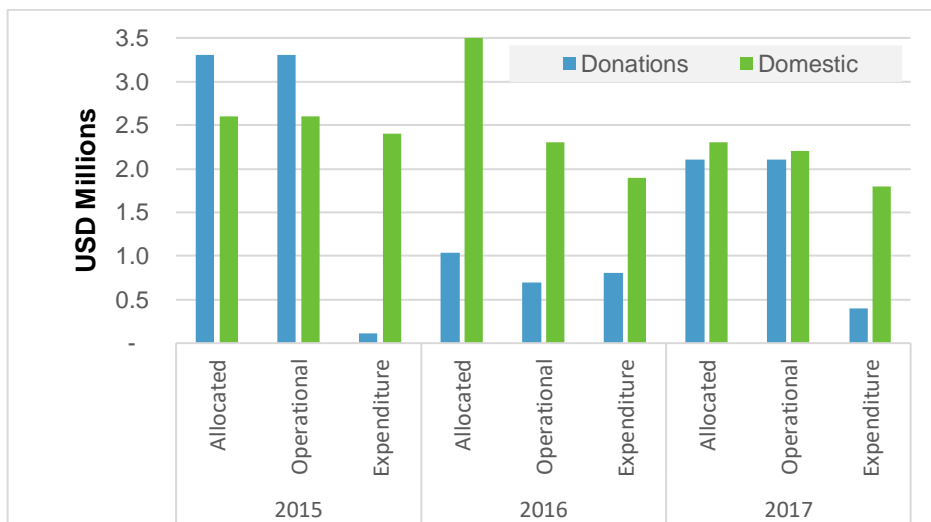


Source: SICOIN

The reasons for suboptimal budget implementation will be further explained but a well-known factor is a limited capacity in financial staff in the programs to adequately use the procurement platform **GuateCompras**. In general, expenditures by donors who do not enter resources into SICOIN are readily executed. Most donors do not pass funds into the government’s accounting system. The Global Fund is an exception.

If donations that go into the government accounting system are factored in, the budget performance is even lower. In the case of TB, in 2015 operational budget and donations reached \$5.9 million, but expenditure only reached \$2.5 million for a total absorption of 42% of the program’s operational budget. Consequently, domestic budget execution in 2016 was even lower for the three budget moments. Overall, the TB program’s budget execution capacity did not surpass \$7.4 million over \$14.8 million allocated in the three-year period analyzed, lower than 45% (Figure 25).

Figure 25. Comparison of TB program budget implementation by financial source (domestic and donations) Period 2015-2017



Source: SICOIN

Implication/Strategic Considerations

The underutilization of the health budget, including donations, and mismatches between planning and implementation highlights the need to improve and build new capacity into the programs staff to comply with the management by results guidance (GpR)¹⁶. The goal is to improve linkage between planning exercises (POA) with actual financial execution and the results chain to assess impact.

It is indispensable that budget and programmatic activities be better targeted to priorities (objectives) and customized by geographical areas in order to close coverage gaps. As an example, the prioritized department of Escuintla comprises 17% of all TB cases in the country, but in accounting terms only executed 0.2% of NTP budget in 2017.

Country Ownership

Country ownership is one of the core principles of the Global Fund. It is a multidimensional concept and in its simplest form, it denotes the participation of both citizens and governments in development initiatives. The TERG's Paper on Country Ownership (May 2018) has proposed four dimensions, each with different subcomponents. (30) The framework is flexible and allows for a broad understanding of ownership, including the presence of several "owners" and at varying levels. A customized approach was developed by the PCE to assess country ownership in Guatemala, focused on the MoH programs (HIV, malaria and TB) as main owners. Some sub-components deemed less relevant or lacking sufficient information were not included in this preliminary assessment, for which a simple scale was developed to assess the extent of country ownership for each of the three programs (see Table 11). The scoring of individual subcomponents was a team exercise, which included a discussion of the available evidence. The mean score of each program works as a summary assessment of country ownership. Given their individual strengths and limitations, all three national programs got similar scores (mean score was 3.0 for HIV, 3.2 for malaria and 3.3 for TB). For example, while TB and malaria both scored high in capability, and low in inclusivity, the opposite holds true for the HIV program.

Table 11. Country Ownership Scoreboard

¹⁶ Management by Results system - Sistema de Gestión por Resultados (GpR) was launched by the government of Guatemala in 2013; the MoH the first ministry to implement it. Basically the government mandates that all financial resources and programmatic activities be linked to achieving results. It seeks equilibrium between planning and results.

Dimension	Components	HIV	Mal	TB
Stewardship	Power & legitimacy. MoH program has the power and legitimacy to set priorities and make decisions	4	5	5
	Leadership & commitment. Program leads and commits to the development, implementation and oversight of the NSP.	3	5	5
	Alignment. National plans are aligned to national priorities to achieve planned targets and results.	3	4	5
	Donor plans and mechanisms are aligned to that of the country.	3	3	4
	Funds and Estimates. Program has costed estimates for NSP and manages health funds.	4	5	5
Participation and Inclusivity	Broad and participatory approach. Broad participation in i) the development of national strategies and plans; ii) program implementation; and iii) assessing results.	5	2	2
	Gender equality and inclusion of marginalized populations are ensured.	3	3	2
	Perspectives of national stakeholders. Program respects the diversity of policy perspectives from different national stakeholders.	4	2	2
Capability	Workforce, organizations and systems. Programs have the necessary individual, organizational, and systemic capacity to achieve expected outcomes.	3	5	5
	Capacity development. Donors assess existing capacity and support its development within institutional structures through adequate investments and coordinated technical assistance.	3	3	3
Mutual accountability and partnerships	Culture of accountability. There is a culture of accountability between program, government, other national stakeholders and development partners.	1	1	1
	Accountability Mechanisms. Programs/MoH have in place accountability mechanisms; information and processes are transparent; and there are mechanisms for input and feedback from civil society, private sector and donors.	2	2	2
	Responsibilities. Programs are responsible for achieving planned results; measurements are robust. Donors commit to improving predictability of aid and untying aid to the maximum extent possible. They share information on its plans, programs and aid flows to all recipients in the country.	1	1	1
	Partner Harmonization. There are multi-stakeholder partnerships to support country-driven priorities and strategies and ensure a harmonized approach.	3	4	4
Mean score		3.0	3.2	3.3

1	Little or no action	4	Largely developed
2	Elements exists or being considered	5	Substantially in place
3	Actions has been/is being taken		

Implication/Strategic Considerations

Guatemala has strong technical and financial partners and the country continues to depend on external cooperation agencies despite gradual takeover by the government. Currently, a third of the financing of the national response to the three epidemics is covered by external funds. However, in a pre-election year, commitments for co-financing might be challenging as authorities shift around. The influence of the Global Fund as promoter of alliances has been exemplary.

Chapter 5. Summary analysis and strategic considerations

Guatemala is currently managing six Global Fund grants, including two Grant Extensions (HIV and malaria), three grants approved to start implementation in 2019 (HIV, TB, and malaria), and one grant that has been in implementation since 2016 (TB). As the three grants under current implementation are on track for closure, the PCE has placed focus on the influence of Global Fund on national program outcomes as well as the preparation for upcoming grants. The summary of thematic area findings and strategic considerations are presented below.

5.1 Country Context

The most recent national health reform model, *Modelo Integral de Salud* (MIS) launched in 2017 and was meant to replace and scale-up the prior model, PEC. The intention of the MIS was to transform national programs and gradually integrate them and move away from the existing structure. The reform process encountered expected challenges and did not end up making any substantial changes to the HIV/AIDS, TB or malaria programs. The current administration under the new Minister of Health did not pursue the MIS and has not implemented the proposed reforms. Consequently, it has been a challenge for the Global Fund and other donors to create long-term plans, as there is an uncertainty about the strategic direction the country is pursuing, and limited efforts are placed in improving and extending the access to health care, particularly in remote rural areas.

5.2 Barriers to Implementation of Global Fund Investments

The high turnover of decision makers at the MoH and the lack of a national model of care have created instability across government programs. During the last three years of the present administration, there have been four Ministers of Health and several changes in national program heads of HIV. The continual change creates challenges for implementation and strategic planning. The fight against corruption has also created high levels of bureaucracy, which can make spending program resources increasingly difficult. However, the current Minister of Health, appointed in September 2016, has been more supportive of Global Fund initiatives and has expedited administrative processes.

5.3 Improved Country Investment Prioritization and Resource Allocation

Guatemala is classified as Upper-LMI country and has recently changed classification from moderate to low TB burden. Increasing economic stability and decreasing disease burden of TB and malaria have led to a progressive reduction of the funds allocated by the Global Fund and other external donors and the need for more targeted strategies to address the hardest to reach populations. The decrease in funding has prompted country programs to prioritize and focus resources on activities and specific geographical areas that reach the most at risk populations. For example, the upcoming malaria grant in 2019 will adopt the foci strategy as recommended by EMMIE and PAHO to achieve elimination. The National Tuberculosis Program developed a new prioritization process utilizing epidemiological and socio-demographic variables to be more inclusive of populations that harbor higher risk. The PCE analyzed the prioritization process and determined that the

selection could be improved. The CT has recommended to the NTP to add three departments that came up in the PCE reprioritization. The HIV program has prioritized areas based on HIV prevalence and presence of KVP.

The Global Fund has worked in close association with the government, and other partners, to deliver evidence-based strategies, which focus on most affected areas. Downward incidence trends are observed for all diseases among the general population and alliances that have been fostered with technical partners. The challenges ahead will be to reach KVP more effectively, improve adherence for successful treatment, and to maintain effective partnerships. In terms of matching resources to need, the rationale behind prioritization is precisely to go where the disease is concentrated, as expressed well in the WHO HIV slogan, “go where the virus is.” This principle is behind the geographic targeting in HIV and TB and the foci management for malaria.

5.4 Effective distribution of Global Fund resources

The MoH is the PR of the malaria and TB programs. The turnover of government decision-makers poses difficulties for grant execution. In the past three grants, the MoH had serious difficulties complying with expenditure schedules, causing suboptimal financial execution. The movement of money from the Global Fund to the MoH PR is smooth, based on performance, but under-execution of disbursed funds has caused funds to be lost and led to implementation delays. Corruption scandals lead to controls and approvals for procurement of goods and services, which cause budget execution to be slow and inefficient. As a result, the MoH has declined to continue as the PR for HIV. It will continue as PR for TB and malaria for the next grants, and PAHO has been proposed as technical and financial enabler to circumvent some of the administrative bottlenecks derived from government bureaucracy. In the case of non-governmental PR (HIV extension), the movement of money from the Global Fund to the PR was initially delayed for three months but became adequate afterwards; the disbursement from PR to SRs was qualified as timely and unproblematic.

5.5 STC Policy / RSSH

Factors influencing sustainability considerations of Global Fund investments

As explained above, Guatemala has experienced a progressive reduction of funds from Global Fund and other external donors, which has prompted an increased focus on prioritization of resources. The STC policy is at an early implementation stage in Guatemala. Sustainability and transition consultants are working with all HIV stakeholders to establish a sustainability strategy of the HIV program, which will be added to the existing HIV NSP. Sustainability planning for the malaria program is waiting on more information regarding the RMEI funding by IDB. If approved, the loan will influence sustainability and transition beyond the Global Fund.

Malaria and TB are projected to transition by 2025, but no clear provisions for transition have been made yet. Co-financing has been improving, but the MoH is not ready yet to assume all financial responsibility to appropriately sustain the programs. The government has progressively increased domestic investment in HIV, malaria and TB, currently financing 44% of the national response. It is important to note that country resources mainly fund care and treatment, bypassing most prevention activities. The Global Fund is the major donor accounting for approximately 20% of the national response to the three diseases. Prevention for KVP, strategic health information and human rights represent examples of areas where the country invests little or none. While other countries are looking into public-private alliances with NGOs to deliver HIV services, Guatemala passed a law precluding NGOs to be contracted given the obscure management of funds of some NGOs previously hired by the MoH to deliver health services through the PEC model. It is of strategic importance to propose alternatives beyond taking responsibility for institutional staff currently paid by the Global Fund. Otherwise, there may be the negative consequence of undoing positive trends related to prevention and human rights advocacy and protection.

CCM Functionality

The CCM is an exceptional coordinating model promoted by the Global Fund, a critical part of the Global Fund Business Model, and provides non-governmental oversight and stakeholder representation. After a period when the CCM encountered some operational challenges, the Global Fund promoted a re-engineering process. The current CCM is now more streamlined and includes equal representation from the three diseases, external aid agencies, and is presided over by the MoH. Guatemala has also been selected to participate in the CCM Evolution initiative meant to prepare the country CCM for sustainability. The PCE will continue to follow the reformed CCM to assess functioning and effectiveness as well as the progress of the CCM Evolution initiative.

There were changes in the Guatemala CT staff in 2017 and the new CT has been very active in getting familiar with the Guatemala context. The new CT worked closely with local stakeholders in the preparation of funding proposals and extensions to current grants and is perceived as very helpful by stakeholders. The CT was also instrumental in promoting a reorganized and efficient CCM. With their support, the new CCM is already more proactive in decision-making and leadership.

5.6 Resilient & Sustainable Systems for Health

The PCE analyzed the two most prominent components of RSSH included in Global Fund grants: information systems and community responses systems. The three government programs for HIV, TB, and malaria have parallel information systems due to two main reasons: a) national HMIS does not provide the information required for epidemiological surveillance, and b) the programs need to report on key performance indicators set by the Global Fund and other donors. The national HMIS had been reluctant to introduce needed changes but increasing need for more robust and timely reporting has led programs to push for system reforms. The upcoming 2019 grants include disease specific modules in the national HMIS system, with support from MEASURE Evaluation, CHAI and PAHO. There is an expectation that the improved data systems will support a better approach to HIV/TB co-infection. While the NTP screens more than 90% of positive cases for HIV, only half of HIV positive individuals are systematically screened for TB. Although programs are aware of this concern, evidence from outcomes shows a need for improvement.

The new HMIS modules for the three programs will be helpful for epidemiological surveillance, but some system challenges remain. For example, most primary data will continue to be entered manually in printed forms at the health facility level. Currently, the central levels only receive aggregated data. Efforts have been made to digitize data entry and develop dynamic performance dashboards, but there has been limited success in these efforts due to the lack of computers and Internet availability. Regardless of persisting obstacles, there are promising initiatives for improving the national programs information systems. The Global Fund has been a relentless promoter for improvement of information systems to achieve RSSH.

Each program area has approached community response and systems differently. Civil society and KVP are more involved with HIV program planning and implementation. As the HIV grant focuses heavily on KPs, they are engaged through KP centered NGOs which participate as SRs, while the malaria program relies heavily on community volunteers. There are thousands of volunteers throughout the country and they provide diagnosis and sometimes, treatment. There have been reports of some of the volunteers becoming inactive because of a lack of closer support, both financial and technical. However, in the upcoming grant, volunteers from the three prioritized departments will be assigned an important role in the active search for malaria cases. They will be trained and will receive supplies for diagnostic tests and treatment, but there are no funds or mechanisms in place to facilitate their organization and monitoring of the services they offer. The national TB program has outreach personnel who perform an active search of TB cases within their communities. This program is currently funded with Global Fund resources, but a take-over commitment by the government is being negotiated for next grant cycle.

5.7 Gender / Human Rights / Key and Vulnerable Populations

Of the three grants currently in place, only the HIV extension has funds allocated specifically for human rights. Moreover, the PCE found that promotion and protection of human rights, despite being a strategic objective, shows a decrease in allocation from 6% to 5% of total new HIV grant budget. The former HIV PR, HIVOS, managed two projects directly addressing human rights: public monitoring and legal advice, both implemented by SRs with long-standing experience working with key populations. KPs have reported through KIIs that these interventions have proven successful in reducing barriers to healthcare access and create accountability for quality care. Most of the human rights budget allocation in the 2019 HIV grant will go to hiring external consultants to implement human rights related activities. The shift away from engaging civil society may stall community empowerment and overall sustainability. In addition, barriers to health care have been identified around restrictive clinic schedules. For example, the health system is designed to provide maternal-child care but is not equally equipped to deliver services to KVP. Their working hours (8:00-16:00) effectively curtail access for working individuals. This issue has been partially resolved in some areas where HIV clinics are open around the clock. Men, workingwomen, and adolescents fall between the cracks in a health system focused on women of childbearing age.

Gender-responsiveness is mostly absent from HIV care and service delivery, except for transgender women who bear the highest HIV prevalence. Therefore, key strategies focused on this specific sub-population have been included in the grants. The PCE analyzed key variables to detect gender/sex discrimination or bias in specific HIV, malaria or TB service outcomes, finding no significant disparities between men and women. There are, however, limitations to conducting more in-depth analysis because of lack of disaggregation by sex in data. For example, the TB treatment cohort data has no sex variable. HIV notifications are usually disaggregated by sex and sexual orientation, only if they come from a UAI. However, even when data is available, it is not used to design or implement gender-specific interventions, except for pregnancy care (for example, assessing that pregnant women sleep under a LLIN or for PMTCT). The Global Fund has prioritized gender protection but allocations in current grants are negligible and directed to women living with HIV (socialization of a manual produced by the PR for human rights advocacy). To reach men, the malaria grant will scale-up alliances with the agricultural industry and seasonal migrant workers and the TB program will invest 5% of total budget to address the rights of inmates to access HIV and TB health services.

5.8 Strategic Considerations

Considering the above evidence, findings, and implications, several strategic considerations emerge that may be relevant to the national programs, in-country Global Fund stakeholders, and Guatemalan government authorities outside the MoH. Given Guatemala's status as a future transitioning country many of the strategic considerations for the national programs are simultaneously important considerations for the Global Fund, and vice versa.

Strategic Considerations for National Programs

1. The PCE considers it necessary to review the methodology for estimating Key Population sizes for HIV at subnational sites. Current data for KP site estimates (and expected number of PLHIV) at the municipality level are extrapolated from national estimates, which are not representative and are outdated.
2. The NTP has identified incarcerated individuals as a KP. To define the burden of the disease in prisons, a better estimate of incidence should be implemented by screening detainees at admission. Initially it could be conducted as a pilot in selected detention centers. The costs of this endeavor would need to be programmed in the budget, mainly during reprogramming of unused grant and domestic funds.

3. The revised geographic prioritization proposed by the PCE, reviewed and implemented by the NTP, could improve the effectiveness of interventions by increasing TB case detection.
4. Inclusion of the Strategic Planning Unit of the MoH (*Unidad de Planificación Estratégica - UPE*) into CCM discussions on STC and meet with the CT when considered relevant.

Strategic Considerations for Stakeholders

1. In the topic of human rights, stakeholders must pursue the continuance of successful activities, building on the experience of KP themselves. For example, the initiative of public monitoring, which rendered satisfactory results.
2. The three programs must consider the mismatch between the discourse for protection and promotion of human rights and the low budget allocated in the grants for these activities.

Strategic Considerations for Government Authorities

1. The Minister of Finance must implement a continuous training program for MoH financial units in the use of the Law of Procurement of Goods and Services (*Ley de Compras y Contrataciones*) given inefficiency observed in budget execution.
2. The Presidency Planning and Programming Secretariat (SEGEPLAN) should focus on building capacity in the MoH for an adequate **management by results** (GpR) given deficiencies found in operative planning (POA) and failure to link expected results to budget implementation at all levels of the MoH.

Strategic Considerations from Stakeholders during Dissemination Workshop

- ✓ A high possibility of the CCM not continuing to exist once there is no support from the Global Fund.
- ✓ The effects of the changes that took place within the CCM during the past year are too early to assess.
- ✓ Participating civil society groups celebrated the focus on gender and human rights given by the PCE; it was recognized that human rights protection is still highly dependent on external donors, which poses a high risk when the country transitions out of the Global Fund or when other funding sources come to an end.
- ✓ Community response can improve in the measure that people trust public institutions; volunteers need more training and financial support, for example, for fees to travel to work sites.
- ✓ New strategies for improving performance on the HIV cascade face some skepticism among HIV stakeholders. For example, the group expressed that the strategy of multifunctional educators will be successful as long as they are well trained and fit job profiles. There is recognition of the benefit to receive a comprehensive service provided by a single educator, but it also harbors a high risk given the concentration of responsibilities.
- ✓ Civil society must get involved in monitoring the quality of budget execution and not circumscribe to the programmatic aspects of grants.
- ✓ HIV leaders expressed fear of being repressed by security forces and homophobic groups for their actions in favor of human rights of the LGBT community.

Chapter 6. Dissemination of PCE Results

The PCE Guatemala website (www.epp.ciesar.org.gt) was created in 2017 and provides access to informational materials about the evaluation, including 15 brief thematic videos and the 2018 Annual Report. Since its

creation, CIESAR has shared the website with over 400 stakeholders from 30 distinct sectors. In addition, printed copies of the 2017 Annual Report were distributed to major stakeholders, including the CT, the TERG Secretariat, and TERG focal points.

Four newsletters have been published and shared via e-mail to inform of PCE progress; the first two reached 267 and the last two reached 300 to stakeholders. The newsletters can be consulted in the following link: <https://epp.ciesar.org.gt/newsletters>

CIESAR hosted two major meetings in 2018: a dissemination workshop, in which the results in the 2017 Annual Report were shared with stakeholders, and a meeting with SRs of the HIV grant, where SRs shared “lessons learned” with INCAP. The document with the highest number of downloads from the PCE Guatemala website during last year was the video on the conclusions of the dissemination workshop (http://epp.ciesar.org.gt/wp-content/uploads/2018/04/Para-Medios_1.mp4) and the 2017 Annual Report (<https://epp.ciesar.org.gt/wp-content/uploads/2018/09/Folleto-Primer-Informe-Anual-2018-Evaluación-Prospectiva-de-País.pdf>). CIESAR’s dissemination efforts continue in 2019. See Annex IX for detailed dissemination activities.

On March 7, 2019 the PCE team held a dissemination workshop (WS) with the participation of 87 persons including main stakeholders from MoH, civil society, HIV PR INCAP, external partners, IHME/PATH consortium, CCM Secretariat and TERG and CT representatives from the Global Fund. During the WS, the results for 2018 were presented and validated. Five topics were discussed in depth in group tables: 1) community response; 2) HIV human rights; 3) VfM focused on quality of government /MoH expenditure; 4) parallel information systems; and 5) CCM - what to be expected for the future?

All tables had engaging and energetic discussions on the five topics and provided a series of considerations detailed in the Dissemination Workshop Report, published in the PCE website: www.epp.ciesar.org.gt. The main topics are summarized below:

Table 1: Planning and Execution of National Budget

Participants: MoH-System for Provision of Health Care Services - SIAS, Heads & financiers of NTP & National HIV program; Financier of NSM, National Epidemiology Center, PR-INCAP, Women & HIV NGOs, WHO/PAHO Country Representative, UVG-HIV Program/PEPFAR, SEGEPLAN, Global Fund CT Portfolio Manager

Discussion focused on low budget execution attributed to lack of training and high personnel turnover, which impacts planning operative plans and also affects procurement. It was mentioned that administrative/financial staff at decentralized units (DAS) have even more limitations for being insufficiently trained. There was consensus that administrative processes are time consuming and elaborate. Even more, MoH staff is fearful of audits given past issues with corruption and imprisonment of persons who signed contracts or authorized purchases, “to sign any official documents takes a long time given that responsible persons are overly meticulous and self-protective.”

In regard to national planning processes, which were shown by the PCE to be erratic and lack credibility, the group mentioned the need for training to implement the “management by results” methodology set forth by SEGEPLAN.

Proposals for Bottlenecks, Table 1:

Action	Timeline	Responsible
More frequent and better training to implement the methodology “management by results “(GdR)	Short to median	SEGEPLAN & financial unit of MoH
More frequent and better training to be able to use the Law for Procurement of Goods and Services effectively	Short to median	SEGEPLAN & financial unit of MoH
Reform to the Law for Procurement of Goods and Services	Median to long term because of high level lobbying required in the governmental level	Ministry of Finance and Congress of the Republic
Build capacity in civil society stakeholders to advocate for better formulation and execution of public budgets and donations	Median to long term	Assembly of the CCM with potential support from external partners, the PCE team & others

Table 2: Human Rights

Participants: Leaders of HIV KP NGOs (#5 - OTRANS, SOMOS, APEVIHS, Fundamaco, Red Legal), prior HIV PR HIVOS, current HIV PR INCAP, ITPC-LACTA, Youth Council and Positive Youth Network, CCM representatives (#2 - from Fernando Iturbide Foundation)

Participating civil society groups celebrated the focus on gender and human rights given by the PCE; it was recognized that human rights protection is still highly dependent on external donors, which poses a high risk when the country transitions out of the Global Fund or when other funding sources come to an end. There was a strong interest on the topic of low execution of MoH budget, particularly in the case of external funds, and stirred interest the low allocations for human rights in grants and national budgets highlighted by the PCE.

Several issues came up among them the need to monitor not only programmatic implementation but also financial performance. This task should be undertaken both by organized civil society but also by the M&E committee of the CCM. It was mentioned that human rights defenders face risk of violence and criminalization due to bigotry in security enforcement and fanaticism in conservative groups. The TRANS population is more affected.

Based on the Q&A Guide provided, the discussion shifted to the risks and benefits of new strategies for improving performance on the HIV cascade, the group expressed some skepticism. For example, the group expressed that the strategy of multifunctional educators. The consensus was that this strategy has the benefit of comprehensive care provided by one trusted person. The risk is that if the educator is overburdened or not well trained, everything will fail given the concentration of responsibilities. In terms of legal advice, the majority was adverse to the new modality in which the PR will subcontract consultants in detriment of the **citizen monitoring** strategy used by prior PR.

Proposals for Bottlenecks, Table 2:

Action	Timeline	Responsible
Follow up the quality of expenditures as part of the initiative Public Monitoring and include financial data in the dashboards; not limit social auditing to programmatic activities.	Short	Civil Society stakeholders, MCP M&E Committee, others
Periodic training to HIV multifunctional educators (courses, monthly debriefings, in-service support and supervision	Short	PR INCAP with potential support from external partners
Review budget allocations for legal advice and advocacy in human rights of KP and Positive People	Median	Global Fund - PRs - CCM
Stakeholders involved in revision of ToR for consultancies on human rights advocacy to provide input and be fully informed, for example for the consultancy for Public Monitoring given the experience of KP NGOs on the subject	Short to Median	PR INCAP - Red Legal - CCM

Table 3: New CCM: What is expected?

Participants (not current members of the CCM for objectivity purposes): MoH (System for Provision of Health Care Services - SIAS), PR-INCAP, three HIV NGOs, Ministry of Education, Health Prosecutor Office, PEPFAR

Following Q&A Guide, the first issue discussed was the effect of recent changes in the structure of the CCM on program grants. The consensus was that it is too early to assess effects since the reform of the CCM took place in the last quarter of 2018. It was mentioned that civil society groups are undergoing adaptation issues because there was a drastic reduction from having representatives from each KP sector (total of 5 sectors) to only one representative all the for HIV KP sector.

Concerning the extent in which communication between the CCM members and their bases changed, the majority expressed it had not improved. The person from the TRANS sector expressed that one representative for all KP sectors was not practical and unrealistic for communicating CCM decisions and for expressing opinions directly concerning one sector. There was also some criticism to the Secretariat of the CCM on delays in communicating meeting agendas and other issues.

The future of the CCM prevailing when the Global Fund grants end found generalized skepticism. The consensus was that there is a high possibility of the CCM not continuing to exist once there is no support from the Global Fund. "When the GF is gone, we will not have a CCM anymore. We will need a high level of commitment to keep it going since it is volunteer-based. "Some people expressed that there would be no purpose for this committee after the GF is gone.

The CCM Evolution initiative intends to improve the capacities of the CCM in Guatemala and provide tools for sustainability.

Proposals for Bottlenecks, Table 3:

Action	Timeline	Responsible
Draft a communication plan for the CCM Board and the Assembly	Short	CCM with potential support from external partners
Follow up on the results of the CCM Evolution initiative which has been working in Guatemala	Ongoing execution	CCM Evolution consultants CCM
Transition out of GF-linked CCM to a nationally-run organization such as CONASIDA in charge of coordinating the HIV national response	Median to long	CCM, Civil Society, MoH
Come up with strategies to promote the organization of persons affected by TB and malaria to achieve effective advocacy	Median	National TB Programa and National Sub Program of Malaria External partners

Table 4: Immediate challenges of parallel information systems

Participants: MoH-National Lab & the Epidemiology Department, PNT, PR INCAP, HIV NGO (#1 SOMOS), CDC CAR/PEPFAR, Ombudsman Office, CCM representative (CDC)

There was consensus that the national HMIS does not guide the response to the HIV epidemic. It is useful for decision-making in matters such as ordering and distributing ARVs, but not for strategic interventions. There are at least three HIV parallel systems at different levels but they are not trustworthy enough to be used for strategic planning and response. There is no group that verifies the data; “no strategy to help us get rid of the HIV epidemic and reach 90-90-90.” Community workers mentioned that the UAs generate data that should be used more efficiently to care for KP, but the national HIV program does not use the data. The CDC representatives mentioned they have provided data to the HIV program but it has helped to draft the FRs but not necessarily for implementation of information based actions.

None of the HIV parallel systems interoperates with the HMIS. The parallel systems were created as a tool to report indicators and goals to donors, but have evolved to be “official” systems for the three programs. “Our parallel system works better than SIGSA since we can maintain it and adjust it to our needs while SIGSA is far from meeting our current information demands.”

The TB program is satisfied with the way their parallel system works. “It is useful and there is one system that covers the whole country.” As is the case with HIV, it does not relate to HMIS (SIGSA). The malaria program is expected to have their parallel databases incorporated into the SIGSA malaria module by 2019, an effort supported by CHAI.

The group provided a series of recommendations to address the reform and integration of parallel systems, but emphasized the need for a willingness from the MoH to undergo a profound reform.

Proposals for Bottlenecks, Table 4:

Action	Timeline	Responsible
Allocate adequate budget to restructure the information systems under the rectorship of the MoH	Median	MoH Minister of Finances Congress of the Republic
If it is not possible to have one single information system, at least there should be standardization and inter-operability between the main parallel systems and the HMIS in a multi level scope	Median	MoH by close coordination between SIGSA (HMIS) & heads of national programs/subprograms (for programmatic specificities)
The PR & SIGSA should implement the necessary modifications so data related to KP and KVP is readily identifiable and incorporated into HMIS	Short, some ongoing actions	SIGSA - PR INCAP - National Programs /Subprograms Other experts/consultants from external partners

Table 5: Community response

Participants: MoH (#4- DAS Escuintla), HIV NGO (#3-SOMOS), PR INCAP, CCM Representative (ASOPATB), Malaria Volunteers (#2), CHAI, TERG Senior Advisor

Community participation will improve in the measure that people trust public institutions; volunteers and technicians need more training and financial support, for example, for technicians need transportation to work sites to supervise volunteers, replenish supplies and collect samples. Community organization is another issue: if not well organized they cannot participate in a systematic way. Communities have become used to donor support, but there are no training processes for sustainability. “We are getting accustomed to relying on others, instead of solving it ourselves. We have also lost a sense of volunteerism; if there is no pay, people are reluctant to cooperate.”

The government and NGOs have failed to provide timely and accurate information to community residents and stakeholders. If the community is not aware of the problems and solutions, they do not become interested or engaged. There was a discussion on the need to increase financial resources for community work, produce friendly materials in local languages, and the need for the MoH to regain the trust of the population by being consistent and showing tangible results.

Proposals for Bottlenecks, Table 5:

Action	Timeline	Responsible
Increase resources for community health work	Short to Medium	MoH, with support of local and external partners (for example the Global Fund, CHAI, PAHO, others)
Provide training on health topics to community workers, building on resources available in the communities (i.e. women and youth organized groups, municipal funds, ongoing projects, etc.)	Short to Medium	Health Offices at department & municipal level (DAS), municipalities and other local partners
Publish materials in friendly formats and simple relevant contents in native languages	Medium	MoH, with support of external and local partners

Action	Timeline	Responsible
Improve the coordination between public institutions and local entities to improve community work, for example building up on women's leadership	Medium	Health Offices at department & municipal level (DAS), municipalities and other local partners
Systematize successful experiences of community response groups	Medium	MoH, with support of external and local partners

Chapter 7. Plans for 2019

The PCE will continue to use both the evaluation and results chain frameworks to measure inputs, outputs and outcomes for the three diseases. In the period 2018-2019, the transition to a new HIV PR and the initiation of new TB and malaria grants allowed for prospective tracking of grant closeout and early implementation activities. Taking into consideration the results obtained thus far, several areas warrant further review by PCE in 2019, including:

- Continuous monitoring of early implementation of the HIV and malaria grants and continuing to follow the TB grant based on the business model of the Global Fund, for example assess the following areas of interest:
 - The evolving role of the reformed CCM in implementation and oversight, given the recent CCM re-engineering process and the launch of the CCM Evolution pilot
 - Implementation of the STC policy, especially for TB and malaria which will be transitioning out of Global Fund support in a few years
 - Follow up the STC plan for HIV with emphasis on takeover by the government of the prevention components currently funded by external agencies
 - Track the implementation of laboratory logistics master plan for TB in the upcoming 2019-2022 TB grant
 - Assess the integration and implementation of services for TB/HIV co-infection
- Deep dives on the links between activities and results along the chains of results to help explain the observed trends in selected topics to be agreed upon with national programs and HIV PR.
 - Assess of community response component: a) performance and support of malaria volunteers; b) outcomes of external consultants implementing human rights activities and c) results in active case detection by scaled-up outreach staff
- Continue to work in root cause analysis to understand the barriers and facilitators of the implementation of malaria and HIV
 - Follow up the impact of investments in health information systems in the three diseases
 - Value for money analyses
 - Assessment of the implementation gender responsive activities
 - Follow and provide technical assistance, if possible, to surveys on prevalence and KP size estimates planned for 2019-2020.
- Timely feedback to the main stakeholders as PCE advances in deep dives and other topics.
- Impact analysis based on mathematical models and structural equations when there are complete series of data from the sub national level.
 - Alternative models (e.g. causal inferences) when complete data series are not available
 - Statistical correlations between adjacent elements of the results chain (e.g. resources vs. products, products vs. coverage, etc.

References

1. The Global Fund. Eligibility List 2018 [Internet]. 2018. Available from: https://www.theglobalfund.org/media/7214/core_eligiblecountries2018_list_en.pdf?u=63673740803000000
2. Guatemala — MEASURE Evaluation [Internet]. [cited 2018 Nov 30]. Available from: <https://www.measureevaluation.org/countries/guatemala>
3. Herrera S, Ochoa-Orozco SA, González JJ, Peinado L, Quiñones ML, Arévalo-Herrera M. Prospects for Malaria Elimination in Mesoamerica and Hispaniola. *PLOS Neglected Tropical Diseases*. 2015 May 14;9(5):e0003700
4. RCM Elimination of Malaria in Mesoamerica and Hispaniola Island (EMMIE). The Global Fund;
5. World Health Organization. World Malaria Report 2017 [Internet]. 2017. Available from: <https://www.who.int/malaria/publications/world-malaria-report-2017/report/en/>
6. Danel I, La Forgia FM, La Forgia GM. Contracting for basic health services in rural Guatemala – comparison of performance of three delivery models, Health system innovations in Central America: lessons and impact of new approaches [Internet]. World Bank; 2005. Available from: http://www.who.int/management/country/latinamerica_caribbean/HealthSystemInnovatonsCentralAmerica.pdf#page=61
7. National TB Program, Guatemala Ministry of Health. Funding request for TB to the Global Fund. 2018
8. Malaria sub-program, Guatemala Ministry of Health. Malaria Funding Request 2019-2021. 2018
9. World Health Organization. Global Tuberculosis Report [Internet]. World Health Organization; 2018. Available from: https://www.who.int/tb/publications/global_report/en/
10. PAHO. Tuberculosis in the Americas, 2018 [Internet]. 2018. Available from: <http://iris.paho.org/xmlui/handle/123456789/49510>
11. Annabel Kanabus. Information about Tuberculosis [Internet]. 2018. Available from: www.tbfacts.org
12. GBD 2017 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2018;392:10159
13. Global Tuberculosis Report 2016 [Internet]. [cited 2018 Nov 21]. Available from: <http://apps.who.int/medicinedocs/en/d/Js23098en/>
14. Manual de atención para el manejo del paciente con Tuberculosis [Capítulo II, Diagnóstico de TB]. PNT/Ministerio de Salud de Guatemala; 2018
15. Ministerio de Salud Pública, República de Guatemala. Informe de la Medición del Gasto en SIDA [Internet]. UNAIDS; 2015. Available from: http://www.unaids.org/sites/default/files/media/documents/Guatemala_NASA_2015.pdf
16. Global Burden of Disease Health Financing Collaborator Network. Spending on health and HIV/AIDS: domestic health spending and development assistance in 188 countries, 1995–2015. *The Lancet*. 2018;(391):1799–829
17. HIVOS (RP de El Fondo Mundial de lucha contra el VIH, la malaria y la tuberculosis/The Global Task Force/Tephinet/Ministerio de Salud Pública de Guatemala. MEDICION de prevalencia, comportamiento, actitudes y prácticas en poblaciones de mayor riesgo en Guatemala, 2017

18. Ministerio de Salud Pública, República de Guatemala. Estudio de conocimientos, actitudes y prácticas sobre malaria en áreas de salud intervenidas por el proyecto iniciativa multisectorial para implementar y consolidar las estrategias de prevención y control para la pre-eliminación de la malaria en Guatemala. Gobierno de la República de Guatemala, 2017
19. Garmaise D. Global Fund Board approves funding for two country grants, a multi-country grant and 10 matching funds requests [Internet]. Aidspan, independent observer of the Global Fund; 2018. Available from: http://www.aidspan.org/gfo_article/global-fund-board-approves-funding-two-country-grants-multi-country-grant-and-10
20. Plan Estratégico Institucional. Ministerio de Salud Pública y Asistencia Social; 2018
21. Guatemala Ministry of Health. Plan Estratégico Nacional para la Prevención, Atención y Control de ITS, VIH y Sida 2017-2021. Ministerio de Salud Pública y Asistencia Social/Departamento; 2017
22. National HIV Program, Guatemala. HIV Funding Request to the Global Fund 2018-2021. 2018
23. Global Malaria Programme. A framework for malaria elimination [Internet]. World Health Organization; 2017. Available from: <http://apps.who.int/iris/bitstream/handle/10665/254761/9789241511988-eng.pdf;jsessionid=206FD4E1A46519FF49CE296C5147E380?sequence=1>
24. Plan Estratégico Nacional Multisectorial de Tuberculosis 2019-2023. Ministerio de Salud Pública y Asistencia Social; 2018
25. Global Fund. Projected Transitions from Global Fund support by 2025- projections by component [Internet]. Global Fund; 2018. Available from: https://www.theglobalfund.org/media/5641/core_projectedtransitionsby2025_list_en.pdf?u=636737407970000000
26. Guatemala | World Prison Brief [Internet]. [cited 2018 Nov 21]. Available from: <http://www.prisonstudies.org/country/guatemala>
27. Postma S, Rock J. Consultant Report on TERG/RSSH Evaluation of Eight Countries. Technical Evaluation Reference Group;
28. PAHO. Control de la tuberculosis en grandes ciudades de Latinoamérica y el Caribe. Lecciones aprendidas. 2016
29. Transactions Reported to the PQR [Internet]. The Global Fund; Available from: https://bip2-ext.theglobalfund.org/analytics/saw.dll?Dashboard&nqUser=PQRExternalUser&NQPassword=PQR_public_user&PQRLANGUAGE=en&PortalPath=/shared/PQR%20External%20Users/_portal/PQR%20Public&page=Search%20Transactions&syndicate=siebel
30. Paper on Country Ownership, draft. The Technical Evaluation Reference Group of the Global Fund; 2018
31. Alarcón E, Rodríguez M, Castañeda X, Ramírez L, Cano S, Hesse AL, et al. Visita del rGLC al Programa Nacional de Control de Tuberculosis de Guatemala: Conclusiones y Recomendaciones Preliminares. Pan-American Health Organization; 2018
32. Global Tuberculosis Report: Guatemala Tuberculosis Profile 2017 [Internet]. World Health Organization; 2018. Available from: https://extranet.who.int/sree/Reports?op=Replet&name=%2FWHO_HQ_Reports%2FG2%2FPROD%2FEXT%2FTBCountryProfile&ISO2=GT&LAN=EN&outtype=html
33. Dicker D, Nguyen G, Abate D, Abate KH, Abay SM, Abbafati C, et al. Global, regional, and national age-sex-specific mortality and life expectancy, 1950–2017: a systematic analysis for the Global Burden of Disease Study 2017. The Lancet. 2018 Nov 10;392(10159):1684–735.
34. Modular Framework Handbook [Internet]. The Global Fund; 2017. Available from: https://www.theglobalfund.org/media/4309/fundingmodel_modularframework_handbook_en.pdf

Annexes

Annex I. Progress of the PCE in Guatemala, 2018

Areas	Processes/Activities
Support to Country Evaluation Team (CEP) by Global Evaluation Partner (GEP) and the Global Fund	<ul style="list-style-type: none"> - Consortium weekly Skype conference calls - GEP and CEP monthly Skype conference calls for capacity development on specific topics and joint data analysis - Data analysis and writing workshops (three 5-day workshops) - Consultations with TERG focal points on a periodic basis
Development of Methods	<ul style="list-style-type: none"> - Development of HIV, TB and Malaria results chain - Assessment on how to better address Country Ownership and Community Rights - Refine and adapt question bank for Key Informant Interviews (KII) for Global Fund strategic objectives and thematic areas - Creation of codebooks for qualitative coding
Evaluation of Processes	<ul style="list-style-type: none"> - KIIs - Document review (PR implementation maps, Technical Review Panel (TRP) reviews, ToR for CCM reform, PR & SR budgets, PR PU/DR and dashboards, CT travel reports, grant-rating tools, etc.) - Non-participant observation of key meetings
Resource Tracking/ Output and Outcome Measurement/ Impact Evaluation	<ul style="list-style-type: none"> - Analysis of vital registration records to improve estimations of the burden of TB - Baseline measurements of TB results chain - Analysis of HIV testing and treatment data from SIGSA (HMIS) and SIGPRO - Analysis of the bed nets database and malaria case notifications - Analysis of Global Fund budget data and PU/DRs, and Guatemala health accounting system (SICOIN)
Reporting and dissemination	<ul style="list-style-type: none"> - Presentation at the TERG meeting in Geneva (May) and in Myanmar (September) - Annual Report 2018 disseminated to stakeholders, both online and hard copy - Dissemination of thematic videos to stakeholders - CIESAR website updated regularly - CIESAR, CCM, and MoH organized a meeting for HIVOS SRs to present to new PR (INCAP) on different approaches to address KVP - Two meetings with High Level Advisory Panel, according to the periodicity established in the collaborative agreement (March and December)

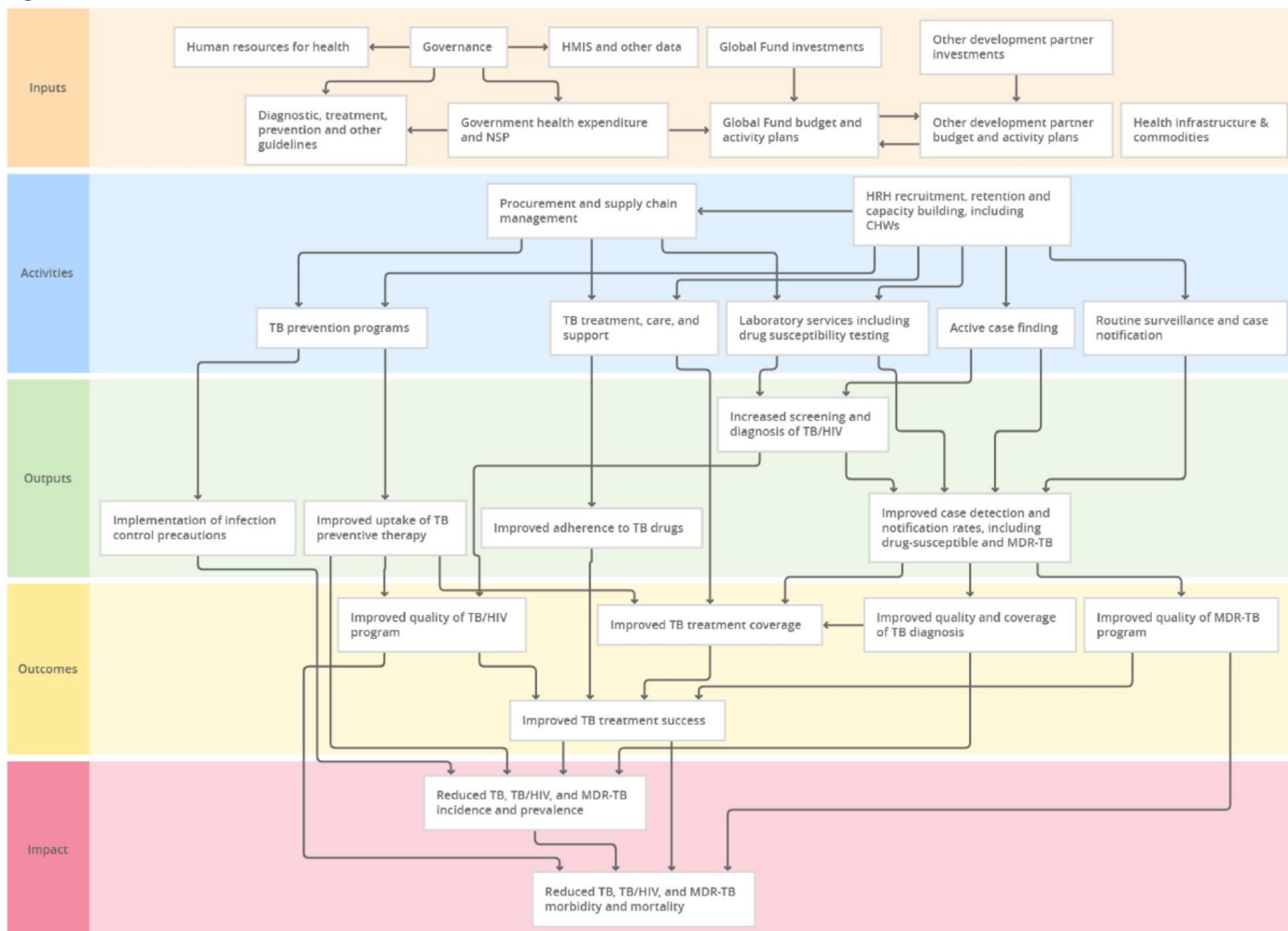
Annex II. EQs linked to Global Fund

Thematic Area	No.	Evaluation Question
Value for Money	EQ14	To what extent does the process for determining investment priorities and resource allocations result in grants strategically designed to deliver effective implementation? What are the barriers and facilitators to achieving outputs and outcomes?
	EQ18 & EQ24	How effectively does Global Fund resources move from global to national to sub-national levels? What are the trends and distribution of Global Fund resources (inputs), and how do they compare with need?
	EQ11	To what extent do Global Fund resources contribute to improvement in health outputs and outcomes for HIV, TB and malaria?
Country Ownership	EQ17	How have reforms in country-level implementation models and strategies contributed to improving program efficiency and effectiveness
RSSH	EQ19	How do Global Fund investments contribute to building resilient and sustainable systems for health?
Partnership	EQ29	What are the facilitators and barriers to the CCM functioning effectively within the standards/scope as defined by the Global Fund business model?
Sustainability, Co-financing & Transition	EQ27	What factors influence sustainability considerations (or lack thereof) related to Global Fund investments?
	EQ12	To what extent is the Global Fund STC policy applied and contributing to preparing for sustainability and transition?
	EQ26	What are the drivers of consistently low rates of absorption (financial execution) of Global Fund investments?

Annex III. TB Results Chain

The Prospective Country Evaluation (PCE) developed three results chains as an analytic framework to explain how Global Fund support connects to health outputs, outcomes and impact for HIV, TB, and malaria. The boxes within the results chains are primarily measured through quantitative data analysis and are **referenced in bold text** throughout this annex; the arrows connecting the boxes explain how or why one box leads to the next and are primarily evaluated using qualitative data sources.

Figure 1: TB Results Chain



The quantitative analysis of the components of the TB results chain for Guatemala are presented here with definitions that correspond to Global Fund Modular Framework indicators for activities, outputs, outcomes, and impact. (34) Inputs do not have corresponding indicators in the Global Fund. Indicators are compared against targets from the 2016-2019 Guatemala TB grant performance framework where applicable. The PCE performed a comprehensive analysis of the TB results chain in Guatemala with particular focus on components supported by Global Fund investments. Additional context for the burden of TB in Guatemala and neighboring countries is presented in Section 2.2 of the Annual Country Report.

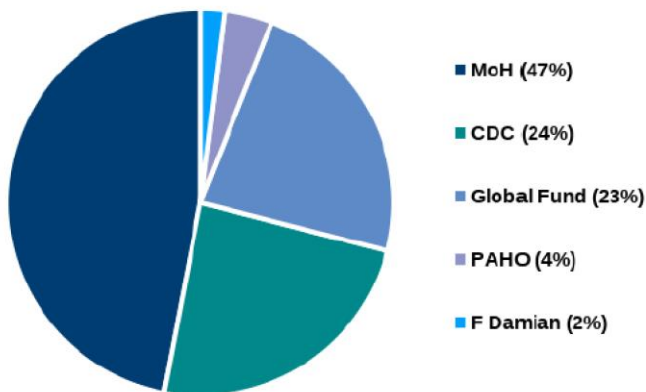
Inputs

Analysis of the inputs to the TB results chain focuses on the financial contributions of the Global Fund and other major funders for TB in Guatemala. While PCE reviewed **guidelines for the diagnosis, treatment, and prevention of TB** and MDR-TB published by the MoH to inform the overall evaluation, the analysis in this

section centers on financial inputs. The following figures show the relative contributions of the Global Fund and other funders to overall spending on TB in Guatemala in 2018 (Figure 2) and historically (Figure 3), and the breakdown of major budget categories for the Global Fund TB grants in Guatemala (Figure 4).

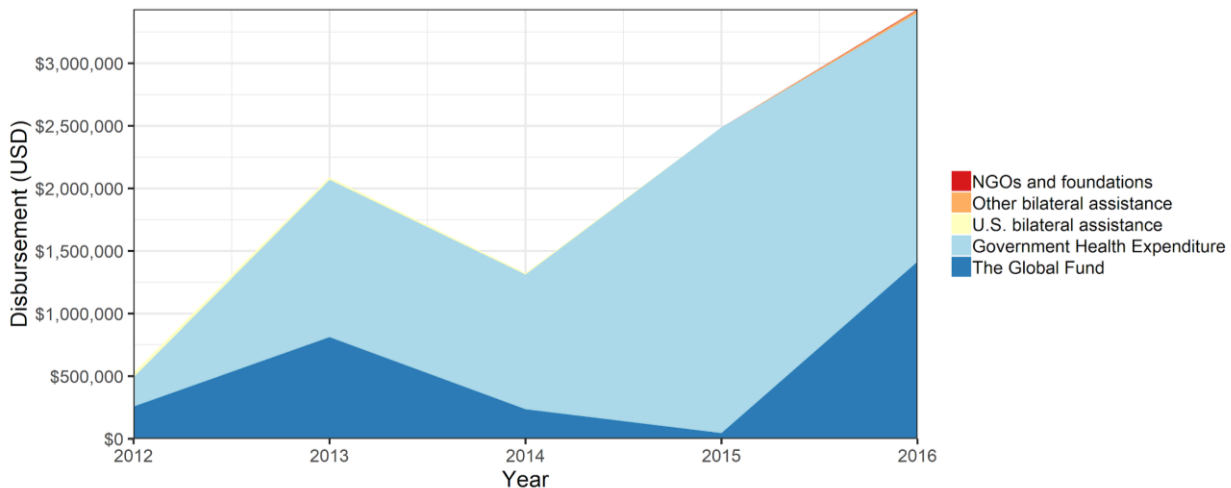
The Ministry of Health (MoH) funds the largest share of TB spending in 2018, representing 47% of funding, whereas the Global Fund represented 23% of funding. This share has been largely consistent over time, as seen in Figure 3, with the MoH representing the bulk of TB spending from 2012-2016¹⁷.

Figure 2: Global Fund versus other funder spending for TB in Guatemala, 2018



Source: National TB Program Funding Landscape/Funding Request 2019-2022, produced by PCE team

Figure 3: Funding Landscape for tuberculosis, 2012-2016



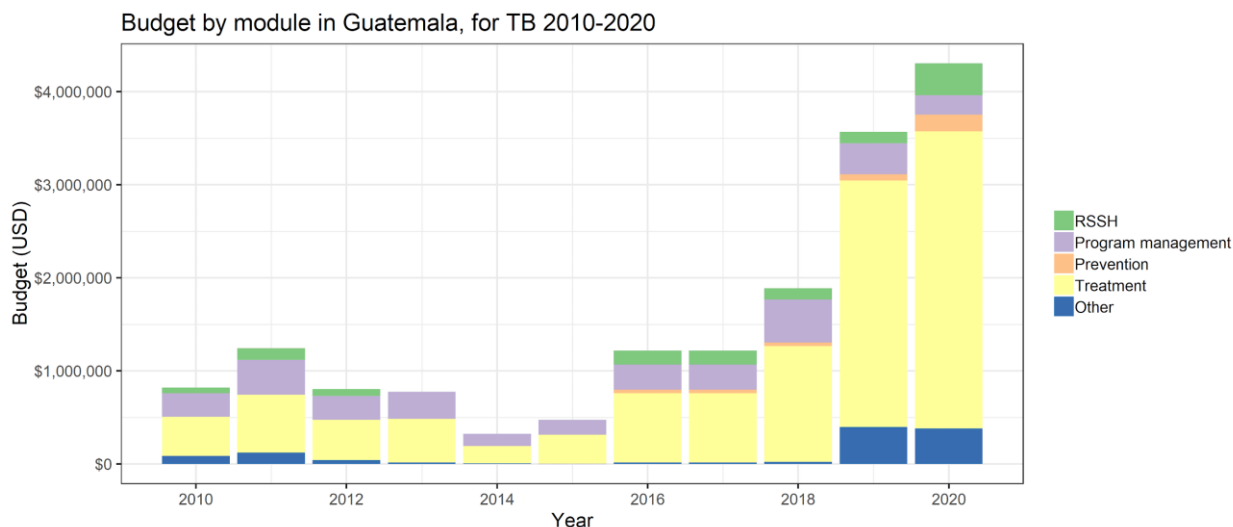
Source: IHME Financing Global Health 2016

The PCE is also tracking budgets from previous grant cycles, in addition to the current 2016 - 2019 grant, in order to assess longer-term trends in Global Fund contributions to program outputs. Figure 4 displays these trends aggregated into broader categories (see Annex X for full table categorizing modules/interventions into these five categories).

¹⁷ Data only available through 2016

As seen in Figure 4, the overall amount allocated to TB has been increasing since 2010, with the largest share of the increase going to the treatment category (US\$1.9 million in 2010 to US\$756.3 million budgeted for 2020). The main treatment categories that have been funded since 2016 are case detection and diagnosis (US\$4.9 million) and MDR-TB (US\$2.2 million). Further disaggregation into budget modules for TB/HIV and MDR-TB is shown in Section 3.1 of the Annual Country Report. There has also been an increase in the amount of RSSH funds, going from a low of 0% in 2014 and 2015 to 7.9% of the planned budget for 2020. These RSSH interventions are primarily focused on HMIS and procurement and supply chain management systems.

Figure 4: Major budget categories for Global Fund TB grants in Guatemala



Source: Global Fund budgets

Activities

The PCE investigated activities corresponding to all of the boxes shown in the activities section of the results chain diagram and linked them with Global Fund modular indicators where applicable. To begin, process evaluation revealed that **procurement and supply chain management systems** are maintaining function due to strategies that anticipate the long procurement process for TB drugs and diagnostics; corresponding to indicator TCP-4, there were no units reporting stock-outs of TB drugs during the period of analysis. A detailed process map and discussion of supply chain management, including the QuanTB software for TB drug demand management, are described in Section 4.2 of the Annual Country Report.

Analysis of **human resources for health (including community health workers - CHWs)** focused on the Global Fund-supported expansion of extramural outreach teams. These teams visited the homes of TB patients in prioritized municipalities and conducted **active case detection** through symptom screening among close contacts of TB patients. Outreach teams identified an additional 138 persons with TB (11%) in 2017 beyond persons identified through routine surveillance. Outreach teams also visited persons with TB to support their treatment adherence. The number of outreach teams will be expanded from nine in the current grant to twenty-two in the 2019-2022 grant.

TB treatment, care, and support activities included engagement by outreach teams of persons with TB to support adherence to therapy. Additional activities included establishing patient peer support clubs, peer groups for directly observed therapy, and providing medication for side-effects of TB therapy to promote patient adherence. The Global Fund also supported purchase of second-line medications for treatment of MDR-TB.

TB prevention activities investigated by PCE include (1) provision of isoniazid preventive therapy (IPT) to children under the age of 5 who are contacts of patients with bacteriologically confirmed TB, provision of IPT to all PLHIV, and infection prevention training. Outputs for both of the IPT activities are tracked per the performance framework of the 2016-2019 grant and are shown in the section corresponding to outputs below. Infection control activities are discussed together with their corresponding outputs in the section below.

Activities for **laboratory services, including drug susceptibility testing (DST)**, were a major focus of Global Fund investment during this period through scale-up of Xpert MTB/RIF diagnostic capacity. Laboratories were provided with GeneXpert machines and training starting in 2015 with the technical and financial assistance of Tephinet and the Centers for Disease Control (CDC), and scaled up in 2016 with Global Fund investment. Currently, there are 20 laboratories with GeneXpert machines, 15 for TB, out of which two are used for TB and STIs, and five are for HIV.

Routine surveillance and case notification systems were also analyzed by PCE. This included in-depth on-site investigation of how data are entered into HMIS case notification systems, TB treatment cohorts, and laboratory reporting systems. Understanding these processes and the limitations of each data source inform their analysis for the subsequent sections of the TB results chain.

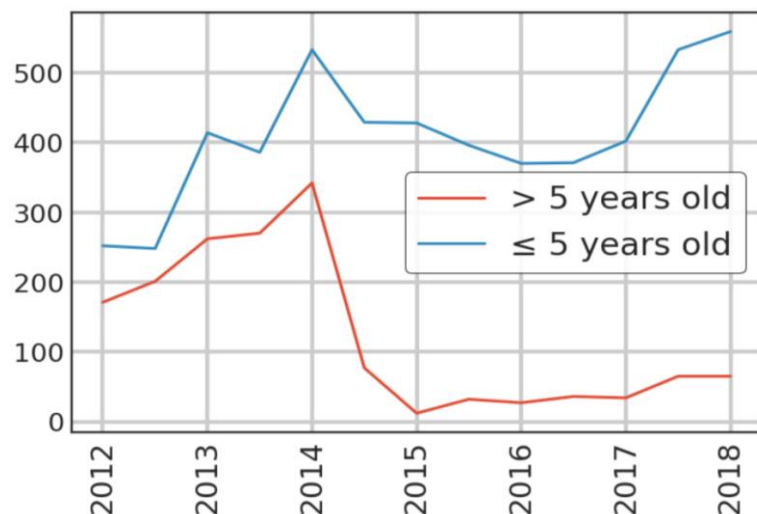
Outputs

The activities in the section above translated to priority outputs in several key domains. Reflecting **increased screening and diagnosis of TB/HIV**, more than 95% of persons with TB had an HIV-test documented (TB/HIV-5). This value exceeds the three-year target of 92% in the performance framework. However, only 50% of PLHIV were screened for TB.

Implementation of infection control precautions is emphasized in both the current TB grant and the upcoming 2019 - 2022 grant. Current grant activities and outputs include printing and disseminating TB infection control guidelines for comprehensive HIV healthcare units, purchase of supplies, material and equipment for infection control, and facilitation of seven workshops for healthcare providers on infection control practices. Infection control investments will be expanded in the upcoming grant, with an increase in the budget allocation from US\$26,000 to approximately US\$94,000 (final budget under review). Expanded infection prevention efforts will include integration of a module on TB infection prevention into a diploma for healthcare providers, purchase of infection prevention supplies for the laboratory network, and an expanded set of workshops to train multidisciplinary healthcare staff in TB infection control.

TB prevention outputs corresponding to indicators for the number of children under 5 in contact with TB patients who initiated isoniazid preventive therapy (IPT)(TCP-5) (Figure 5), and the number of PLHIV who initiated IPT (TB/HIV-4.1). Counts of children started on IPT who were household contacts of patients with known TB are shown in Figure 5 by six-month interval to incorporate data from January through June of 2018. The annual total in 2017 was more than 900 children who were under five years old. The time trend indicates a shift starting in late 2014 to focus on children under the age of five, which is consistent with the Global Fund modular indicator TCP-5 and the indicator in the performance framework. If the trend from the first half of 2018 continues, more than 1000 children would be expected to receive IPT in all of 2018. This is an estimated 48% coverage for childhood contacts under five years. (31)

Figure 5: Number of children <5 in contact with TB patients who began IPT

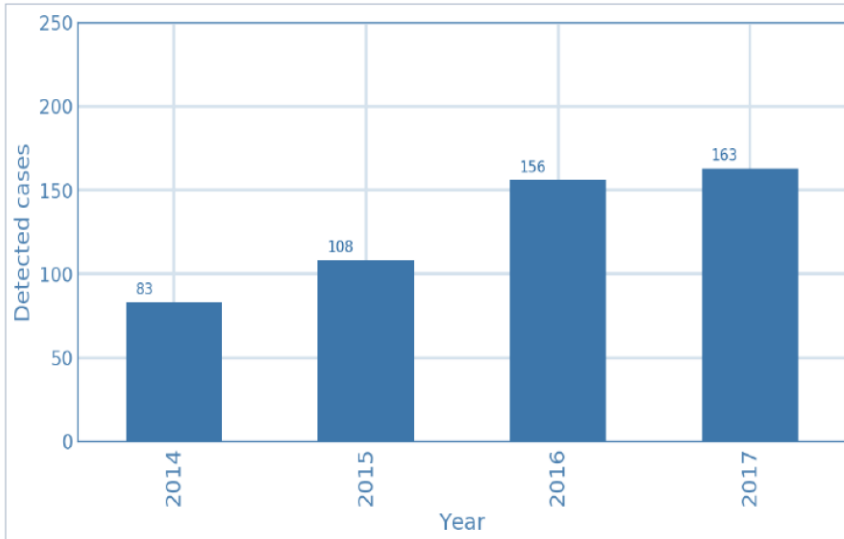


The proportion of PLHIV newly initiated in care who initiated IPT in 2017 was 28%, which is a substantial increase from the 3% reported in 2016, as reported to the Global TB Programme. (32) Still, this figure is below the 50% three-year target set in the performance framework, and represents an additional opportunity to prevent active TB disease in PLHIV. However, the report of the Green Light Committee indicated IPT coverage in PLHIV of 67%. (31) This discrepancy will be further investigated by PCE.

Outputs corresponding to **case detection** included the use of DST. Notifications data indicate that 12.1%, 14.7%, and 13.7% of new and relapse TB patients were tested using Xpert MTB/RIF, a WHO-recommended rapid test, at the time of diagnosis in 2016, 2017, and the first six months of 2018, respectively (TCP-8). It also reflects the percentage of TB patients with a DST result for at least rifampicin (MDR TB-6), as Xpert MTB/RIF is the primary technique used for DST in Guatemala. From 2016 to the first semester of 2018, the number of Xpert tests increased from 7317 to 8325 as reported by the National TB Program). PCE will review final 2018 notifications data as they become available to investigate whether the increasing number of Xpert tests translated into a greater identification of positive cases. The grant Performance Framework also includes data on the proportion of previously treated patients who receive a DST, which was reported at 57% in 2017. (7)

TB surveillance and case notification outputs included notification of 3,445 persons with new or relapsed cases of TB in 2017 (TCP-1M), including 163 cases identified in 2017 among the key population of prisoners (TCP-6a, Figure 6) (National TB Program). Increases in cases identified among prisoners reflect substantial Global Fund investment in diagnostic tests (Xpert) and health services for these members of a key and vulnerable population. Data for cases notified among other high-risk population groups (TCP-6b) were not available for examination during this period and are not specifically tracked by the performance framework.

Figure 6. TB cases detected among incarcerated persons, 2014 -2017

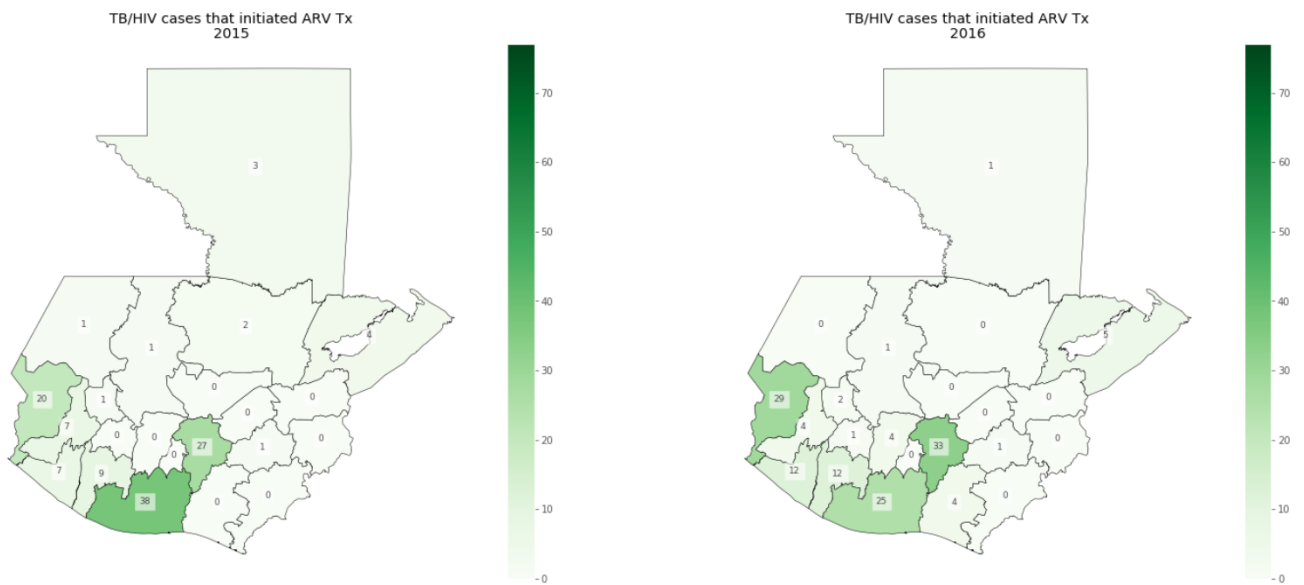


Source: National TB Database, 2017, produced by PCE

Outcomes

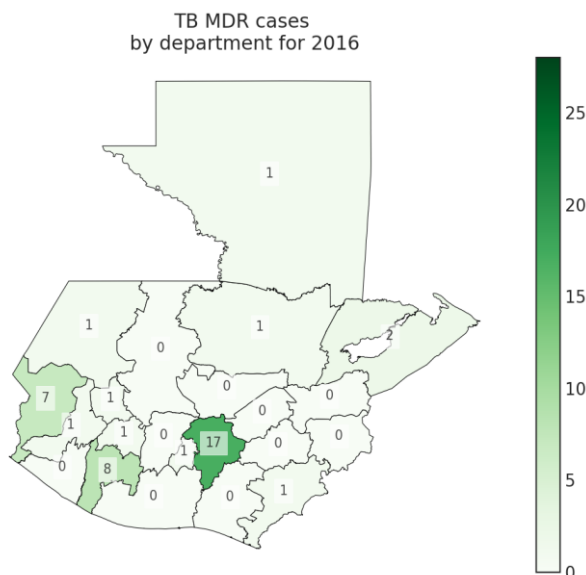
Analysis of the **quality of the TB/HIV program** included assessment of the proportion of persons with known TB/HIV co-infection taking ART, which is tracked in the performance framework. Seventy-six percent of patients with known TB/HIV co-infection were initiated on ART in 2017. This is lower than the 86% rate reported in 2016, and falls short of the 96% three-year target in the performance framework. (40,41) TB/HIV patients initiating ART showed similar sub-national patterns in 2015 and 2016 (Figure 7). The proportion of PLHIV initiated on IPT, as referenced above, was also falling short of targets, indicating a second opportunity for improvement within TB/HIV. TB/HIV treatment success is discussed below in Figure 7.

Figure 7: TB/HIV patients initiating ART in 2015 and 2016, by department



As discussed in the Inputs section above, the MDR-TB module reflected substantial Global Fund investment. Global Fund investments supported diagnosis of MDR-TB through scale-up of Xpert (as discussed in Outputs) and treatment of MDR-TB through purchase of second-line medications. MDR-TB cases showed substantial geographic concentration in 2016, with only three departments reporting more than one MDR-TB cases)) (7, 8 and 17) (Figure 8)

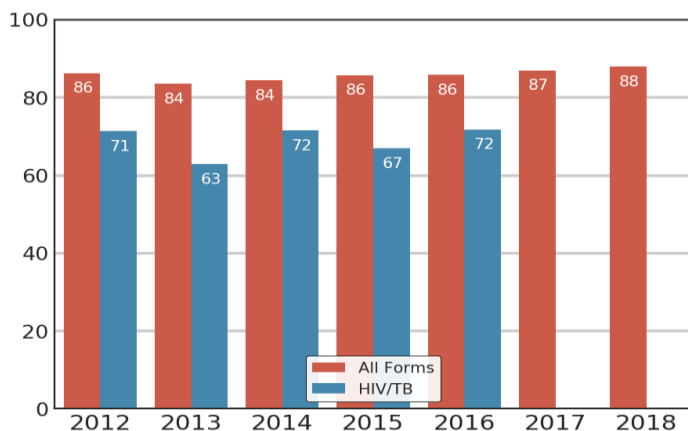
Figure 8: Geographic Distribution of MDR TB cases



TB treatment coverage, which is defined as the percentage of new and relapse cases that were notified and treated among the estimated number of incident TB cases in the same year (TB O-5M), varies substantially depending on whether WHO or GBD estimates are used for the denominator. It varies from 3445/4300 (80%) according to WHO estimate to 3445/3473 (90%) according to GBD (12,32). This indicator is no longer tracked in the grant performance framework.

Among patients who are diagnosed with TB and started on treatment, PCE documented consistently high **treatment success rates**, which are nearing the targets in the performance framework and the WHO End TB Strategy of >90% treatment success (Figure 10). Treatment success rates are lower among TB/HIV co-infected persons, as shown below. Treatment success data are not yet available for 2017 and 2018 for persons with TB/HIV co-infection.

Figure 9: Comparison of Treatment Success in TB and in HIV/TB co-infection, 2012-2018

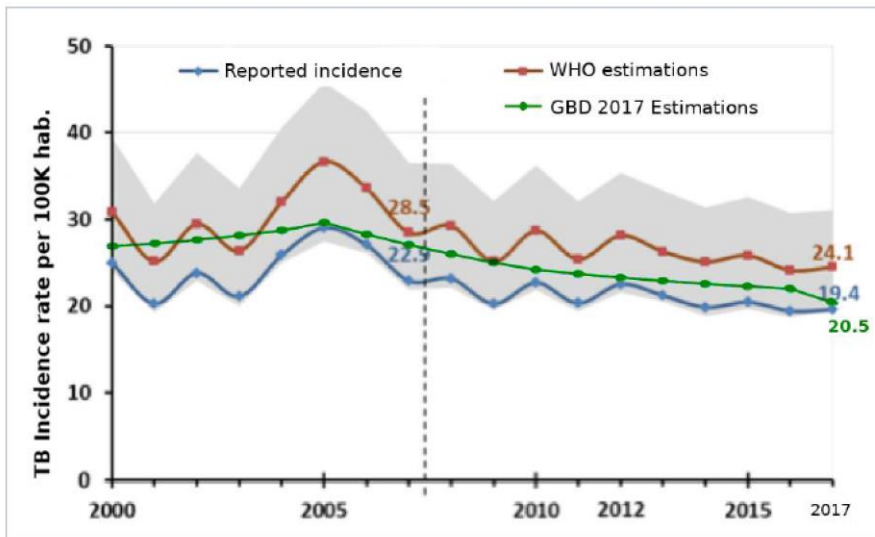


Source: National TB Program cohort database, produced by PCE team

Impact

PCE analyzed estimates of TB and TB/HIV incidence, prevalence, and mortality produced by WHO and the Global Burden of Disease Study (GBD) and compared with TB case notifications and vital registration data. **TB incidence** is declining gradually in Guatemala, with an estimated 24.1 per 100,000 persons in 2017 (WHO) or 20.5 per 100,000 persons in 2017 (GBD) (Figure 11), TB I-2. (12,32) TB cases detected and reported nationally (3445 new and relapse cases in 2017) yield a case notification rate of 19.4 per 100,000 persons shown in blue below, that is lower than the GBD and WHO incidence estimates by 5.3% and 19.5%, respectively. (12,32) These figures include TB cases in PLHIV and people without HIV infection. Of these new cases, 2.3% (0.79 - 4.5) are reported to have rifampicin resistance or multidrug resistance [TB I-4 (M)].

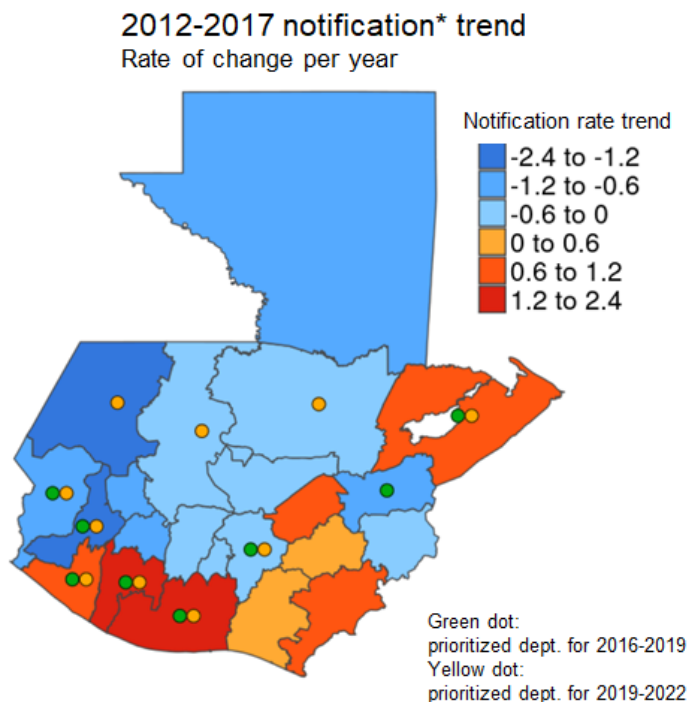
Figure 10: WHO/GBD estimates and NTP notified cases database



Source: Graph taken from TB Funding Request and modified by PCE to include GBD estimates

PCE analyzed changes in sub-national case notification rates during this period (Figure 11). Circles within geographic areas indicate areas prioritized for national TB program activities during the 2016 - 2019 (green dot) funding period or during the 2019 - 2022 (yellow dot) funding period. The areas with the highest rates of increase in case notifications corresponded to areas prioritized by Global Fund investments for case detection activities, although there were also prioritized areas where case notifications fell during this period. PCE will continue this sub-national analysis as 2018 case notification data and the 2018 yield from the case detection teams become available.

Figure 11: Sub-national changes in TB case notification rates

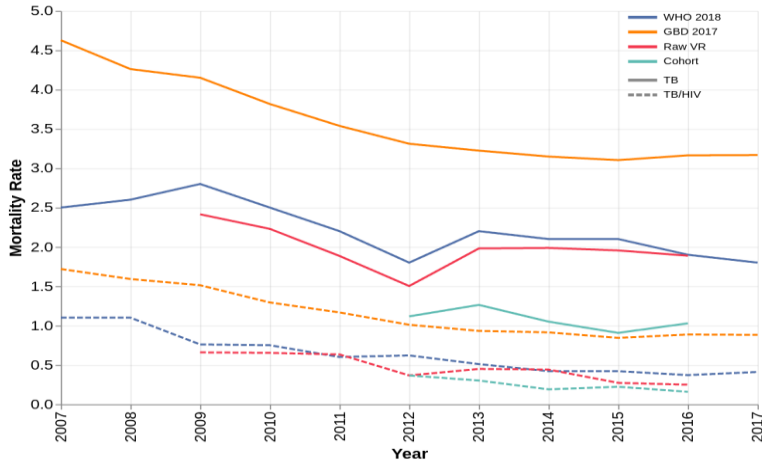


Source: PCE analysis of TB case notifications database

Estimates of **TB prevalence** did not substantially change during 2015 to 2017 (TB I-1). TB prevalence is not directly measured by household surveys in Guatemala, but is estimated by GBD and WHO from the models of mortality and incidence. Estimated prevalence of drug-susceptible TB among people without HIV was 7.1 cases per 100,000 population (6.4 - 8.0) in 2015 and 7.3 per 100,000 (6.5 - 8.2) in 2017. Prevalence of MDR-TB was 0.2 cases per 100,000 persons (0.04 - 0.6) in 2015 and 0.2 cases per 100,000 persons in 2017 (0.03 - 0.7). Prevalence of HIV-TB co-infection (all resistance categories) was 1.6 per 100,000 persons in 2015 and 1.5 per 100,000 in 2017. (12)

Estimates of **mortality** due to TB and TB/HIV co-infection have declined in Guatemala in the past decade I-3(M), TB/HIV I-1 (Figure 13). PCE evaluated estimates of mortality made by WHO and GBD, as well as deaths reported by two data systems, the vital registration system and the national TB program treatment cohort. WHO estimates that TB mortality in persons without HIV infection declined from 2.5 (95% CI 2.3 - 2.6) per 100,000 in 2007 to 1.8 (95% CI 1.7 - 1.9) in 2017, and TB/HIV co-infection mortality declined from 1.1 (95% CI 0.8 - 1.6) per 100,000 in 2007 to 0.4 (95% CI 0.3 - 0.5) in 2017.(40) GBD estimates also show a decline, but have higher values than WHO at both time points, 4.6 (95% CI 4.4 - 4.9) per 100,000 in 2007 and 3.2 (95% CI 2.7 - 3.9) in 2017 for TB in persons without HIV infection.(33) TB mortality estimations by WHO and GBD are consistently higher than the deaths captured by the TB treatment cohort database, which would not include persons whose TB disease was diagnosed at death (Figure 12).

Figure 12: TB and TB/HIV mortality rates per 100,000 by data or estimation source.

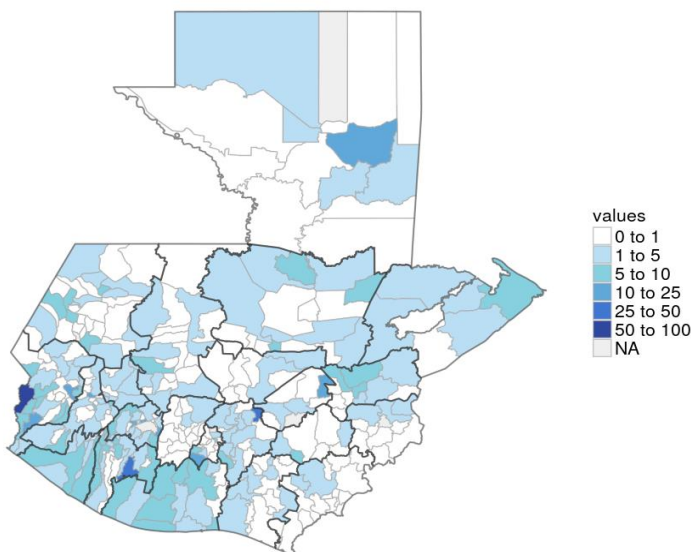


WHO and GBD report estimates of age-standardized TB and TB/HIV mortality rates per 100,000 persons annually. Raw VR is a PCE analysis of vital registration data 2009 - 2016 for deaths coded to TB and to HIV with a contributing cause of TB (HIV/TB). Cohort refers to the national TB treatment cohort database, which reports deaths in persons known to have TB who had been referred for treatment.

The GBD estimates TB and TB/HIV mortality in Guatemala using vital registration data that are proportionally redistributed for ill-defined causes of death, such as unspecified bacterial illness. This results in an estimate of TB mortality rates that are higher than those based on raw vital registration data. GBD and WHO currently provide national-level estimates of mortality; PCE also examined the sub-national distribution of TB mortality rates based on vital registration data proportionally redistributed by the GBD method (Figure 13). Further analysis of sub-national impact is planned for 2019.

Figure 13: Mortality rate of TB per 100,000 inhab, 2016.

TB 2016 Mortality Rate per 100,000 population according to IHME corrected causes of death



Data Limitations

PCE identified relevant data sources for nearly all of the components of the TB results chain. However, there were several limitations identified in data availability and comparability. First, the TB performance framework targets were adjusted in August of 2018 to better align with PAHO estimates, at the request of the country team. The progress update/disbursement request (PU/DR) associated with these adjustments is not available at the time of this submission, which creates the potential for discrepancies in reporting of progress toward targets. Second, data for several TB/HIV indicators were either delayed (treatment outcome) or had discrepant results by data source (IPT provision among PLHIV), in spite of Global Fund investments in joint TB/HIV monitoring and evaluation. PCE will closely investigate TB/HIV outcome reporting in the coming year. Finally, modeled estimates of disease burden lag the reporting year by at least a year, potentially hampering prospective evaluation of impact. PCE will continue to collaborate closely with GBD and WHO to maximize the availability of timely estimates for impact evaluation.

Annex IV. Baseline Data Sources for PCE

Disease	Description	Source	Years	Description
HIV	SIGSA AIDS Annexes A.1, C.1, D, E, F	SIGSA information request.	2014 - 2017	Information on HIV testing and treatment, including detailed information on KVP
	AIDS 1.2	HIV Program and SIGSA	2014 - 2017	HIV tests performed by public health facilities
	SIGPRO	HIV Program	2014 - June 2018	Programmatic estimates of HIV testing through community outreach with an emphasis on KVPs
Malaria	Malaria production	SIGSA information request	2014-2017	Activities and diagnosis resources delivered by the malaria program
	Case notifications	National Malaria Subprogram	2015-2017	New and relapsed malaria cases
	Bed nets distribution	National Malaria Subprogram	2012- June 2018	Distribution of bed nets
TB	Case notifications	National Tuberculosis Program	2012-2017	New, relapsed cases and prophylaxis contacts.
	Treatment cohorts	National Tuberculosis Program	2012-2016	Treatment information aggregated by type of TB and outcome
	Drugs distribution	National Tuberculosis Program	2012-2016	Drugs distribution to health areas
All diseases	SICOIN	Finances Ministry	2016-2017	Aggregated data on budgets and expenditure
	SICOIN	MoH administrative office	2014-2018	Aggregated data on budgets and expenditure

Annex V. Process evaluation data sources

Process data	No.	Description of data: January-October 2018
Key Informants Interviews	30	CCM, PR, HIV SR, MoH from the three diseases; technical partners (PAHO, CHAI), CT, MoH financial officer
Fact Checking Meetings/Calls	71	CCM, HIV SR, MoH from the three diseases, especially malaria and TB; visits to national programs for verification and collection of information (HIV, TB, Epidemiology, SIAS, logistics)
Observations	41	CCM (elections, meetings), interim CCM meetings, CT visits (May, June, September, December) National Dialogue (TB) Workshops with civil society (STC) Green Light Committee (TB) Informative meeting with SRs (INCAP) Grant Preparation phase (TB)
Document Review	47	Global Fund documents Funding requests (all forms) PU/DR PAHO documents (End TB Strategy, TB Reports, WHO End HIV, etc.) TB Manual for Treatment HIVOS and PTB documents (prevalence studies, population size estimation, human rights report, manuals) COMISCA Declaration of End of Malaria, EMMIE

Annex VI. Prioritization of departments for the national tuberculosis program

PCE Guatemala - September 2018

Introduction

The National Tuberculosis Program recently submitted a new proposal to the Global Fund for the 2019-2022 period, which includes a classification to prioritize departments and municipalities with the highest burden of tuberculosis (TB). The rationale is that the Global Fund grant will focus on these areas. The PCE team revised the methodology used by the NTP, based on information provided by the program (EXCEL documents). By reviewing said files, it was established that the prioritization could be improved if the information was processed differently.

The objective of this document is to present the results obtained from carrying out a new analysis with the information used previously by the NTP, and present a proposal for alternatives to prioritize. It is worth mentioning that whatever process is used, it is nothing more than a tool that provides options for an objective selection. However, at the end of the day, it is human judgment based on experience and knowledge of context that should guide the final selection, which cannot be restricted entirely to numerical values (indicators).

The variables

The NTP used 16 variables for the selection of departments:

1. Population density for 2015 (inhab. / Km²)	9. Results of treatment with first-line drugs
2. Incidence of TB in all its forms for 2017	10. Percentage of poverty
3. Percentage of detection of RS (persons with respiratory symptoms)	11. Percentage of indigenous population
4. Quality of sputum specimen as evaluated by the laboratory	12. Percentage of chronic malnutrition
5. Percentage of detection of pediatric TB cases	13. Percentage of illiterate population (> 15 yrs. old)
6. Prevalence of Diabetes Mellitus for 2016	14. Percentage of overcrowding in households
7. Prevalence of persons living with HIV for 2016	15. Geographic accessibility
8. Incidence rate of TB among prisoners / detainees	16. GINI Index for 2014

The NTP created a classification index with a scale ranging from 0 to 16 points, where a value of "16" was assigned to the highest priority. Each of the 16 variables had the same weight for the estimation of the index value. Subsequently, a specific value or sub index was created for each variable, ranging from "0" to "1". The sum of the 16 sub-indexes was further denominated as the **classification index**. To calculate the value of each sub index, departments were arranged by their variable values, assigning a "1" to the highest and a "0" to the lowest, while the rest of the departments were distributed accordingly and proportionally to its position. After adding all the values, a **department classification index** was obtained for each department; those with an index above 8.75 points were rated as a priority.

An analysis of the variables used to estimate the classification index led to the following findings and considerations:

a) Two variables have missing data in some departments; therefore, the sub index corresponding for those departments was “0” for these variables, a value with no weight in the classification index. This missing or absent value was “amended” by using the mean of the variable for the missing value. The variables with missing values were: the following:

1. Quality of the sputum specimen evaluated by the laboratory (inadequate sample), not found in three departments: Baja Verapaz, Sacatepéquez, y Sololá.
2. Percentage of detection of pediatric TB cases was missing in the department of Chiquimula

b) Four variables should be weighed in a negative or inverse way in the classification index because the intention is to seek a positive change, for example, the variable of quality of sputum specimen should weigh more in the index for those departments that have problems providing adequate samples; these four variables are:

1. Percentage of detection of RS (persons with respiratory symptoms)
2. Results of treatment with first-line drugs
3. Geographic accessibility
4. Quality of sputum specimen as evaluated by a laboratory

When further analyzing the variables and corresponding sub indexes, it was found that the following were weighed adequately in the classification index:

1. Quality of sputum specimen as evaluated by the laboratory because it was measured as a % of inadequate samples
2. Geographic accessibility because it was weighed with low values for those departments with better accessibility

On the contrary, the other two variables were found to contribute inadequately to the classification index:

1. Percentage of detection of RS (persons with respiratory symptoms), because the % of detection was measured
2. Results of treatment with first-line drugs, since measurement was based on success, in other words, those who concluded treatment.

Therefore, in our prioritization proposal, these last two variables were included in such a way that they will weigh *inversely* in the new classification index that was developed.

c) The variable "*TB incidence rate among prisoners*" presents values for only 9 departments, which is explained by the fact that only in those places there is a prison/detention center; and the intervention has been planned to work with this subpopulation (inmates). Given that this variable is not relevant for the vast majority of departments, when using it to calculate the classification index it biases the results otherwise based on socio-demographic and epidemiological information because it only weighs for those places where a prison exists. Therefore, this indicator was eliminated for the new calculation of the **classification index**, and it was decided that the 9 departments with presence of a prison would be included within the classification afterwards [but will not weigh on the index for all departments].

New Classification Index (NCI)

As with the classification index elaborated by the NTP, a sub-index that contributes to the global or classification index was calculated for each variable. For this purpose, the sub-indices of each variable were calculated by normalizing their values, calculating a Z score for each one. **The New Classification Index (NCI)**

adds the results of 13 variables and **subtracts** the value of the two variables considered to weigh inversely on the index.

Based on the above, Z scores of the variables listed below were added, to calculate the NCI:

<ol style="list-style-type: none"> 1. Population density for 2015 (inhab / Km²) 2. Incidence of TB in all its forms for 2017 3. Quality of sputum specimen as evaluated by the laboratory 4. Percentage of detection of pediatric TB cases 5. Prevalence of Diabetes Mellitus for 2016 6. Prevalence of persons living with HIV for 2016 7. Percentage of poverty 	<ol style="list-style-type: none"> 8. Percentage of indigenous population 9. Percentage of chronic malnutrition 10. Percentage of illiterate population (> 15 yrs. old) 11. Percentage of overcrowding in households 12. Geographic accessibility 13. GINI Index for 2014
---	--

AND, the Z scores of the following variables were subtracted:

1. Percentage of detection of RS (persons with respiratory symptoms)
2. Results of treatment with first-line drugs

Departments were prioritized if the NIC was higher than “0”. AND, the 9 departments with an existing prison/detention center were added:

1. Retalhuleu
2. Quetzaltenango
3. Santa Rosa
4. Izabal
5. Alta Verapaz
6. Zacapa
7. Escuintla
8. Suchitepéquez
9. Guatemala

Prioritized Departments

In the below table, a comparison of the prioritized departments for the NTP and for the NIC is shown. The departments in red font correspond to those with a prison or detention center.

Comparison between prioritization by NTP and PCE Team

No.	Prioritized by National Tuberculosis Program	Prioritized NIC	Comments
1	Suchitepéquez	Suchitepéquez	
2	Retalhuleu	Retalhuleu	Prison/detention center*
3	San Marcos		
4	Quiché		
5	Quetzaltenango	Quetzaltenango	Prison/detention center

6	Huehuetenango	Huehuetenango	Slightly below the selection index
7	Alta Verapaz	Alta Verapaz	Prison/detention center
8	Izabal	Izabal	Prison/detention center
9	Guatemala	Guatemala	
10	Escuintla	Escuintla	
11		Jutiapa	
12		Zacapa	
13		Chimaltenango	
14		Sacatepéquez	
15		Totonicapán	
16		Santa Rosa	Prison/detention center

**Prisons refer to centers for adults, men and women; detention centers refer to adolescent inmates*

Prioritized departments including changes in case incidence

A piece of information that the Evaluation Team worked during the workshop with the Institute for Health Metrics and Evaluation (IHME)/PATH (Aug 2018) consisted in assessing the change in the incidence of TB cases that occurred from 2012 to 2016. Therefore, it was considered important to include this information as an additional variable to be considered in the NIC. As with the other variables, the trend was standardized (Z score) and added to the NIC previously obtained. This resulted in a new prioritization proposal, which is considered to be of greater weight and importance than the previous one since it has taken into account the "dynamics" of the epidemic in recent years. The tables below show the departments prioritized including incidence trends.

Options of Prioritization: NTP, PCE, PCE + Trends

No.	Prioritized by National Tuberculosis Program	Prioritized NIC	Prioritized NIC + TB Incidence Trend 2012-2016
1	Suchitepéquez	Suchitepéquez	Suchitepéquez
2	Retalhuleu	Retalhuleu	Retalhuleu
3	San Marcos		
4	Quiché		
5	Quetzaltenango	Quetzaltenango	Quetzaltenango
6	Huehuetenango	Huehuetenango*	
7	Alta Verapaz	Alta Verapaz	Alta Verapaz
8	Izabal	Izabal	Izabal

9	Guatemala	Guatemala	Guatemala
10	Escuintla	Escuintla	Escuintla
11		Jutiapa	Jutiapa
12		Zacapa	Zacapa
13		Chimaltenango	Chimaltenango
14		Sacatepéquez	Sacatepéquez
15		Totonicapán	Totonicapán
16		Santa Rosa	Santa Rosa
17			El Progreso*

**Slightly below the selection index*

Conclusions

With all the aforementioned, it is suggested and proposed that the prioritization resulting from the methodology used by the PCE team be taken into account to expand the group of prioritized departments. It is of particular interest to consider inclusion of incidence trends. If this is the case, it can be expected that the active detection of TB cases will not only increase, but timely actions can be implemented to "slow down" incidence in those departments that currently do not appear to have a high burden, but which can show upward trends in the near future given the vulnerability they harbor.

Annex VII. Present situation of HIV information system in Guatemala

System	Requirement of MoH, SIGSA and the GF				Options to set parameters	Status to July 2018
	MoH/PR copyrights	Source Code in SIGSA and PR	System architecture in SIGSA and PR	Dictionary of variables in SIGSA and PR		
Epificha HIV (EPIWEB)	✓	✓	✓	✓	Free of charge and under MoH responsibility	In process to update to be used by all MoH units
VICITS	✓	✓	✓	✓	Free of charge and under MoH responsibility	In use by all VICITS clinics
BIOMETRICS	✗	✗	✗	✗	Fee for services to copyright owner	In use by PR (HIVOS) and its SRs
SIGPRO	✗	✗	✗	✗	Payment for services to owner of intellectual property	In use by PR (HIVOS) and its SRs
SIGSA SIDA 1.2 (SIGSA-WEB)	✓	✓	✓	✓	Free of charge and under MoH responsibility	in use by MoH and in updating process
MANGUA	✗	✗	✗	✗	Fee for services to copyright owner	In use by all UAI (different versions and update stage)
DHIS-2	✓	✓	✓	✓	Free of charge and under MoH responsibility	Under analysis for possible use by MoH and PR

Annex VIII. Characteristics of Civil Society Organizations

Characteristic	HIV	Malaria	Tuberculosis
Type of population/ community involved	Key population	Vulnerable population	Affected population
Type of participation	Sub-recipients	Community volunteers	Paid community health workers
Type of organization	NGOs or SCOs	None	MoH employees
Prevention	Prevention package, distribution of condoms	IEC, LLINs	IEC, schools
Diagnosis	Testing & confirmatory tests	Testing & confirmatory tests	Testing & confirmatory tests
Treatment	Linkage to UAIs	Some are provided with Tx	Directly observed treatment, short-course
Capacity building	Trained by PR Most rely on other technical partners	Supervision and training by field MoH personnel	Supervision and training by field MoH personnel
Stocks	Condoms, lubricants, tests	Rapid tests and antimalarial treatment delivered by malaria community collaborators	Tests (sputum microscopy, GeneXpert)
Community-based monitoring for accountability	Conducted for last 3 years in health facilities	None	None currently, will include some in next grant
Advocacy for social accountability	Feedback to health providers	None	None currently, will include some in next grant

Annex IX. Summary of Dissemination Activities

Month Y2018	First time users	Total No. Web pages opened	No. Docs Downloaded	Dissemination activities
Jan	1	1	14	
Feb	2	7	8	
Mar	3	9	9	
Apr	16	29	821	Dissemination workshop
May	23	138	601	
Jun	101	185	735	
Jul	58	187	2,441	Uploaded PCE Newsletter, Vol.1
Aug	57	216	1,485	
Sep	53	222	1,677	Uploaded Thematic Video
Oct	31	122	576	Uploaded Annual report 2018 Uploaded PCE Newsletter, Vol. 2
Total	345	1,116	8,367	

Annex X. Classification of modules and interventions into five broad budget categories

For visualization and summary purposes, we display some budget figures aggregated into five broad categories. This table indicates exactly what modules and interventions (from the Global Fund Modular Framework Handbook) are classified as each category.

Module	Intervention	Category
Comprehensive prevention programs for men who have sex with men	Community empowerment for men who have sex with men	Prevention
Comprehensive prevention programs for men who have sex with men	Other interventions for men who have sex with men	Prevention
Comprehensive prevention programs for sex workers and their clients	Condoms and lubricant programming for sex workers	Prevention
Comprehensive prevention programs for sex workers and their clients	Diagnosis and treatment of sexually transmitted infections and other sexual and reproductive health services for sex workers	Prevention
Comprehensive prevention programs for sex workers and their clients	Other interventions for sex workers and their clients	Prevention
Comprehensive prevention programs for men who have sex with men	Behavioral interventions for men who have sex with men	Prevention
Comprehensive prevention programs for transgender people	Community empowerment for transgender people	Prevention
Comprehensive prevention programs for transgender people	Addressing stigma, discrimination and violence against transgender people	Prevention
Comprehensive prevention programs for transgender people	Behavioral interventions for transgender people	Prevention
Comprehensive prevention programs for transgender people	Condoms and lubricant programming for transgender people	Prevention
Comprehensive prevention programs for transgender people	Pre-exposure prophylaxis (PrEP) and other biomedical interventions for transgender people	Prevention
Comprehensive prevention programs for men who have sex with men	Condoms and lubricant programming for men who have sex with men	Prevention
Comprehensive prevention programs for transgender people	HIV testing services for transgender people	Prevention
Comprehensive prevention programs for transgender people	Diagnosis and treatment of sexually transmitted infections and sexual health services for transgender people	Prevention

Module	Intervention	Category
Comprehensive prevention programs for transgender people	Prevention and management of co-infections and co-morbidities for transgender people	Prevention
Comprehensive prevention programs for transgender people	Interventions for young transgender people	Prevention
Comprehensive prevention programs for transgender people	Other interventions for transgender people	Prevention
Comprehensive programs for people in prisons and other closed settings	Condoms and lubricant programming for people in prisons and other closed settings	Prevention
Comprehensive prevention programs for men who have sex with men	Pre-exposure prophylaxis (PrEP) for men who have sex with men	Prevention
Comprehensive programs for people in prisons and other closed settings	Other interventions for people in prisons and other closed settings	Other
Comprehensive prevention programs for men who have sex with men	HIV testing services for men who have sex with men	Prevention
Comprehensive prevention programs for men who have sex with men	Diagnosis and treatment of sexually transmitted infections and other sexual health services for men who have sex with men	Prevention
Comprehensive prevention programs for men who have sex with men	Prevention and management of coinfections and co- morbidities men who have sex with men	Prevention
Treatment, care and support	HIV care	Treatment
Treatment, care and support	Treatment monitoring - Viral load	Treatment
Treatment, care and support	Treatment adherence	Treatment
Treatment, care and support	Prevention, diagnosis and treatment of opportunistic infections	Treatment
Treatment, care and support	Counseling and psycho-social support	Treatment
Treatment, care and support	Other interventions for treatment	Treatment
TB/HIV	TB/HIV collaborative interventions	Other
Programs to reduce human rights-related barriers to HIV services	Stigma and discrimination reduction	Other
Programs to reduce human rights-related barriers to HIV services	Legal literacy (Know Your Rights)	Other

Module	Intervention	Category
Programs to reduce human rights-related barriers to HIV services	Training of health care providers on human rights and medical ethics related to HIV and HIV/TB	Other
Programs to reduce human rights-related barriers to HIV services	HIV and HIV/TB-related legal services	Other
Programs to reduce human rights-related barriers to HIV services	Sensitization of lawmakers and law enforcement agents	Other
Programs to reduce human rights-related barriers to HIV services	Improving laws, regulations and policies relating to HIV and HIV/TB	Other
Programs to reduce human rights-related barriers to HIV services	Other intervention(s) to reduce human rights-related barriers to HIV services	Other
Program management	Policy, planning, coordination and management of national disease control programs	Program management
Procurement and supply chain management systems	National costed supply chain master plan, and implementation	RSSH
Procurement and supply chain management systems	Other procurement and supply chain management intervention(s)	RSSH
Health management information system and monitoring and evaluation	Routine reporting	RSSH
Health management information system and monitoring and evaluation	Program and data quality	RSSH
Health management information system and monitoring and evaluation	Analysis, review and transparency	RSSH
Health management information system and monitoring and evaluation	Surveys	RSSH
Health management information system and monitoring and evaluation	Other health information systems and monitoring and evaluation intervention(s)	RSSH
Integrated service delivery and quality improvement	Laboratory systems for disease prevention, control, treatment and disease surveillance	RSSH
Integrated service delivery and quality improvement	Other service delivery intervention(s)	RSSH

Module	Intervention	Category
National health strategies	National health strategies, alignment with disease- specific plans, health sector governance and financing	RSSH
National health strategies	Other policy and governance intervention(s)	RSSH
Community responses and systems	Social mobilization, building community linkages, collaboration and coordination	RSSH
Community responses and systems	Other community responses and systems intervention(s)	RSSH
Program management	Policy, planning, coordination and management of national disease control programs	Program management
Program management	Grant management	Program management
TB care and prevention	Case detection and diagnosis	Prevention
TB care and prevention	Treatment	Prevention
TB care and prevention	Prevention	Prevention
TB care and prevention	Engaging all care providers (TB care and prevention)	Prevention
TB care and prevention	Community TB care delivery	Prevention
TB care and prevention	Key populations (TB care and prevention) - Prisoners	Prevention
TB care and prevention	Key populations (TB care and prevention) - Others	Prevention
TB care and prevention	Collaborative activities with other programs and sectors (TB care and prevention)	Prevention
TB care and prevention	Removing human rights- and gender-related barriers to TB care and prevention	Prevention
TB/HIV	TB/HIV	Other
TB/HIV	TB/HIV collaborative interventions	Other
TB/HIV	Collaborative activities with other programs and sectors (TB/HIV)	Other
Multidrug-resistant TB	Case detection and diagnosis: MDR-TB	Treatment
Multidrug-resistant TB	Other MDR-TB intervention(s)	Other
Multidrug-resistant TB	Treatment: MDR-TB	Treatment

Module	Intervention	Category
Multidrug-resistant TB	Prevention for MDR-TB	Prevention
Multidrug-resistant TB	Engaging all care providers (MDR-TB)	Other
Multidrug-resistant TB	Community MDR-TB care delivery	Treatment
Program management	Policy, planning, coordination and management of national disease control programs	Program management
Unspecified	Unspecified	Other
HIV Testing Services	Differentiated HIV testing services	Treatment
Prevention programs for general population	Behavioral interventions as part of programs for the general population	Prevention
Prevention programs for general population	Condoms as part of programs for the general population	Prevention
Prevention programs for adolescents and youth, in and out of school	Behavioral change as part of programs for adolescent and youth	Prevention
Prevention programs for adolescents and youth, in and out of school	Keeping girls in school	Prevention
Prevention programs for adolescents and youth, in and out of school	Other interventions for adolescent and youth	Prevention
Prevention programs for adolescents and youth, in and out of school	Gender-based violence prevention and treatment programs for adolescents and youth	Prevention
Prevention programs for adolescents and youth, in and out of school	Community mobilization and norms change	Prevention
Prevention programs for adolescents and youth, in and out of school	Addressing stigma, discrimination and legal barriers to care for adolescents and youth	Prevention
Prevention programs for adolescents and youth, in and out of school	Socioeconomic approaches	Prevention
Prevention programs for adolescents and youth, in and out of school	Linkages between HIV programs and RMNCH	Prevention
Prevention of mother-to-child transmission	Prong 1: Primary prevention of HIV infection among women of childbearing age	Prevention
Treatment, care and support	Differentiated antiretroviral therapy service delivery	Treatment
Treatment, care and support	Treatment monitoring - drug resistance surveillance	Treatment

Module	Intervention	Category
TB/HIV	Collaborative activities with other programs and sectors (TB/HIV)	Other
TB/HIV	Other TB/HIV intervention(s)	Other
Programs to reduce human rights-related barriers to HIV services	Reducing HIV-related gender discrimination, harmful gender norms and violence against women and girls in all their diversity	Other
Program management	Grant management	Program management
Vector control	Long lasting insecticidal nets: Mass campaign	Prevention
Vector control	Long lasting insecticidal nets: Continuous distribution	Prevention
Vector control	Entomological monitoring	Prevention
Vector control	Information, education, communication/Behavior change communications (vector control)	Prevention
Case management	Facility-based treatment	Treatment
Case management	Integrated community case management (iCCM)	Treatment
Case management	Severe malaria	Treatment
Case management	Private sector case management	Treatment
Specific prevention interventions	Intermittent preventive treatment - In pregnancy	Prevention
Program management	Policy, planning, coordination and management of national disease control programs	Program management
Program management	Grant management	Program management
Procurement and supply chain management systems	Procurement strategy	RSSH
Procurement and supply chain management systems	National product selection, registration and quality monitoring	RSSH
Health management information system and monitoring and evaluation	Vital registration system	RSSH
Integrated service delivery and quality improvement	Supportive policy and programmatic environment	RSSH

Module	Intervention	Category
Financial management systems	Public financial management strengthening	RSSH
Community responses and systems	Community-based monitoring	RSSH
Community responses and systems	Community-led advocacy	RSSH
Community responses and systems	Institutional capacity building, planning and leadership development	RSSH
Multidrug-resistant TB	Collaborative activities with other programs and sectors (MDR-TB)	Other
Program management	Grant management	Program management
Prevention programs for general population	Gender-based violence prevention and treatment programs for general population	Prevention
Comprehensive prevention programs for men who have sex with men	Interventions for young men who have sex with men	Prevention
Comprehensive prevention programs for sex workers and their clients	Behavioral interventions for sex workers	Prevention
Comprehensive prevention programs for sex workers and their clients	HIV testing services for sex workers	Prevention
Comprehensive prevention programs for men who have sex with men	Addressing stigma, discrimination and violence against men who have sex with men	Prevention
Comprehensive prevention programs for sex workers and their clients	Interventions for young people who sell sex	Prevention
Comprehensive prevention programs for people who inject drugs and their partners	Behavioral interventions for people who inject drugs	Prevention
Comprehensive prevention programs for people who inject drugs and their partners	Condoms and lubricant programming for people who inject drugs	Prevention
Comprehensive prevention programs for people who inject drugs and their partners	HIV testing services for people who inject drugs	Prevention
Comprehensive prevention programs for people who inject drugs and their partners	Diagnosis and treatment of sexually transmitted infections and other sexual health services for people who inject drugs	Prevention

Module	Intervention	Category
Comprehensive prevention programs for people who inject drugs and their partners	Needle and syringe programs for people who inject drugs and their partners	Prevention
Comprehensive prevention programs for people who inject drugs and their partners	Interventions for young people who inject drugs	Prevention
Comprehensive prevention programs for men who have sex with men	Harm reduction interventions for men who have sex with men who inject drugs	Prevention
Prevention of mother-to-child transmission	Prong 4: Treatment, care and support to mothers living with HIV, their children and families	Prevention
TB/HIV	Engaging all care providers (TB/HIV)	Other
Case management	Other case management intervention(s)	Treatment
Case management	Epidemic preparedness	Other
Case management	Active case detection and investigation (elimination phase)	Treatment
Case management	Ensuring drug and other health product quality	Treatment
Procurement and supply chain management systems	Supply chain infrastructure and development of tools	RSSH
Human resources for health, including community health workers	Capacity building for health workers, including those at community level	RSSH
Human resources for health, including community health workers	Retention and scale-up of health workers, including for community health workers	RSSH
Integrated service delivery and quality improvement	Improving service delivery infrastructure	RSSH
TB/HIV	Community TB/HIV care delivery	Treatment
TB/HIV	Key populations (TB/HIV) - Prisoners	Other