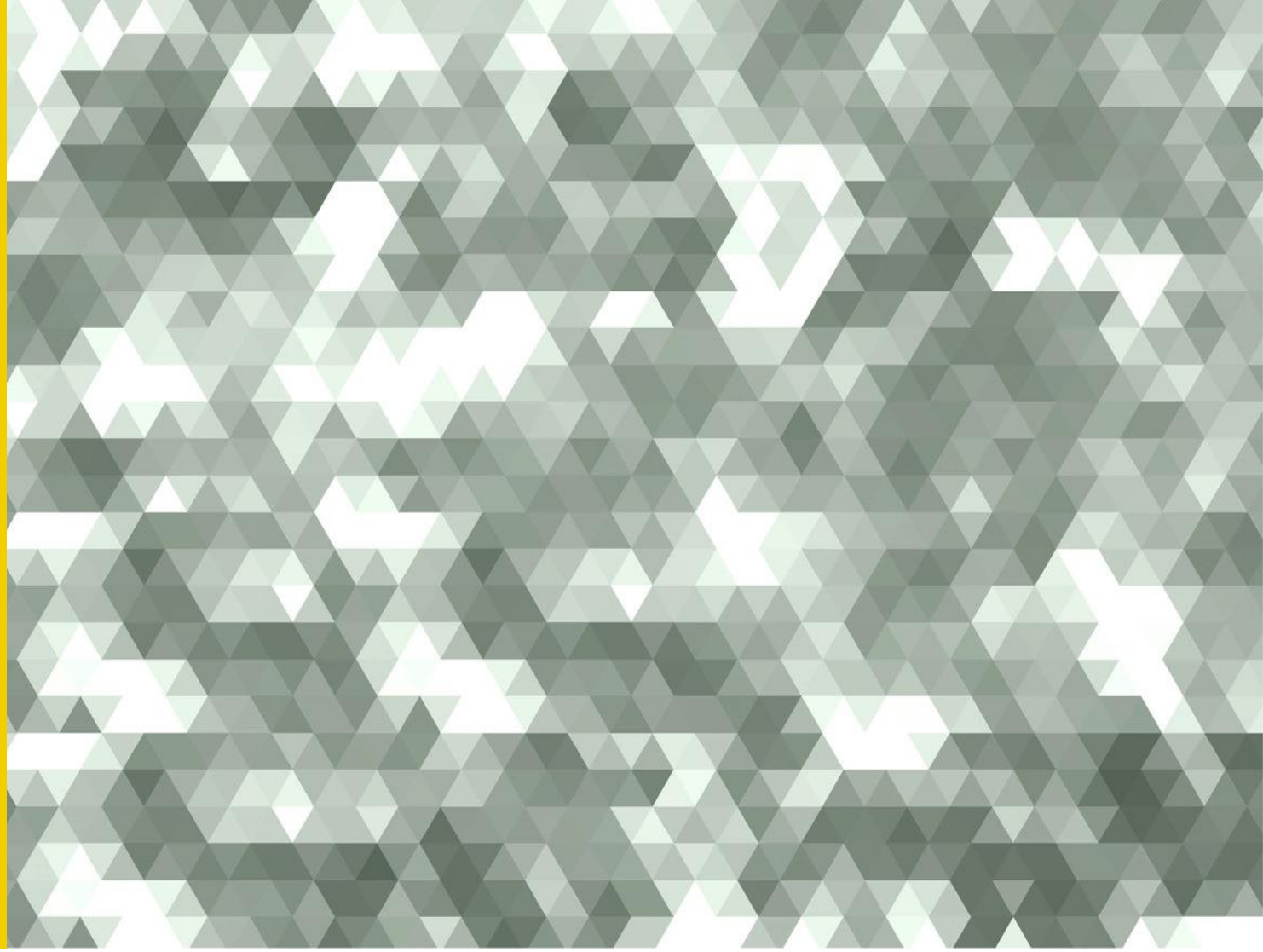

Audit Report

Audit of Global Fund Grants to the Republic of Zambia

GF-OIG-17-028
22 December 2017
Geneva, Switzerland

The Global Fund
Office of the Inspector General

What is the Office of the Inspector General?

The Office of the Inspector General (OIG) safeguards the assets, investments, reputation and sustainability of the Global Fund by ensuring that it takes the right action to end the epidemics of AIDS, tuberculosis and malaria. Through audits, investigations and advisory work, it promotes good practice, reduces risk and reports fully and transparently on abuse.

Established in 2005, the OIG is an independent yet integral part of the Global Fund. It is accountable to the Board through its Audit and Finance Committee and serves the interests of all Global Fund stakeholders. Its work conforms to the International Standards for the Professional Practice of Internal Auditing and the Uniform Guidelines for Investigations of the Conference of International Investigators.

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Global Fund
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Geneva, Switzerland

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Audit Report

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OIG investigations examine either allegations received of actual wrongdoing or follow up on intelligence of fraud or abuse that could compromise the Global Fund's mission to end the three epidemics. The OIG conducts administrative, not criminal, investigations. Its findings are based on facts and related analysis, which may include drawing reasonable inferences based upon established facts.

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1. Executive Summary

1.1. Opinion

Despite substantial economic challenges, Zambia has successfully scaled up interventions across the three diseases. The country's significant progress in ending the three epidemics is demonstrated by an increase in the number of people living with HIV on antiretroviral therapy; a decline in malaria-related deaths; and an increase in the tuberculosis (TB) treatment success from 79% in 2014 to 85% in 2016. The country has also continued to see improvements against key targets across the three disease indicators. However, a decline in government funding has created a heavy dependence on donors for the delivery of the programs. Challenges remain with regard to the government's coordination of donor activities resulting in gaps and potential duplications of activities.

While significant progress towards ending the HIV, TB and malaria epidemics has been made over the last decade, health worker and diagnostic capacity issues are impacting effective service delivery. The transition of the National TB and Leprosy Program away from the Ministry of Health and its return two years later also affected the implementation of funded interventions. Delays in the implementation of program activities, for example, multidrug-resistant TB treatment, mosquito net distribution and indoor residual spraying have affected delivery of services to intended beneficiaries.

As the programs have scaled up, country systems have not evolved at the same pace. This is especially the case with regard to the quality of diagnostic capacities, supply chain management systems, monitoring and evaluation. The OIG noted challenges in the health system's ability to cope with the rapid increase of volumes due to scale-up whilst operating with obsolete infrastructure. There are stock-outs and expiries across the different levels of supply chain and limitations in accounting for stocks. The OIG is also investigating the causes of the stock-outs in a separate engagement. Although the availability of routine and survey data for decision making has improved, inaccurate recording and reporting compromise its reliability. Therefore the quality of services to patients and data quality are rated as **partially effective** by the OIG. The supply chain is rated as needing **significant improvement**.

1.2. Key Achievements and Good Practices

Progress in meeting targets: The number of new HIV infections fell by 29.4% from 85,000 in 2004 to 60,000 in 2015 and down to 46,000 for adults ages 15-19 in 2016. The HIV program has seen good patient outcomes. Based on a recent population survey, 89% of people living with HIV (aged 15-59 years) have suppressed viral loads.[1] Progress has also been made on TB with incidence falling by 40% (from 650/100,000 population in 2003, to 391/100,000 population in 2015). Malaria deaths decreased by 70% from a baseline of 51.2 per 100,000 in 2010 to 15.5 per 100,000 in 2015.

Country policies aligned to latest guidelines: Zambia's national disease-specific and health strategies are aligned to Joint United Nations Program on HIV/AIDS (UNAIDS) fast-track targets, the World Health Organization (WHO) End TB Strategy and the Sustainable Development Goals. The country's policies follow the latest diagnosis and treatment guidance from WHO and UNAIDS. These include (i) changing eligibility criteria for treatment from CD4 count 350 to 500 and now to test-and-treat; (ii) universal treatment for expectant mothers living with HIV for life, regardless of their CD4 count (known as option B+); and (iii) diagnosis of 90% of people with HIV, treating 90% of people diagnosed with HIV and achieving undetectable viral load in 90% of people on treatment (90-90-90 target by 2020). This has increased the number of people that qualify for HIV treatment. The country has also updated its national guidelines to reflect changes in diagnosis (e.g. introduction of GeneXperts), treatment protocols, and monitoring of patients on treatment (e.g. introduction of viral load testing).

[1] ZAMPHIA is a household-based national survey conducted between March and August 2016 undertaken to measure the status of Zambia's national HIV response

Changes in management structure of grants: Under the new funding model, the management of the grants has reverted from the United Nations Development Programme (UNDP) to the Ministry of Health for government grants. Following a 2009 OIG audit (see Section 3.3), the Global Fund and the Country Coordinating Mechanism had appointed UNDP to manage the grants in Zambia as a risk mitigation measure. The Churches Health Association of Zambia (CHAZ) contract was renewed and, in addition, it took on a previous Zambia National Aids Network (ZNAN) grant and part of the Ministry of Finance's grant responsibilities. There is no indication that the transition from four to three Principle Recipients has affected the delivery of services across the three diseases.

1.3. Key Issues and Risks

Achievement of impact affected by limitations in the quality of services and delayed implementation of key interventions: Global Fund investments in Zambia have contributed to a scale-up of key interventions across the three disease programs. For example, there has been an increase in the coverage of people living with HIV on antiretroviral therapy to 73%. Zambia has also made progress towards eliminating mother to child transmission with a reduction of from 15% in 2014) to 3.3% in 2016. The number of deaths from malaria have also decreased since 2014 and the treatment success rate for those identified and diagnosed with TB is 85%.

However, as the country intensifies its response to the three diseases, challenges remain in operationalizing diagnosis and treatment guidelines. For example, early infant diagnosis results are late, with a resultant delay in treatment initiation. A two-year delay in realizing a donor commitment significantly affected the delivery of multidrug-resistant TB activities. In consequence, only 8.5% of estimated multidrug-resistant TB cases in the country are reported as receiving treatment; with 45% of the cohort of patients initiated on treatment in 2016 either dying or being lost to follow up. These challenges are primarily caused by limited diagnostic and low human resource capacity.

Delays in the implementation of key interventions has also impacted the availability of services intended for beneficiaries. For example, 2016 indoor residual spraying was undertaken late in the rainy season which affected its effectiveness as a preventive measure against malaria. Delays in the implementation of TB-related activities has affected case identification with an estimated 40% of TB cases in the country remaining undiagnosed across all age groups. These resulted in grant absorption challenges with 58% of all grant resources utilized six months before grant closure.

Country systems have not evolved at the same pace as program scale-ups: Approximately 60% of grant funds are spent on the procurement, storage and distribution of health commodities. In light of the country's rapid expansion of people on treatment, its supply chain management system faces problems in delivering health products to patients and accounting for commodities received. The audit identified stock-outs and expiries of health products of varying magnitudes at different levels of the supply chain. For example, in 2016, expiries of antiretroviral medicines amounting to almost US$4 million were noted.[2] This was attributed to gaps in the management of medicine regimen changes and below target enrollment of children on ART. Distribution arrangements are sub-optimal with commodities only delivered to districts; these district health facilities are not resourced well enough to complete last-mile deliveries. The government is working with country development partners to address storage and distribution challenges at Medical Stores Limited, the central warehouse in the country.

The Global Fund and other partners rely on a health management information system for routine data related to the three diseases. The country also undertakes national surveys for to inform decisions. However, routine HIV, TB and malaria data reporting has limited accuracy and completeness. This is due to the absence of up-to-date monitoring and evaluation plans to guide the relevant activities; fragmented information systems to support the collection and reporting of data; and data capturing gaps at facility level.

[2] Antiretroviral expiries were procured under the previous grants by the government and principal recipients.

Leadership and oversight of programs need strengthening to support their effectiveness: Leadership and government ownership is demonstrated through the development of overarching strategies to provide guidance on the interventions that should be prioritized. However, because these strategies are sometimes not implemented, and due to limited donor coordination by the government, there are gaps and potential duplications in donor-funded interventions. The Country Coordinating Mechanism's oversight function has not supported processes to solve identified key program risks.

Rating

	Objective 1. The adequacy and effectiveness of processes and controls of funded interventions for the delivery of quality services to intended beneficiaries. OIG Rating: **Partially effective**. Whilst investments made have supported the scale-up of interventions across all three diseases and improved retention of patients on anti-retroviral treatment, there are service delivery issues in diagnosis and monitoring of patients on treatment. Program effectiveness has been impacted by low TB case notification, delayed implementation of HIV prevention activities and malaria vector control interventions.
	Objective 2. The effectiveness of supply chain management systems in availing and accounting for quality-assured medicines and health products in a timely manner. OIG Rating: **Needs significant improvement**. Whilst significant improvements are already underway, last mile distribution arrangements and accountability of medicines are yet to be addressed. Varied magnitude of stock-outs and expiries of health products were identified across the supply chain.
	Objective 3. Availability of accurate and timely data to aid decision-making. OIG Rating: **Partially effective.** The completeness and timeliness of routine health information data quality continues to improve; however, data challenges remain with limits to both the accuracy and completeness of HIV, TB and malaria data at the service delivery level. Continued efforts are required to integrate data systems with multiple fragmented patient information management and reporting systems in place.

1.4. Summary of Agreed Management Actions

The Global Fund Secretariat has plans to address the risks identified by the OIG through the following actions:

- Improvements incorporated in the new grants to enhance diagnostic capacity, referral mechanisms and patients monitoring.
- Completion and implementation of the National Monitoring and Evaluation Framework to support improvement in data accuracy.
- Improvement in underlying supply chain weaknesses including stock management, last mile distribution and capacity at the health facilities.
- Development of a plan to strengthen in country oversight and grant management mechanisms.

2. Background and Context

2.1. Overall Context

Zambia is a lower middle income country with a population of 16.2 million. Its gross domestic product was US$21.15 billion in 2015.[3] The country's population is young with a median age of 17 years; 50% of Zambians are below the age of 15. Zambia was ranked 139th out of the 188 countries in UNDP's 2016 Human Development Index.[4] The country was ranked 87th out of 176 countries in Transparency International's 2016 Corruption Perceptions Index.[5]

Zambia's economy is heavily dependent on copper as a major export which has made it vulnerable to declining demand. However, despite fiscal constraints, Zambia's health budget has seen significant investment, increasing by 150% in the last six years. This represents 8.3% of the 2016 total national budget, down from 9.6% in 2015. Almost 60% of the health budget is spent on salaries, which reduces available resourcing for programs.[6]

Politically, Zambia has had a decentralized structure since 1991 with 10 provinces and 103 districts. The Ministry of Health retains policy setting, planning and coordination and management roles. Service delivery is devolved to the district level. The ministry has coordination structures that link the national level to the provincial, district and community levels. The government decided to transition the National TB and Leprosy Program to the Ministry of Community Development and Social Welfare between 2012-2015 and then back to the Ministry of Health at the beginning of 2016. The country's health worker density is 0.77 health staff per 1,000 people[7] against the target of 2.5 health staff per 1,000 to deliver quality services, according to national guidelines.

2.2. Differentiation Category for Country Audits

The Global Fund has classified the countries in which it finances programs into three overall portfolio categories: focused, core and high impact. These categories are primarily defined by size of allocation amount, disease burden and impact on the Global Fund's mission to end the three epidemics. Countries can also be classed into two cross-cutting categories: Challenging Operating Environments and those under the Additional Safeguards Policy. Challenging Operating Environments are countries or regions characterized by weak governance, poor access to health services, and manmade or natural crises. The Additional Safeguard Policy is a set of extra measures that the Global Fund can put in place to strengthen fiscal and oversight controls in a particularly risky environment.

Zambia has been classified as:

	Focused: (Smaller portfolios, lower disease burden, lower mission risk)
	Core: (Larger portfolios, higher disease burden, higher risk)
X	**High Impact: (Very large portfolio, mission critical disease burden)**
	Challenging Operating Environment
	Additional Safeguard Policy

[3] World Bank Country Profile, http://data.worldbank.org/country/zambia
[4] UNDP Human Development Report, http://www.hdr.undp.org/en/countries/profiles/ZMB
[5] Transparency Intl. 2016 CPI https://www.transparency.org/news/feature/corruption_perceptions_index_2016#table
6 UNICEF Health Sector Budget Brief: https://www.unicef.org/zambia/HealthBudgetBrief-4.pdf
[7] AHWO 2010

2.3. Global Fund Grants in Zambia

Since 2003, the Global Fund has committed US$1,029,768,924 and disbursed US$991,295,065[8] in in Zambia. At the time of the audit (June 2017), the country had four active grants:

Principal Recipient	Grant	Grant end date	Signed amount (US$)	Disbursed amount (US$)
Ministry of Health	ZMB-C-MOH	31-Dec-17	100,702,951	48,846,034
Ministry of Health	ZMB-M-MOH	31-Dec-17	69,100,158	37,417,690
Churches Health Association of Zambia	ZMB-C-CHAZ	31-Dec-17	53,837,477	32,591,688
Churches Health Association of Zambia	ZMB-M-CHAZ	31-Dec-17	10,990,124	6,331,965
UN Development Programme	ZAM-H-UNDP	N/A	156,509,071	156,509,071
Total			**391,139,781**	**281,696,448**

The ZAM-H-UNDP grant is a six-month extension without additional funding. The grant was extended in order to complete outstanding activities related to capacity building at the Ministry of Health and to strengthen the supply chain through renovations and the delivery of equipment to Medical Stores Limited.

Medicines and health products are procured through the Global Fund's Pooled Procurement Mechanism and the Global Drug Facility. Storage and distribution of medicines and health commodities to district health offices is the mandate of Medical Stores Limited. Last mile distribution, i.e. between district health offices and health facilities, varies by province and district.

2.4. HIV, tuberculosis and malaria in Zambia

HIV/AIDS:[9] Out of a population of 16.2 million, there are an estimated 1.2 million people living with HIV (all ages) in Zambia. This figure is expected to increase to 1.3 million by 2020.

HIV prevalence among the adult population in 2015-2016 was 12.9% having steadily declined from 15.6% in 2001-2002 to 14.3% in 2007 and 13.3% in 2013-2014.

Despite this progress, there are distinct gender and age-related disparities in the HIV burden, with a reported 14.5% prevalence among women compared to 8.6% prevalence among men.

Number of people living with HIV in 2015:[10] 1,200,000

Number of people on antiretroviral therapy:[11] 758,646

HIV prevalence:[12] 12.9%

Tuberculosis:[13] Over the last decade, TB incidence has fallen by 40% (from 650/100,000 population in 2003, to 376/100,000 population in 2016) in large part due to the increased investment in TB diagnosis and treatment and stronger TB/HIV collaboration, including the scale-up of antiretroviral therapy in the general population.

Total cases notified in 2016:[14] **40,**153

New and relapse cases detected in 2016:[15] 38,326

8 Global Fund website: https://www.theglobalfund.org/en/portfolio/country/?loc=ZMB&k=5407d575-ab23-4db6-ac34-b5eb567da7f0
9 Zambia 2018-2020 Funding Request to Global Fund
10 UNAIDS website: http://aidsinfo.unaids.org/
11 UNAIDS website: http://aidsinfo.unaids.org/
12 UNAIDS website: http://aidsinfo.unaids.org/
13 Zambia 2018-2020 Funding Request to Global Fund
14 WHO Global TB report 2016: http://www.who.int/tb/publications/global_report/en/
15 WHO Global TB report 2016: http://www.who.int/tb/publications/global_report/en/

In 2016, WHO estimated incident TB cases to be 62,000 but the country only notified 38,326 new and relapse TB cases representing a TB notification rate of 225/100,000 population. This means that overall about 39% of TB cases go undetected, underscoring the need to significantly improve TB case finding, especially at community and health facility level. Limited health seeking behaviour (people not seeking care for their symptoms) paired with low diagnostic capacity contributes to missing TB cases.

The extent of multidrug-resistant TB remains unknown and largely unaddressed. 1,400 multidrug-resistant TB cases were estimated among notified cases in 2016. 18% of previously treated cases are estimated to be MDR TB cases. 33% of confirmed cases started on treatment with 85% success rate (2014 cohort). There are no confirmed cases of extensively drug-resistant TB.

Malaria:[16] Malaria remains a major cause of morbidity and mortality and the entire 16.2 million population of Zambia is at risk. Malaria prevalence/incidence in Zambia is markedly heterogeneous with the country stratified into distinct epidemiological zones.

Zambia has recorded a marked reduction of malaria transmission; however, the malaria burden remains high. The reduction is a result of sustained increase in coverage of key vector control interventions i.e. long lasting insecticidal and indoor residual spraying and improved access to diagnosis and treatment.

Malaria deaths have decreased by 70% from a baseline of 51.2 per 100,000 in 2010 to 15.5 per 100,000 in 2015. Severe malaria cases declined by 58% from 15.8 cases per 1,000 population in 2010 to 6.6 cases per 1,000 in 2015.

The government's strategy is to eliminate malaria by 2020 through 100% indoor residual spraying (IRS) coverage in targeted areas with high transmission and 75% reduction in confirmed malaria incidence and mortality by 2017.

No. of nets sold or delivered in 2014:[17] 6,368,026

No. of people protected by indoor residual spraying in 2015:[18] 5,930,141

No. of rapid diagnosis tests distributed in 2015:[19] 11,310,350

[16] Zambia 2018-2020 Funding Request to Global Fund
[17] WHO Global Malaria report 2016: http://www.who.int/malaria/publications/world-malaria-report-2016/report/en/
[18] WHO Global Malaria report 2016: http://www.who.int/malaria/publications/world-malaria-report-2016/report/en/
[19] WHO Global Malaria report 2016: http://www.who.int/malaria/publications/world-malaria-report-2016/report/en/

3. The Audit at a Glance

3.1. Objectives

The audit aimed to give the Global Fund Board reasonable assurance that Global Fund grants to the Republic of Zambia are adequate and effective in achieving impact in the country. More specifically, this audit evaluated the following areas:

i. the adequacy and effectiveness of processes and controls of funded interventions for the delivery of quality services to intended beneficiaries;
ii. the effectiveness of supply chain management systems in providing and accounting for quality assured medicines and health products in a timely manner; and
iii. the availability of accurate and timely data to aid decision-making.

3.2. Scope

The audit covered two Principal Recipients of the Global Fund grants in Zambia, namely the Ministry of Health of Zambia and the Churches Health Association of Zambia (CHAZ).

The audit covered the period January 2015 to May 2017 and focused on the active grants that are currently under implementation. The auditors visited 34 health facilities including hospitals, District Health Offices, Ministry of Health and CHAZ facilities, both urban and rural, across five different provinces. The facilities visited had an estimated catchment population of over five million people (30% of the country's population) and reported 1.5 million patient consultations in 2016. They also provided antiretroviral treatment for one in five of people living with HIV on treatment in the country.

3.3. Progress on Previously Identified Issues

The last OIG audit of Zambia was in 2009. It principally focused on grants that were active between 2003 and 2009 and covered the operations of the four Principal Recipients at the time; namely the Ministry of Health, the Ministry of Finance and National Planning, ZNAN and CHAZ. All Agreed Management Actions from the audit have been implemented. The government has refunded all the identified unsupported and ineligible expenses.

Previous relevant OIG audit work

GF-OIG-09-015 Country Audit of the Global Fund Grants to Zambia

Due to significant changes in the country's risk profile, the focus of the 2017 audit is different from 2009. The previous audit was commissioned following a forensic review carried out by the Office of the Auditor General of Zambia. The review was in response to a whistle-blower report of suspected fraud at the Ministry of Health involving grant funds and the "Expanded Basket Fund" through which most donor health funding was being channeled at the time. Current Global Fund funding is not delivered through any pooled funding mechanism. However, this audit identified some recurring issues related to the management of advances.

4. Findings

4.1. Quality of services affected by limitations in prevention, testing and patient monitoring.

Global Fund investments in Zambia have contributed to the scale-up of key interventions across the three disease programs as mentioned above. However, more focus is required to improve diagnosis, monitoring and retention of patients on treatment. Policies that guide service delivery are stipulated in the national guidelines but have not been consistently implemented mainly due to human resource and diagnostic capacity constraints. The audit noted the following:

(i) Challenges in treating and retaining on treatment multidrug-resistant TB patients which impacts clinical outcomes. Only 8.5% of estimated multidrug-resistant TB cases in the country are reported as receiving treatment. Out of these, 62% and 45% in 2015 and 2016 respectively of the cohort of patients initiated on multidrug-resistant TB treatment either died or were lost to follow up.[20] Delays in mobilizing funding for multidrug-resistant TB patient treatment affected the number of facilities that could initiate treatment.

(ii) Challenges in diagnosing HIV-exposed infants: Over 126,000 HIV-exposed infants have been tested over the past two years, but challenges remain with timely delivery of results. HIV-TB grants focused on early infant diagnosis as a key intervention to ensure children access ART and the reduction of child mortality. As at June 2016, only 36% of infants born to HIV positive women had received a virological test for HIV within two months of birth against a target of 53.8%. Seventy percent (70%) of HIV-exposed infants in the 30 health facilities visited had not received their HIV test results before they were eight weeks old as required by the national guidelines. This delayed access to life-saving antiretroviral treatment to infants diagnosed as HIV positive.[21] This was primarily caused by delays in the collection, processing, transportation and communication of results from the laboratories. Turnaround time in the facilities visited by the OIG averaged 27.8 weeks against a one-two-week standard set for the receipt of results. These facilities also faced challenges in collecting blood samples for testing with 27% of them having blood samples rejected due to their poor quality.

(iii) People living with HIV not consistently monitored to ensure efficacy of treatment regimens, detection and management of side effects: Zambia has made progress in the implementation of viral load monitoring since it was first introduced in 2013. Coverage at a national level has increased from 5% in 2015 to 30% in 2016, although this fell short of the 2016 target of 52%.[22] In the 30 facilities visited, out of the 12,569 people initiated on antiretroviral treatment in 2016, only 26% and 43% of people had a viral load and CD4 count test done respectively. The failure to undertake viral load testing is attributed to problems in collecting, processing, transporting and communicating results as well as the sub-optimal use of available viral load equipment. The Service Availability and Readiness Assessment (SARA) Report 2015 identified that 'While 52 per cent of facilities stated to offer antiretroviral therapy to HIV patients, only 33 per cent (50 per cent of the 66 per cent who stated to offer ARV treatment or follow up) could perform CD4 count or viral load'. Grant funds have been provided for the establishment of a routine system (worth US$2 million) to monitor resistance to antiretroviral medication and to manage people identified as drug resistant. However, at the time of the audit (six months before grant closure), this system was yet to be established.

(iv) Challenges in infection control and prevention of TB transmission among people living with HIV: National guidelines recommend Isoniazid Preventive Therapy (IPT) for

20 Global TB reports 2015 and 2016

21 Because of the High risk of death in the absence of antiretroviral treatment among HIV positive infants (50% mortality before the age of 2 and 33% before the age of 1), the national guidelines recommend early infant diagnosis to ensure that all HIV exposed infants are tested and treated.

22 Targets set out in the National HIV Strategic Framework (p.44) and phased approach in National VL Plan 2016-2020 provide for national targets to increase to 60% (2017), 65% (2018), 70% (2019) and 80% (2020). The country recently changed policy moving towards 90-90-90 targets by 2020.

people living with HIV on antiretroviral treatment and who are TB-negative. However, the implementation of this guidance has been impacted by the limited availability of medicines and the reluctance by clinicians to implement. Only 15% and between 23-25% of people with HIV received IPT in 2015 and 2016 respectively. Only 28% of the 30 facilities visited had provided IPT in May 2017.

Contrary to the National TB Program infection control guidelines in place, the audit also identified gaps in infection control at facility level. For example, 37% of the facilities visited did not have a designated isolated area where patients can produce sputum specimens for TB diagnosis. Furthermore, 87% of the facilities visited did not have masks in stock. These gaps in the provision of IPT could create an environment conducive to the spread of TB in health facilities among patients, health workers and the general community.

The underlying causes of the service delivery issues noted above include the following:

(i) Gaps in diagnostic capacity: The effectiveness of the country's diagnostic services have been affected by either the limited availability of machines or non-functional machines. Viral load equipment is operating at a rate of between 66%-81% due to frequent and prolonged breakdowns (sometimes up to 12 days).[23] Backlogs of samples for testing were estimated at 17,900 in 2015. Available data also showed that the utilization of the 59[24] GeneXpert machines in 2015 stood at 22.5%.[25] This is due to GeneXpert machines not having been identified as the primary diagnostic method for TB cases. The Service Availability and Readiness Assessment (SARA) Report 2015 identified approximately five per cent of health facilities in Zambia reported using the GeneXpert MTB/RIF to diagnose TB, with four per cent of them diagnosing TB by culture. The protocol has subsequently been revised to address this which should increase the use rates of the machines. Another reason noted by the OIG was the shortage in GeneXpert cartridges and the lack of real time monitoring of the use of existing machines. Funding to establish GXalert, a mechanism to receive orders for diagnosis which automatically sends results, is available but is yet to be used.

(ii) Low health worker density: Human resource capacity stands at 30% of what is required for effective service delivery. Community health workers are expected to help fill gaps in the staff component. Up to 77% of facilities are linked to community health workers who provide HIV testing services. However a reduction in current grant funding resulted in an estimated drop from 10,000 in 2014 to an estimated 2,000 at the end of 2016. This impacted the availability of adherence support workers who were responsible for encouraging patients on antiretroviral medicine and multidrug-resistant TB to remain on treatment. A key challenge also includes the current diagnostic policy and algorithms not being sensitive enough to identify all cases and forms of TB.[26]

In addition to this, non-compliance with guidelines has been primarily due to gaps in proficiency testing, training and supervision of service providers. For example, grant funds for training and supervision of HIV testing services were reallocated to supervise door-to-door counselling in ten districts. As a result, only 34 out of the 229 (15%) service providers certified to conduct HIV testing actually participated in proficiency testing, which has implications for the reliability of test results. Other areas where staff had not received training (in the 30 facilities visited) included rapid diagnostic test use; malaria case management; identifying and reporting adverse drug reactions; screening children for TB using different methods; and TB-related infection control. Supervision arrangements were also suboptimal in strengthening staff skills since they were not consistently undertaken and feedback rarely provided to facilities.

(iii) Delayed development and dissemination of guidelines and tools: The grants provided for the development and dissemination of guidelines, training and mentoring for service providers to enable them to effectively manage the diagnosis and treatment of key populations. This was a critical precursor for training and subsequent mentoring of service providers. However, the

[23] The VL Implementation HIV TWG 2017
[24] An additional 31 were in the pipeline to be delivered before December 2017
[25] No data was available for 2016.
[26] End Term Review of the 2011-2016 Republic of Zambia national TB and Leprosy Control Strategic Plan

development of TB guidelines was delayed by 29 months which affected the implementation of program activities.

Agreed Management Action 1
The Secretariat will work with the Ministry of Health and key stakeholders to monitor implementation of the new grants. Specific focus will be given to activities to improve:

a) diagnostic capacity;
b) HIV and TB testing and referral;
c) ART patient monitoring;
d) MDR TB outcomes; and
e) malaria vector control outcomes.

Owner: Head of Grant Management

Due date: 31 December 2019

4.2. Delayed implementation of interventions affecting program effectiveness

Under the new funding model, the government, with its partners, identified key activities that needed to be implemented for the grants to have the greatest impact. The country has made significant progress as mentioned previously. However, gaps in the implementation of key program success factors and/or delays in implementation of critical program components (for example, bed net distribution, indoor residual spraying, active TB case finding etc.) have impacted the availability of services to beneficiaries and the desired scale-up of funded program activities. This has contributed to low grant absorption (58% at the time of the audit) in parallel, on the other hand, with concerns about insufficient funding for the effective implementation of interventions by the program directors.

(i) Low TB case notification: A population-based TB prevalence survey undertaken in 2014 indicated that TB prevalence was twice as much as previous estimates. It also noted that 50% of people with symptomatic TB had sought treatment at facilities but had been missed. The survey also revealed that TB cases were twice as high in men as in women. TB hotspots were identified as urban areas and provinces with high HIV prevalence rates. Routine program data also shows a decline in annual case notification rates by approximately 12% since 2013 with the case notification in 2015 at 58%. This has resulted in excess anti-TB medicines valued at $252,000 that have expired at central and health facility levels. The audit noted that there were missed opportunities to identify TB cases as follows:

- *Limited active or intensified case finding at health facilities* with only 3% of the 1.5 million outpatient cases treated in the 30 facilities visited having been screened for TB. Also while TB is five times higher in HIV-positive individuals, only 42% of people with HIV initiated on antiretroviral treatment in May 2017 had been screened for TB. Contrary to guidelines, only 47% of facilities are performing contact tracing for patients diagnosed with TB. Only 10% of facilities visited systematically screened their health workers for TB annually, as required in the guidelines. The community linkages for TB case finding and targeting of hot spots remain suboptimal.

- *Sub-optimal integration of TB case finding in HIV interventions:* The country has not yet considered how to leverage the opportunities presented by various HIV-related activities for screening TB. For example, good opportunities would be at the same time as services providing male circumcision, where 0.5 million men were reached in the period under review, as well as HIV counseling and testing where 40% of testing was undertaken through local outreach.[27]

(ii) Limitations in implementation of prevention interventions: Prevention activities are fundamental to respond to HIV in Zambia, particularly as prevalence is disproportionately high in key and vulnerable populations as identified in a Zambia modes of transmission study[28]. While the grant was supposed to reduce new transmissions from 53,000 (2012) to 38,662 (2016), the Zambia Population-Based HIV Impact Assessment (ZAMPHIA)[29] showed that annual HIV incidence is at 46,000 new cases. Progress has been affected by:

- *Limited implementation of work related to key populations*: US$2 million was allocated to the National AIDS Council, a sub-recipient of the Ministry of Health, for implementation of key population work. Aside the mode of transition survey for which results were pending, other planned activities for 2015 and 2016 related to "removing legal barriers to access" remained outstanding at the time of the audit. The delays in this area are due to the slow set up of systems by the National AIDS Council civil society sub-contractor.

27 The CN specifically states that TB would be integrated in these activities and these activities are promoted as integrated throughout the concept note.
28 Modes of HIV Transmission in Zambia: Application of the Incidence Patterns Model (February 2015).
29 ZAMPHIA is a household-based national survey conducted between March and August 2016 undertaken to measure the status of Zambia's national HIV response

- *Circumcision targets not reached*: Circumcision rates have improved since the beginning of the grants, but they remain behind target with only one million out of the 1.9 million (54%) circumcisions planned for 2012 and 2015 undertaken. This failure to meet annual circumcision targets will impact incidence numbers.[30] Low implementation to date is, in part, attributed to unrealistic targets set during the first year. These targets did not adequately reflect the requirements for demand as well as building the capacity of health facilities to undertake male circumcision according to national policies and standards. In addition, voluntary medical male circumcision was hampered by limited resourcing (staff, finances and infrastructure) to support the planned scale-up.

(iii) Delays in the implementation of key vector control interventions: While in-patient malaria deaths per 1000 decreased below the target in 2016, the number of malaria cases in the same year went up by almost one million cases. This has been attributed to a number of factors including improved reporting by health facilities, detection bias due to an increase in community based services through a scale-up of integrated community case management (ICCM) and unusually heavy rains as well as problems in planning for indoor residual spraying and bed net mass campaigns:[31]

- *Delayed bed net distribution-related activities resulting in low use rates:* Bed net distribution was delayed by two months due to gaps in documentation submitted by implementers which postponed the release of funds. This adversely affected key related activities such as printing guidelines, training stakeholders, prepositioning bed nets for distribution, and planned social behaviour change communication activities. At the time of the audit, planning for the next mass campaign was underway and late and catch-up plans had also been prepared to keep the campaigns on track. However, no provision has been made for buffer stocks for the campaigns. As a result bed nets meant for routine distribution to key vulnerable populations have had to be reallocated to the mass campaign.
- *Delayed in-door residual spraying resulting in high rejection rate:* Indoor residual spraying took place late, either during or after the rainy season. This resulted in a 32% rejection rate by people who refused to have their houses sprayed due to the inconvenience of having to take out the furniture during the rainy season. At the time of the audit, the country had instituted plans to ensure the 2017 spraying happened on time.

The consequences of the above issues have contributed to low grant absorption: Principal Recipient absorption at the end of 2016 was low for Ministry of Health grants (at 41% and 58% for the HIV/TB and malaria grants respectively).[32] Plans were in place to increase absorption in 2017. The underlying causes for sub-optimal management of funded programs include the following:

(i) There are gaps in the coordination of activities between the disease programs that are responsible for implementation of activities and the Program Management Unit that manages the funds in the Ministry of Health. This is because roles and responsibilities have not been adequately defined (by the Ministry) for the two teams, which has diluted accountability for certain implementation activities. The Project Management Unit was involved in activities that belong to the disease components, such as monitoring program implementation and undertaking pharmacovigilance activities. Another government department is mandated to undertake these activities. These weaknesses were also identified in Secretariat-initiated reviews.

(ii) Uncertainties in structural changes of ministries delayed release of funds for implementation: There were delays identifying sub-recipients for the implementation. This was due to government organizational changes, including oversight over the districts and the time required to identify, assess and plan capacity building with the Ministry of Health and sub-recipients. Although the ministry grants were signed in January 2015, the sub-recipients were only appointed

[30] The Public Library of Science estimates show that circumcising 3.7 million people between 2010 and 2025 can avert 300,000 new infections.
[31] This investment totaled approximately US $40m,representing 15% of Global Fund investment in Zambia
[32] CHAZ grant absorption rate was 55% for Malaria and 66% for HIV/TB

in April 2016. Once appointed, there were substantial delays noted in the disbursement of funds to the provinces. There were also delays in the use of alternative funding sources by National Program staff to implement Ministry of Health program activities in the provinces during the 2015 and early 2016. For example, it took the Project Management Unit six months to send the first disbursement to Lusaka province so implementation could start. As of June 2017 (six months before the end of the grant), Lusaka (along with three other provinces) had only received 50% of allocated funds, which impacted program implementation of activities such as circumcision campaigns. At the time of the audit, the unit was not disbursing funds to any of the provinces because they had not used up prior advances. This impacted the disease programs' ability to drive program implementation since the provinces had not received the necessary funding.

Please refer to agreed management action 1.

4.3. Gaps in the measures instituted to address data quality issues.

Significant investments have been made by government and development partners in developing strategies, capacity building of relevant staff, and installing systems to improve data quality. These have resulted in some improvements with an 80% achievement rate in the completeness and the timeliness of routine data reported through the District Health Information System (DHIS2). However, there are challenges with the accuracy of the data at the service delivery level and in the interoperability of the systems.

Data accuracy: There were data inaccuracies in some of the facilities visited by the OIG especially in diagnosis indicators for HIV and malaria. For instance:

- Eleven out of the 30 facilities visited had variances between number of HIV diagnoses reported in the DHIS 2 and underlying laboratory registers. The reported results in the DHIS 2 for those facilities were 22% above the data obtained from the registers.
- Eight out of the 30 facilities visited had differences between summary reports and registers for malaria rapid diagnosis tests performed. The average variance reported was in excess of 29% of malaria diagnosis performed.

The government and its partners have supported the installation of various systems to address data challenges at the service delivery level. However, the underlying registers, which are used as a primary record of the data in the electronic systems, are not consistently available. For instance, 12 out of the 30 facilities visited reported stock-outs of registers between March and May 2017. The Global Fund has supported the country to procure registers which are expected to be used in the health facilities from January 2018.

The Secretariat engages the Local Fund Agent to review the programmatic data on regular basis with results factored in portfolio decisions made by the country team. For instance, the LFA's review of the country's reported results for the period ended Q4 2016 resulted in downward adjustment of programmatic results due to inaccuracies identified.

There is a need to address potential duplication and lack of integration between multiple data systems: Partners have supported the implementation of multiple electronic systems, including the Human Resource Information System, Health Management Information System which uses the DHIS2 platform, laboratory management information systems, electronic health records (called SmartCare), and Program Mwana, an SMS-based data collection system. DHIS2 and SmartCare have two distinct roles. DHIS2 is used for data aggregation purposes and reporting whilst SmartCare is an electronic medical record system used for patient management. SmartCare, which is supposed to be a fully integrated electronic health record system to provide continuity of care (which has been rolled out to 70% of antiretroviral treatment sites), is not linked to DHIS2. There are potential duplications in the data collected in the different systems which need to be addressed to reduce workload on the limited human resources at the service delivery level.

The government launched a 2017-2021 eHealth Strategy in April 2017 to improve health infrastructure and the provision of quality services. The strategy acknowledges the importance of information, communication and technology to address data quality issues and the need to address the multiple health information systems in the country. An e-Health Technical Working Group is in place to focus on these challenges and to address potential duplication and lack of integration between data systems.

Limited functionality of patient level system to support management and reporting: The country has rolled out DHIS2 to record and report routine data at the health facilities for decision-making. However, there are challenges with patient level systems (SmartCare) to support management and reporting. Recommendations from a partner-commissioned review of the SmartCare system are yet to be implemented by the country.

The root causes of the gaps noted above include:

(i) Lack of a national framework to guide monitoring and evaluation activities and implement strategic changes: The country is currently developing a national monitoring and evaluation framework to support donor coordination in addressing data challenges. Despite the challenges at the national level, the Global Fund is supporting the country to develop specific monitoring and evaluation plans for TB, HIV and malaria programs. However, the plans need improvements to include program indicators, data sources, and description of information flows and reporting.[33]

(ii) The Ministry of Health has not consistently undertaken training and supervision: Downstream data quality problems are due to incomplete training and supervision under the current monitoring and evaluation program. Half the facilities reviewed were still to receive technical supervision on data from the district level in the past 12 months.

Agreed Management Action 2

The Global Fund Secretariat will work with the Ministry of Health and key stakeholders to finalize the National Monitoring and Evaluation Framework. The framework will guide action to improve the operability of data systems, data accuracy.

Owner: Head of Grant Management

Due date: 31 April 2018

[33] The M&E plans for the HIV/AIDS, Malaria and TB programs have been revised following the completion of audit fieldwork to include data sources, program indicators and description of information flow.

4.4. Challenges in the country's supply chain management system affect the effective distribution and accountability for medicines and commodities

The country has well-defined structures for procurement and supply chain management-related activities. The Ministry of Health leads the quantification process for medicines and commodities with support from partners and in-country stakeholders. The Global Fund's Pooled Procurement Mechanism and the Global Drug Facility purchase most of the health commodities, which account for approximately 60% of the Global Fund grants to Zambia. Medical Supplies Limited (MSL) and, to a lesser extent, CHAZ are responsible for the storage and distribution of funded program medicines and health products for their facilities. CHAZ also operates its own warehouse independently from Medical Stores Limited. A Memorandum of Understanding was signed with MSL in 2017 to allow CHAZ to supply anti-malarial drugs and rapid diagnostic tests to three provinces. MSL has also embarked on increasing the number of hubs across the country, from the current four to seven hubs by the end of 2017, in an effort to improve logistics operations that ensure product availability in a timely fashion. Effective partner integration is also demonstrated through established platforms for national quantification and forecasting with involvement from a number of key partners. However, limitations remain in the country's procurement and supply chain management system in storing, distributing, and effectively accounting for available commodities.

(i) Stock-outs and expiries noted across different levels of the supply chain: Anti malarial medicines[34] were out of stock for an average of 37 days in 7 of the 30 facilities visited and up to eighty days in one facility. Antiretroviral therapy medicines were out of stock in three of 30 health facilities for a maximum of 28 days. Isoniazid for TB treatment was out of stock for up to nine months in one facility (with an average of 74 days of stock-outs across five facilities). Expired health commodities were noted at the different levels of the supply chain. Seventy-seven per cent of the facilities visited had expired HIV drugs with a smaller number of facilities still stocking expired malaria (40%) and TB (27%) commodities. The main quantified expiries at central level included:

- *Expires of antiretrovirals valued at approximately US$4 million in 2016:*[35] This was caused by challenges in managing adult treatment regimes to align with improved WHO treatment guidelines, a lack of coordination and oversight between government and partners over procurements, inaccurate forecasting of pediatric formulations as well as challenges in achieving the ambitious programmatic targets.

TB medicines expiries valued at US$272,000 in 2016 (with an additional US$112,000 at risk of expiry in 2017). This represents about 21% of the total spend on TB medicines in 2015 and was mainly related to pediatric medicines. The loss has been attributed to incorrect quantification assumptions, based on over-ambitious programmatic treatment targets (rather than supply chain issues) resulting in overstocking of supplies. TB quantification has improved since 2016, through the involvement of both Medical Stores Limited and the Ministry of Health in the process.

- *Unexplained stock differences throughout the supply chain*: The audit was able to reconcile all Pooled Procurement Mechanism shipments with the commodities received at Medical Stores Limited. However, it was unable to reconcile commodities received to last mile distribution as shown below:

- *Differences between commodities issued by Medical Stores Limited and quantities reported as received at health facilities and District Health Offices*: Seventy-seven per cent of the health facilities visited had discrepancies between commodities recorded as issued by the central warehouse and quantities received at health facilities and District Health Offices. While the audit was able to validate deliveries by Medical Stores Limited through signed delivery notes in 84% of these cases, reconciliations could not be completed due to gaps in documentation at facility level. The auditors noted that 63% of the health facilities visited did not record the quantities received in their stock records as required in the standard operating procedures on

[34] Stock outs of both ACT – Artemether 20 mg + Lumefantrine 120 mg (Strip of 6 and Strip of 24 TAB)
[35] Antiretrovirals valued at approximately US$4 million which expired in 2016 were procured prior to the NFM grants.

pharmaceutical management. Technical supervision generally did not cover commodity management and as a result, such discrepancies remained undetected.

- *Stock variances between stores and dispensing pharmacy:* In line with findings from a 2016 antiretroviral spot check report by the Local Fund Agent, stock movements from the stores could not be reconciled to records of receipts and medicines dispensed in the pharmacy in 40% of health facilities covered by the OIG. Overall unaccounted stock variances noted in the sample of medicines reviewed across the 30 health facilities amounted to US$539,000. In a further 37% of the facilities visited, documentation was not available to track the movement of health commodities within the health facilities. The lack of documentation at a health facility level impairs program ability to determine whether the health commodities reach their intended beneficiaries.
- *Stocks unaccounted for in the Medical Stores Limited warehouse:* Discrepancies were identified in the Medical Stores Limited physical stock counts against an inventory systems count in seven out of the 13 commodities tested. For instance, 72,000 packs of TLE antiretrovirals were not identified in the warehouse (which is approximately 1% of annual TLE stock). Furthermore, malaria rapid diagnostic test stock had a 22% discrepancy between the system count and the physical count at the warehouse. Unaccounted for stocks are being followed up by the OIG investigations team in a separate engagement. Medical Stores Limited has since strengthened its internal controls including the appointment of a Security Manager; enhanced visibility of high risk commodities; the introduction of biometric access and stock control cards to back up electronic system movements.

(ii) Warehousing and last mile distribution challenges: The agreement signed between the Ministry of Health and Medical Stores Limited covers the distribution of medicines and commodities to district health offices but does not provide for last mile distribution. However, at the time of the audit, Medical Stores Limited was distributing most medicines and health commodities to the District Health Offices in most parts of the country including last mile distribution. Medical Stores Limited's capacity suffers from a lack of resources. As a result, last mile delivery is fragmented which affects the availability of health commodities and service delivery for patients.

Medical Stores Limited also has inadequate preventative controls in place against the risk of fire. Nor had the warehouse implemented the recommendations from an insurance risk report, which puts into question the adequacy of insurance coverage. Insurance policy coverage (approximately US$16 million) is insufficient to fully replace Global Fund-procured commodities worth US$33 million held at the warehouse, excluding other partner or government procured-goods.

(iii) Multiple logistics systems deployed: There are multiple paper-based and automated information systems that are not integrated and unable to provide reliable commodity data. In addition to the system that independently supports TB products, two systems run concomitantly, an electronic management information system (e-LMIS) and the Enhanced Zambia Inventory Control (eZICs) system. The eLMIS has been rolled out in 324 facilities who use it to send monthly reports to the District Health Officers to enter into e-LMIS. eZICS is a digital information system that transfers stock card data digitally (through mobile technologies and internet transmission) from the health facilities directly to Medical Stores Limited. In 2015-17, eZICS was developed tested and deployed across 10 sites as a proof of concept using the expertise and support of the supplier, implementers and various partners through the HIV Global Fund grant. An extended pilot in four provinces is due to end in Q4 2017. Although the roll-out of the two systems had not been brought to scale, it is unclear whether eZICs is designed to replace or complement the eLMIS.[36] In light of the limited resources, running two different logistics systems is inefficient both in terms of cost and time. An independent cost/benefit assessment has not been completed to enable the government to determine the most appropriate solution going forward to enhance efficiency.

The underlying causes of the issues noted include:

[36] The two systems are different therefore making a like for like comparison of their functions almost impossible.

(i) Health Sector Supply Chain strategy (2015-2017) not fully implemented as a guide to what issues should be prioritized: A health sector supply chain strategy covering 2015-2017 outlines and costs key interventions under eight thematic areas.[37] Although the strategy was designed with participation and support from a wide range of partners, there is lack of overall ownership and buy-in. Accountability for the implementation of the plan remains unclear. Activities in the strategy have also not been prioritized resulting in a US$9.6 million funding gap. The requirement that the Ministry of Health develop a supply chain monitoring and evaluation plan that supports the measurement of progress against set objectives is yet to be executed. At the time of the audit, work to prepare the 2018-2020 strategy had not started.

(ii) **Human Resources and infrastructure capacity:** There are limitations in the capacity of staff at health facilities to manage commodities and last mile delivery at the district level. Only 12 of the 30 health facilities reviewed by OIG had all staff positions filled. The existing gaps in technical supervisions and training of the existing staff reduce their ability to manage the health commodities.

Agreed Management Action 3

The Global Fund Secretariat will work with the Ministry of Health and key stakeholders to address the underlying system weaknesses prioritized in the new grants and noted in the report. Specific attention will be given to improving stock management and last mile distribution.

Owner: Head of Grant Management

Due date: 31 December 2019

[37] Procurement and Procurement Planning, Quantification and Product Selection, Commodity Distribution, Information Systems, Quality Assurance and Rational Use, Resource Mobilization, Performance Management and Capacity.

4.5. Gaps in governance, leadership and oversight impacting program effectiveness

Zambia has an active development partner community with an estimated US$1.2 billion spent on health interventions alone in 2016-2017. While many government governance structures are in place to support the delivery of services under the different funded programs (including the Global Fund), their effectiveness is impacted by the lack of clarity on government priorities. The country needs to develop a consolidated map of the donor landscape to better coordinate and monitor interventions. There are also identified gaps in the Country Coordinating Mechanism's oversight of the funded programs. This affects the identification and mitigation of key issues that could limit the impact of the programs.

(i) Overarching strategies not consistently implemented: Overarching strategies are in place to provide stakeholders with guidance on what the priorities are and to drive coordinated responses to the three diseases. For example, a new national HIV strategy was approved during the audit, information technology was enhanced by the recent introduction of an e-health strategy, and procurement and supply chain through the current Health Sector Supply Chain Strategy and Implementation plan (2015-2017). However, these strategies have not been fully operationalized. As a result, the OIG noted the following issues:

- *Challenges in prioritizing activities with limited available resources:* In the absence of an operational strategy, priorities are driven by individual donor assessments. They primarily focus on areas that impact specific donor programs as opposed to resolving overarching issues. For example, at the time of the audit, the donors were discussing how to better synchronize their procurement and supply chain interventions to create a greater impact. Another area, as mentioned above in Finding 4.4, is the need for the government to undertake a comparative cost benefit analysis on the two logistics systems (eZICS and eLMIS) to decide which one to implement in the future. In the case of Medical Stores Limited infrastructure upgrades, donor coordination has successfully supported this aspect of procurement and supply chain strategy implementation.
- *Potential duplications in funded interventions*: arising from the fragmented implementation of activities in the strategies. For example, the country has not considered the impact of the disjointed implementation of a financial management information system by five different partners in the Ministry of Health.

(ii) Challenges in the management of donor landscape: The Ministry of Health has a dedicated team that coordinates key donors and partners. However, while several stakeholders have mapped out their individual programs, a consolidated overview of key partner interventions for better coordination and monitoring of commitments is yet to be developed. For example, one key donor changed its geographical focus for HIV activities but without considering how it would affect the overall HIV program. For TB, there is a funding gap arising from two-year delays in mobilizing committed funds by one of the donors.

Although there are key established structures in the Ministry of Health that bring key stakeholders together to discuss critical strategic matters, attendance and frequency of the various meetings are ad-hoc. The terms of reference of the various working groups have not been synchronized to identify how they can support the ministry. Nor is there a mechanism to track action points, recommendations, or defined mechanisms to escalate key issues for decision-making.

(iii) Government shortfalls in counterpart funding: The programs are designed with financial responsibilities allocated to both the government and donors; with provisions made for counterpart domestic funding to ensure sustainability. The audit, however, noted that some of the expected complementary counterpart financing did not materialize resulting in the need to reprogram funds from other key activities to cover the short fall. This included the provision of Isoniazid to reduce the risk of transmission of TB for people living with HIV, and the availability of bed nets and insecticide under the malaria program.

(iv) Gaps in Ministry of Health management and oversight of the funded programs: While the ministry has delegated most of the management of Global Fund programs to the Project Management Unit, it has not put in place effective mechanisms to oversee and hold the unit accountable as noted below:

- The Project Management Unit has limited accountability as demonstrated by the lack of terms of reference articulating ministry expectations with regard to the management of the Global Fund grants. In the absence of these, the Ministry of Health has not assessed the performance of the unit against its mandate, since it was set up in 2012. Nor does the unit have key performance indicators.
- The Project Management Unit head reports to the Permanent Secretary of the Ministry of Health giving the funded program visibility at a strategic level. However at an operational level, the arrangement has not been optimal with the Permanent Secretary not able to dedicate the required time to oversee the unit.
- The unit is not positioned within the relevant ministry functions as was originally envisaged. Project Management Unit staff were located in a different building from the ministry for most of 2015-2017. There is also no functional linkage between unit employees and the main ministry structure. This has reduced ministry visibility over the funded programs which impacts the timely resolution of program-related issues. For example, there is no defined reporting line between the Project Management Unit and the Ministry of Health Finance Function. Only one of 21 Project Management Unit Internal Audit reports was discussed by the ministry Audit Committee between 2015 and 2017.
- The Project Management Unit does not have some basic tools to support the execution of its work. Although identified as key, financial accounting and reporting processes had not been completed at the time of audit and six months prior to the close of the current grants. This has affected the unit's ability to undertake basic activities like tracking advances (noted to be over US$ 1.4 million at the time of the audit).[38]

(v) Challenges in the Country Coordinating Mechanism's oversight The Country Coordinating Mechanism has instituted governance structures to support its five key functions related to the Global Fund program. However, their effectiveness is impacted by low meeting attendance as mentioned above. This is compounded by low attendance from key stakeholders like the Ministry of Health whose member only attended four out of the 12 meetings held between 2015-2017. In one case, decisions made in one meeting had to be revoked due to a lack of the requisite representation. Furthermore, 44% of oversight meetings held between 2015 and 2017 did not have the required quorum to make decisions. In consequence, while key issues impacting the programs were sometimes discussed, no actions were agreed on how to resolve them. For example, the lack of donor landscape mapping, inadequate government counterpart funding, impact of delays in procurement processes on the funded program and ongoing delays to the construction of regional hubs were discussed but no actions agreed on a way forward.

Agreed Management Action 4

The Global Fund Secretariat will work with the Ministry of Health, the CCM, and key partners to develop a plan to strengthen oversight, including of the Programme Management Unit.

Owner: Head of Grant Management

Due date: 31 January 2019

[38] Weak advance management was one of the critical findings noted in the 2009 OIG audit of Zambia.

5. Table of Agreed Actions

Agreed Management Action	**Target date**	**Owner**
1. Quality of Services: The Secretariat will work with the Ministry of Health and key stakeholders to monitor implementation of the new grants. Specific focus will be given to activities to improve: a) diagnostic capacity; b) HIV and TB testing and referral; c) ART patient monitoring; d) MDR TB outcomes; and e) malaria vector control outcomes.	31 December 2019	Head of Grant Management
2. Data Quality: The Global Fund Secretariat will work with the Ministry of Health and key stakeholders to address the underlying system weaknesses prioritized in the new grants and noted in the report. Specific attention will be given to improving stock management and last mile distribution.	31 April 2018	Head of Grant Management
3. Supply Chain: The Global Fund Secretariat will work with the Ministry of Health and key stakeholders to address the underlying system weaknesses prioritized in the new grants and noted in the report. Specific attention will be given to improving stock management and last mile distribution.	31 December 2019	Head of Grant Management
4. Governance: The Global Fund Secretariat will work with the Ministry of Health, the CCM, and key partners to develop a plan to strengthen oversight, including of the Programme Management Unit.	31 January 2019	Head of Grant Management

Annex A: General Audit Rating Classification

Effective	**No issues or few minor issues noted**. Internal controls, governance and risk management processes are adequately designed, consistently well implemented, and effective to provide reasonable assurance that the objectives will be met.
Partially Effective	**Moderate issues noted**. Internal controls, governance and risk management practices are adequately designed, generally well implemented, but one or a limited number of issues were identified that may present a moderate risk to the achievement of the objectives.
Needs significant improvement	**One or few significant issues noted**. Internal controls, governance and risk management practices have some weaknesses in design or operating effectiveness such that, until they are addressed, there is not yet reasonable assurance that the objectives are likely to be met.
Ineffective	**Multiple significant and/or (a) material issue(s) noted.** Internal controls, governance and risk management processes are not adequately designed and/or are not generally effective. The nature of these issues is such that the achievement of objectives is seriously compromised**.**

Annex B: Methodology

The OIG audits in accordance with the global Institute of Internal Auditors' (IIA) definition of internal auditing, international standards for the professional practice of internal auditing (Standards) and code of ethics. These standards help ensure the quality and professionalism of the OIG's work.

The principles and details of the OIG's audit approach are described in its Charter, Audit Manual, Code of Conduct and specific terms of reference for each engagement. These documents help our auditors to provide high quality professional work, and to operate efficiently and effectively. They also help safeguard the independence of the OIG's auditors and the integrity of their work. The OIG's Audit Manual contains detailed instructions for carrying out its audits, in line with the appropriate standards and expected quality.

The scope of OIG audits may be specific or broad, depending on the context, and covers risk management, governance and internal controls. Audits test and evaluate supervisory and control systems to determine whether risk is managed appropriately. Detailed testing takes place at the Global Fund as well as in country, and is used to provide specific assessments of the different areas of the organization's activities. Other sources of evidence, such as the work of other auditors/assurance providers, are also used to support the conclusions.

OIG audits typically involve an examination of programs, operations, management systems and procedures of bodies and institutions that manage Global Fund funds, to assess whether they are achieving economy, efficiency and effectiveness in the use of those resources. They may include a review of inputs (financial, human, material, organizational or regulatory means needed for the implementation of the program), outputs (deliverables of the program), results (immediate effects of the program on beneficiaries) and impacts (long-term changes in society that are attributable to Global Fund support).

Audits cover a wide range of topics with a particular focus on issues related to the impact of Global Fund investments, procurement and supply chain management, change management, and key financial and fiduciary controls.

Annex C: Message from the Executive Director (Optional)