

Audit Follow Up Report

Global Fund Grants to Rwanda

GF-OIG-19-004
25 February 2019
Geneva, Switzerland

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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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Letter:

Office of the Inspector General
Global Fund
Global Health Campus
Chemin du Pommier 40, CH-1218, Grand-Saconnex
Geneva, Switzerland

Email ispeakoutnow@theglobalfund.org

Free Telephone Reporting Service:

+1 704 541 6918

Service available in English, French, Spanish, Russian, Chinese and Arabic

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+41 22 341 5258

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

Since 2014, the Global Fund has implemented a Results Based Financing model in Rwanda, the only major portfolio with such a model. The model, known as National Strategy Financing, emphasizes country ownership, allocates funding in support of costed National Strategic Plans, and allows for flexible use of funds within pre-defined parameters. The model is premised on a country's track record of achieving effective programmatic results, established institutional safeguards, and strong systems and controls, and is supported by a number of flexibilities and exceptions to Global Fund standard operating procedures.

Under the National Strategy Financing model, annual disbursements are directly linked to reported programmatic results. The model's effectiveness is thus critically dependent on the availability of good and reliable data to gauge results and to support decision making. The audit found that Rwanda's systems and controls to safeguard data quality are adequately designed, and reported results are generally aligned with available registers at health facilities. The selected HIV and TB indicators had negligible error rates of 0.2% and 0.8% respectively. The sampled malaria indicators at the health facility level had variances of 1%, which is within accepted tolerances. However, weaknesses in the implementation of these systems and controls could impact data integrity, especially for malaria. In particular, the current system allows health facilities to make unauthorized changes to malaria data after the reporting period. Primary data records for malaria reported results at the community level were not available or had not been well-maintained for most of the periods covered by the audit. Inconsistencies were also noted between programmatic and supply chain data. The variances between the reported number of patients and the quantity of medicines and test kits used could affect the reliability of both data sets under the malaria grant.

In response to the significant increase in malaria cases, the Ministry of Health revised its guidelines to enable community health workers to manage malaria cases in adults, as of December 2016. This increased workload has further strained the already low capacity of community health workers, who are inadequately supervised by the health centers. The findings on data are limited to the malaria grant, which accounts for 20% of the Global Fund's active grants in Rwanda. Therefore, the systems and processes to safeguard reliability of data are rated as **partially effective**.

There is effective assurance on financial information, which is regularly audited by the Office of the Auditor General (OAG) of Rwanda, a competent and independent body. The scope of assurance provided by the OAG, which is determined by the Global Fund Secretariat, is currently limited to financial assurance and does not extend to validation of data or assessment of internal controls over data. Instead, in line with the current model, the Secretariat planned to separately gain assurance on data through the Ministry of Health examining the functionality of the systems and controls underlying the reported results. However, the data assurance mechanism was not sufficiently implemented as designed. The assurance activities conducted did not adequately verify the effectiveness of the information technology system and controls that produce the results. Therefore there is inadequate assurance on the data and related systems which inform the Secretariat's disbursement decisions. Since data is the most critical factor under the model, the overall assurance and oversight mechanisms are rated as **needing significant improvement**.

These weaknesses do not necessarily call into question the relevance of the Results Based Financing model in Rwanda, a country that has demonstrated strong accountability mechanisms and a track record of effective program implementation. A separate review, commissioned by the Secretariat in 2018, confirmed the continued relevance of the model. However, failure to strengthen controls over data and the scope of assurance would undermine, over time, the reliability of the results based on which the Global Fund is supporting Rwanda's health programs.

1.2. Key achievements

Significant progress made in the fight against HIV and TB

Rwanda continues to achieve impressive programmatic results with the support of the Global Fund and partners. The country has experienced a decline in HIV/AIDS and TB related deaths, with an increased number of people on anti-retroviral treatment and relatively high TB treatment success rates. AIDS-related deaths fell from 9,600 in 2007 to 3,100 in 2017, partly due to the implementation of a “treat all” policy. The anti-retroviral treatment adherence rate is 89% for patients 12 months after starting treatment compared to the 90% target. The TB mortality rate has decreased by 55% between 2015 and 2016¹, and the TB treatment success rate is estimated at 88% for bacteriological confirmed cases, compared to the global target of 90%.

Increased government financial commitment to the health sector

The Government of Rwanda spends 16.5% of its budget on health as of 2015/2016, making Rwanda one of the few African countries to meet the 2001 Abuja declaration, in which African countries pledged to allocate at least 15% of their annual budget to the health sector. The country meets its counterpart funding requirements in line with Global Fund policies. The Government has launched a number of initiatives to raise funds to support health care delivery. A draft Health Financing Strategic Plan is being discussed by a health sector working group. The Ministry of Health is setting up a local foundation to mobilize resources from the private sector to support health services, and the government has increased its contribution to the health insurance scheme to support the universal health care agenda.

Continuous improvement in the model. In its 2017 annual report, the Global Fund described the Rwanda model as a major paradigm shift. The Secretariat has continuously incorporated lessons learnt from previous cycles in the current funding period, and recently completed an evaluation of the model, in line with recommendations from the Technical Review Panel and the Grants Approvals Committee, which confirmed that the model remains relevant. The Global Fund has strengthened the current contractual agreement to improve accountability mechanisms based on lessons learnt from the previous funding cycle. This should improve the Country Team’s oversight in the absence of specific guidelines for this funding model. The Secretariat is planning an independent mid-term data quality audit under the current funding cycle.

Strong control environment and processes at the country level: Ministry of Health leadership is actively involved in grant oversight and management, and several layers of checks and balances are in place across national systems to drive accountability at all levels. At government level, public servants are held to account with regards to performance and transparency. All government officials are obliged to sign “*imihigo*”, a detailed performance contract that delineates specific and measureable targets. Institutional safeguards, such as the Rwanda Governance Board and the Office of the Auditor General of State Finances, regulate and supervise the activities and spending of all government ministries.

The Ministry of Health uses an electronic Health Management Information System to record and process health related data. The system is supported by well-designed standard operating procedures and controls to safeguard data integrity. Monthly and quarterly data validation checks are incorporated in the processes and controls that produce the data, however these controls are not consistently implemented (see section 1.3 below).

¹ From 3.8 cases per 100,000 to 1.7 cases per 100,000.

1.3. Key challenges

Increasing malaria cases could threaten the gains made. Rwanda's malaria program has several interventions aimed at prevention of cases: about 72% of the population have access to insecticide-treated nets with a 64% usage rate, and indoor residual spray is implemented in five high endemic malaria districts with a 99.3% coverage rate. Despite this, malaria cases have increased threefold, from 1.7 million in 2014 to 4.9 million in 2017, the highest increase in Africa. The country has conducted studies which indicate that resistance of mosquitoes to the long-lasting insecticide-impregnated nets (LLINs) and environmental factors have contributed to the increase in cases, but the effectiveness of prevention activities needs to be re-examined. The country has deployed additional measures to reduce the mortality rate: for example, in December 2016, Community Health Workers, who used to treat only children under five years old, started diagnosing and treating malaria cases in adults. However, the data quality measures are not robust enough to respond to the increase in malaria cases.

Weaknesses in implementation of data systems and controls. The country has defined robust processes and controls around data quality, but the malaria related controls are not consistently implemented. The country uses a Health Management Information System (HMIS) which has many functionalities to safeguard data integrity for all three diseases. There are defined operating procedures on data changes after the reporting period. However, the system functionalities are not being leveraged and the related standard operating procedures are not being consistently followed under the malaria program. The HMIS is not locked after the reporting period as per the national guidelines. As a result, 65% of health facilities reviewed by the OIG had changed their malaria reported results without approval, resulting in previously reported and verified results increasing by 19% for those facilities.

Data registers for malaria were either not available for period up to June 2018 or had not been consistently maintained by Community Health Workers. Monthly data validation and supervision visits for the malaria program have not always been performed in line with national guidelines. About 63% of community health workers did not maintain registers to support the reported results. The national guidelines require monthly meetings of community workers and health center staff to discuss and validate communities' reported results before entering the data in the HMIS. Results from 78% of community health workers were not validated by the health facilities before entering them in the HMIS. This is partly due to the small number of supervisors for the number of community health workers; each supervisor is responsible for an average of 100 community health workers, making it difficult to validate data on a timely basis. The Ministry of Health has initiated steps since the audit to redesign the supervision framework, including increasing the frequency of visits to community health workers to strengthen data management at community level.

Difference between consumption and patient data. By triangulating data between the health information systems and the logistics management system, the OIG found that the number of recorded patients diagnosed with malaria test kits exceeded the number of test kits used by 41%, and the number of malaria cases treated was 34% above the quantity of anti-malaria medicines consumed. This could affect the reliability of both registered patients and consumption data. Recognizing the challenges in reconciling patient data and consumption of medicines, the Ministry of Health is initiating quarterly data triangulation across national, district and health facility level to better understand data quality challenges and to improve service quality.

Insufficient assurance on data and systems. In line with the principle of country ownership, the Secretariat relies on Rwanda's existing national systems rather than independently verifying the programmatic results reported by the Ministry of Health before disbursing grant funds. Based on the conclusions from the 2014 OIG audit, the Secretariat had proposed to routinely review the systems and controls underlying the reported programmatic results which was used as a basis to close the agreed management action in February 2016; however, this plan has not been effectively implemented. The Global Fund relies on the Ministry of Health's semi-annual integrated supportive

supervision and data quality audit to provide assurance on these systems and controls. The assurance mechanism verifies the validation of reported results for one indicator under each of the three Global Fund grants. However, the review does not cover the effectiveness of the information technology system and controls that produce the results. The review was also not performed in two out of five instances expected in the past two and half years as required by the national guidelines.

The Secretariat through the Local Fund Agent (“LFA”) conducted a follow up IT review in January 2016 after the previous OIG audit in 2014. The LFA indicated the system issues identified in the previous OIG audit had not been fully addressed but no remedial action was subsequently taken by the Secretariat. This included the absence of automatic locking of the HMIS after the reporting period.

1.4. Rating:

	<p>Objective 1: Availability of reliable data and its use for decision making.</p> <p>The country’s systems and controls to safeguard data quality are adequately designed and reported results are generally aligned with available registers at the health facilities. There are some weaknesses in the implementation of controls and in the health management information system of the malaria program, which represents 20% of the Global Fund’s active grants. The inconsistencies between programmatic data and supply chain data could affect the reliability of both data sets under the malaria grant, hence this objective is rated as partially effective.</p>
	<p>Objective 2: Adequacy and effectiveness of grant oversight and assurance mechanisms under the Results Based Financing model.</p> <p>There is effective assurance on financial information, which is regularly audited by the Office of the Auditor General of Rwanda, a competent and independent body. However, the Secretariat’s assurance on data, which is critical under the model is inadequate. The data assurance plan is not being sufficiently implemented as designed. The assurance activities conducted do not adequately verify the effectiveness of the information technology system and controls that produce the results. Hence, assurance and oversight mechanisms are rated as needing significant improvement.</p>

1.5. Summary of Agreed Management Actions

The OIG and the Global Fund Secretariat have agreed on the following actions to address the audit findings:

- The Global Fund Secretariat in collaboration with partners will strengthen the electronic HMIS and associated Information Technology controls, and improve community level data and the supervision arrangements.
- In order to improve the reliability of supply chain data, the Global Fund Secretariat will support the Principal Recipient and partners to perform further analysis of the differences between the patient and consumption data in line with terms of reference to be agreed with the OIG. Following the review, an action plan including timelines and responsible parties will be developed to address the identified underlying causes. The Global Fund and the Principal Recipient will conduct at least annual data triangulation or external consistency checks in line with WHO guidelines on Data Quality Review.
- To address risks relating to the use of survey results, the Global Fund Secretariat will review and approve all survey protocols developed for the collection of survey-based data used by the Principal Recipient for reporting on the agreed indicators in the grants. The protocols will include sample sizes and data collection methodologies.

- In response to the finding related to insufficient oversight and assurance over data, the Global Fund Secretariat will update the portfolio's assurance plan to include independent verification of data systems and related IT systems that produce the results.

2. Background and Context

2.1. Overall Context

The Republic of Rwanda is a landlocked African country with a population of 12 million. Classified by the World Bank as a low-income country, 39% of the population live below the poverty line. Despite this, global development indicators show sustained high performance: the 2017 Corruption Perception Index ranks Rwanda 48th out of 180 (third best in Africa), and in its 2018 annual report the World Bank rated Rwanda 29th out of 190 countries in terms of ease of doing business.

2.2. Differentiation Category for Country Audits

The Global Fund has classified the countries in which it finances programs into three 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.

Rwanda is classified as:

-  Focused: (Smaller portfolios, lower disease burden, lower mission risk)
-  **X Core: (Larger portfolios, higher disease burden, higher risk)**
-  High Impact: (Very large portfolio, mission critical disease burden)

2.3. Global Fund Grants in the Country

The Global Fund has invested about US\$1.4 billion in Rwanda since 2003, and currently has US\$210 million in active grants². All Global Fund grants to the country have been implemented by the Ministry of Health as the Principal Recipient and the Rwanda Biomedical Centre ("RBC"), a sub-recipient, as its key implementing partner. Disbursements from the Global Fund are through the Ministry of Finance, providing an additional layer of national oversight over grant funds. The Global Fund rates the HIV grant as exceeding expectations while the TB and malaria grants are meeting the agreed expectations.

Due to its successful track record in tackling the three diseases and its strong systems and controls, the Global Fund has implemented a different financing approach in Rwanda called National Strategy Financing. This model is designed to achieve better results, streamline grant management processes and oversight, and make better use of in-country mechanisms. Piloted on the HIV program in 2014, it was subsequently extended to cover all grants in 2015. The model is based on the Organization for Economic Co-operation and Development's Development Assistance Committee (OECD-DAC) Aid Effectiveness principles which emphasize country ownership and use of national systems when appropriate. Under this model, the country pools its funding from the Government and the Global Fund in the Rwanda National Strategic Plans for the three diseases. These plans are supported by a costed operational plan which lists all activities, budget lines and source of funding.

This model departs significantly from the Global Fund's standard grant operating procedures across the funding cycle. At the grant making stage, the country is exempted from having to submit a detailed grant-specific budget as the Global Fund relies on the costed operational plans in the National Strategies. The country submits one annual report to the Global Fund during the implementation period in lieu of the traditional Progress Update and Disbursement Request report submitted by other countries. To incentivize results and efficiency, exchange gains and other savings from the grants are reinvested in the national strategic plans.

² These consist of a HIV grant totaling US\$154.46 million, a malaria grant totaling US\$41.46 million and a tuberculosis grant totaling US\$14.15 million.

The grants are monitored through a set of performance indicators selected from the national strategic plans. Annual Global Fund disbursements are based on performance against defined targets. The selected performance metrics include output, outcome and impact indicators.

2.4. The Three Diseases³



HIV/AIDS: Rwanda accounts for 0.6% of the global HIV burden. The epidemic is generalized, with a prevalence of 3% in the adult population, 45.8% in female sex workers and 4% in men who have sex with men.

There is universal access to HIV services with counselling and testing available in 99% of health facilities.

The country's treatment programme is implemented in line with the latest World Health Organization guidelines.⁴

The United States Government is the largest donor to the country's HIV response (45%), with 40% provided by the Global Fund⁵.

227,896 people estimated to be living with HIV in Rwanda in 2018.

189,362 people on anti-retroviral treatment, equating to 92.3% coverage by end of June 2018.

AIDS related deaths fell from 9,600 in 2007 to 3,100 in 2017.



Malaria: Rwanda accounts for 1.1% of the global malaria burden. There has been a significant increase in malaria cases in the last three years. The increase in malaria cases was noted in 28 of the 30 districts, with a higher proportionate increase recorded in districts previously with low endemicity.

All six pre-elimination districts recorded an increase in the number of cases between 2014 and 2017.

The United States Government is the largest donor to the country's malaria response (41%). The Global Fund provides 20% of the resources for the national malaria control program.⁶

The 2017-2018 incidence of 389/1000 is a **three-fold increase** compared to the rates in 2013/2014

In 2017-18 **mortality reduced** to 382 from 529 in 2016-2017.



Tuberculosis: The country accounts for 0.2% of the global tuberculosis burden.

The case notification rate is estimated at 84%, equating to 5,637 cases notified in 2015.

The treatment success rate among new and retreated cases (2014 cohort) is 86%, while among previously treated cases (excluding relapse) is 80%.

The Global Fund is the largest donor to the country's tuberculosis response (83%).⁷

In 2017, TB **Incidence rate** (all cases) remains stable with average 50 cases /100,000

Mortality rate is reducing: from 3.8 cases per 100,000 to 1.7 cases per 100,000 (2015 to 2017)

³ Summarized from latest country funding requests and the Global Fund Secretariat Briefing notes, funding request 2018-2020, the 2017 UNAIDS, WHO TB and World Malaria reports, and the latest MOH annual report for three diseases.

⁴ 2015 WHO guidelines Test and Treat all already infected with HIV or diagnosed regardless of CD4 count

⁵ 2017/2018 Rwanda National HIV and Viral Hepatitis Annual Report

⁶ 2017/2018 Rwanda National Malaria annual report.

⁷ 2017/2018 Rwanda National Tuberculosis Annual Report

3. The Audit at a Glance

3.1. Objectives

The follow up audit sought to provide reasonable assurance on data which is critical under the Result Based Financing (RBF) mechanism in Rwanda. In particular, the OIG follow up audit reviewed the:

- availability of reliable data and its use for decision making;
- adequacy and effectiveness of grant oversight and assurance mechanisms under the Results Based Financing model.

3.2. Scope and Methodology

The audit took place in accordance with the methodology described in Annex B, covering the period from January 2016 to 30 June 2018. The audit covered all grants implemented by the Principal Recipient– the Ministry of Health – and its sub-recipients.

The auditors visited 27 health facilities, and met with 100 community health workers across three out of the five provinces in Rwanda. The OIG reviewed controls underlying the Health Management Information System (HMIS), the primary system used to record and process the results reported to the Global Fund.

The OIG team was supported by three staff from the Office of Auditor General of Rwanda during the fieldwork stage of the audit.

The audit did not assess the relevance of the Result Based Financing Model in Rwanda. The model was evaluated between the last quarter of 2017 and early 2018 through a separate review commissioned by the Secretariat.

3.3. Progress on Previously Identified Issues

The OIG previously audited Global Fund grants to Rwanda in 2014. The audit concluded that the country had a strong control environment and processes to support implementation of the Results Based Financing Model. At that time, the Secretariat had not undertaken testing of the systems of control that produce the programmatic and financial data. The Secretariat had also not developed an in-depth understanding of the strengths and weaknesses of the control systems in Rwanda.

Previous relevant OIG audit work

[GF-OIG-14-023 Audit of Global Fund Grants to Rwanda](#)

Since the 2014 audit:

- The Ministry of Health initiated system strengthening measures including integration of previous parallel systems into HMIS, and developing and implementing routine data management procedures.
- The Secretariat developed a plan to better understand the systems and controls, and to routinely verify their effectiveness; the agreed management actions were closed in 2016.
- The Local Fund Agent was engaged by the Secretariat to review the systems in January 2016. This review concluded that the weaknesses identified in the OIG audit had not been fully addressed. The Secretariat did not take any follow up action on the system weaknesses confirmed by the LFA.

4. Findings

4.1. Weaknesses in data systems and controls.

The country uses an electronic Health Management Information System (HMIS) to record and report program results. All hospitals have internet facilities which support electronic data management. The country has qualified data management staff including data manager across the health sector. Checks and balances at the country level protect the integrity of data reported, and standard operating procedures guide and support data reporting and use across all levels. All health facilities have performance contracts with metrics on data management to ensure they are held accountable for their reported results. Monthly and quarterly data validation and supervision arrangements are part of the recording and reporting processes. However, these controls are not being effectively implemented and weaknesses exist that may affect the quality of data.

Systems and controls underlying reported data

In line with the 2014 OIG audit, the correlation between the program results reported in the HMIS and the health facility registers reviewed during the audit remains high: the auditors did not identify significant variances between the results and the underlying primary records at the health facility. The selected HIV and TB indicators had negligible error rates of 0.2% and 0.8% respectively. The sampled malaria indicators at the health facility level had variances 1%, which is within accepted tolerances.

However, the OIG noted the following weaknesses in the systems and controls that produce the data, which **could affect the quality of data reported if not addressed**:

- **Limited validation controls in the electronic health management information system:** Similar to the findings in the 2014 audit, the electronic health management information system has a number of control deficiencies which affect the reliability of the reported program results. The country has defined standard operating procedures which outline the required approval levels before reported results can be changed in the system. However, the system is not secure, allowing health facilities to change reported malaria results without approval. 65% of health facilities visited changed malaria results in the system after reporting data without obtaining approval. These changes resulted in 19% and 5 % increases in the reported number of malaria cases treated at facilities and at the community level, respectively. At the time of the audit (October 2018), the system still allowed teams to change results reported to the Global Fund as far back as 2015. These changes mainly affected the results of the malaria grant, which accounts for 20% of the Global Fund's current investment in Rwanda.

Other system weaknesses include a lack of parameters around data entry, for example allowing health facilities to record negative numbers of patients, impacting the final numbers reported. The system is also unable to automatically aggregate results for reporting, requiring manual interventions that are prone to human error.

- **Incomplete malaria registers and inadequate supervision of community health workers.** The national guidelines require that all results reported in the electronic information system should be supported by primary records, referred to as registers. However, 63% of 100 sampled community health workers did not have registers for prior periods though they reported results in the electronic management information system. These workers could only provide registers and source documents for a three-month period (April to June 2018), though results of services supposedly provided by the community workers had been reported in the HMIS for the past two years. The available registers were not consistently completed. For instance, the results of malaria tests were not recorded in the registers, creating difficulties in determining the outcome of the diagnosis and subsequent treatment recorded in the HMIS.

There are approximately 45,000 community health workers in Rwanda, the lowest cadre of the health workforce. Consistent with most countries, these health workers have limited capacity to record their data in a timely manner. They were initially mandated to manage malaria cases in children under five. In response to the significant increase in malaria cases, the Ministry of Health revised its guidelines to enable community health workers to manage malaria cases in adults, starting in December 2016. This increased workload further strained the already low capacity of the community health workers without adequate supervision by the health centers. National guidelines require that each health center supervises community health workers within a defined area on a monthly basis. The supervision visit is expected to include data verification before the results from the community level are recorded in the electronic health management information system. However there is no evidence that 78% of the sampled community health workers were supervised in the last 12 months. Since the audit, the Ministry of Health has initiated steps to redesign the supervision framework, including increasing the frequency of visits to community health workers to strengthen data management at community level. The Ministry of Health has also started looking at the number of malaria cases and commodities used at all levels of services delivery.

- **Routine data checks at health facilities and hospitals are not consistently performed:** As part of the measures to improve data use, health facilities are required to perform monthly and quarterly data validation exercises before reporting their results. These validation exercises are supposed to be conducted by the data clerks and health professionals to determine the accuracy of the results and to identify trends for decision making at the service delivery points. The OIG found that only 59% of the health facilities visited were performing the required data validations before reporting the results. Data managers, who play an active role in the use of data at health facilities, are not fully trained in line with national guidelines: 41% of data managers in the facilities visited had received no training or guidance on the use of data in decision making.

The Ministry of Health started implementing the new health facilities organizational structure in July 2017. This has resulted in changes in staff previously in charge of supervising community health workers and data managers, and partly affected supervision and data management at health facilities. The Ministry of Health is rolling out an electronic learning platform including training in data management for newly recruited data managers and supervisors.

Agreed Management Action 1: Following the actions taken by the country since the audit, the Principal Recipient with support from the Global Fund Secretariat in collaboration with partners will:

- a) Further strengthen the electronic HMIS and associated Information Technology controls including i) ensuring automatic locking of the HMIS after each reporting period, ii) updating data validation rules to prevent entry of negative numbers; ii) securing access for users to physical servers; and iii) restricting super-user access to a minimum;
- b) Improve community level data and the supervision arrangements by i) recruiting and training of additional Community and Environmental Health Officers in data management and supervision of Community Health Workers; and ii) standardizing use and management of registers across health facilities and communities.

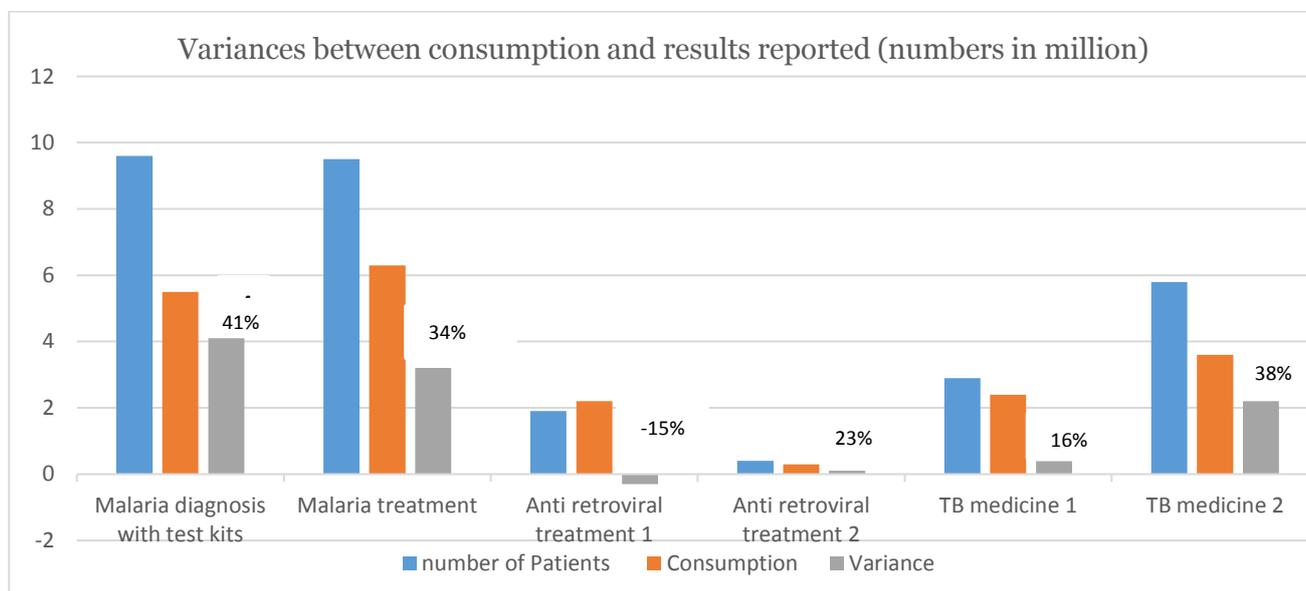
Owner: Mark Edington, Head Grant Management Division

Due date: 31 December 2019

4.2. Differences between consumption and patient data

The Ministry of Health has installed an electronic Logistics Management Information System (eLMIS) in all 30 District Pharmacies, district hospitals, and health centers⁸ to record medicines received and issued to patients and community health workers. The roll out of eLMIS started in July 2014, with an emphasis on ordering and inventory modules whereby all health facilities send medicine orders to the medical central stores through the electronic system. In addition to the eLMIS, until February 2018 consumption data was monitored through parallel excel spreadsheets and manual forms completed by the health facilities. The Central Medical Store utilizes the inventory management module in SAGE, an enterprise resource planning system. SAGE and eLMIS had yet to be integrated at the time of the audit, and data visualization is enabled by a conversion system which remains a manual procedure.

The auditors found that the reported number of patients diagnosed with test kits and treated with anti-malaria was higher than the amount of test kits and medicines used from January 2016 to June 2018. This may affect reliability of both the consumption data from the e-LMIS and the previously used manual forms, and the patient numbers in the HMIS, particularly for malaria.



The malaria data shows that the number of patients reported as diagnosed with test kits is about 41% higher than the quantity of test kits used. The number of patients treated for uncomplicated malaria is 34% higher than the quantity of anti-malaria medicine consumed based on the prescribed regimen for that patient population. These results are contrary to most audit findings which typically show that more test kits or anti malaria medicines have been used compared to the number of cases recorded in health information management systems.

Similar variances were noted across district and facility level. In 2016/2017, 29 of the 30 districts reported a higher number of patients treated than their consumption of anti-malaria medicines. In 2017/2018, 21 districts reported a greater number of patients treated than the level implied by the consumption data. The yearly trend shows marginal improvement in the data. At the service delivery points, 40% of health facilities visited had at least a 15% variance between anti malaria consumption data and the reported number of cases, and 47% of community health workers had at least 25% variances between the quantity of malaria medicines used and the reported number of cases.

The results for HIV and TB were better than the malaria program. For HIV, the first anti-retroviral medicines show over consumption of 15% compared to reported patients, while the second

⁸ 556 facilities for malaria commodities, 565 facilities for HIV commodities and 261 facilities for TB drugs.

combination indicates under consumption of 23%. The differences, however, could be explained by anti-retroviral medicine being used as prophylaxis by high risk populations. The TB program had less significant variance in absolute numbers, which could be partly due to cases being recorded but not necessarily initiated on treatment.

The auditors also analyzed the number of medicines and test kits distributed to the districts and health facilities as recorded in the enterprise resource planning system, SAGE; however, this did not explain the variances noted for the malaria program.

Almost ten times as many malaria cases were recorded in 2017 than in 2011. In response to the outbreak, the Ministry of Health prioritized preventing malaria related deaths through diverse strategies, including focal screening and treatment at community levels. However, this resulted in significant challenges in managing the related data. There has been an increased focus on strengthening the management of malaria data since the cases stabilized. The Ministry of Health is planning to conduct quarterly data triangulation across national, district and health facility level to better understand the data quality challenges and to improve quality of services.

Agreed Management Action 2: In order to improve the reliability of supply chain data, the Global Fund Secretariat will support the Principal Recipient and partners to:

- a) Perform further analysis of the differences identified in this audit report in order to identify the underlying reasons for discrepancies between consumption and patient data in line with terms of reference that are to be agreed with the Office of the Inspector General;
- b) Develop an action plan including timelines and responsible parties to address the identified underlying causes; and
- c) Conduct at least annual data triangulation or external consistency checks in line with WHO guidelines on Data Quality Review

Owner: Mark Edington, Head Grant Management Division

Due date: 31 December 2019

4.3. Limited survey results used to validate programmatic achievements, despite availability of more comprehensive routine national data

As part of the grant negotiation process, the Global Fund and the Ministry of Health agree on the number of indicators and basis for collecting results. The Ministry of Health uses two main mechanisms to collect the data reported to the Global Fund: routine and survey data. The selected indicators, data collection and verification methods are drawn from the health sector plan and the national disease strategic plans validated by the health sector working groups which include other partners.

- Routine data is collected continuously and systematically and can be accessed directly from the health management information system. Using this data for evaluative purposes is efficient and effective as it is collected from existing national data systems and provides more comprehensive coverage. In Rwanda, routine data is collected from patient records usually entered in a register and subsequently recorded in the Health Management Information System available at all health centres and hospitals. Community health workers submit manual results to the health centres to be recorded in the HMIS. All data entered in the HMIS reflects the national performance because of the high reporting rate of the health facilities. Almost all health facilities report their results on time.
- Survey data is collected at certain periods of time, or over a specific period of time, through tools specifically designed for the purpose. Survey results tend to provide qualitative information which is usually not available through routine sources. The country's national guidelines and the Global Fund grant agreement define the processes for these surveys. The Principal Recipient is required to use either a WHO recognized methodology, or a methodology validated by the National Ethical Committee and the Rwanda National Research Committee, or an alternative methodology subject to Global Fund approval. The surveys conducted by the Principal Recipient were approved by the Rwanda National Ethical Committee and the Rwanda National Research Committee.

There were 23 performance indicators⁹ under the Global Fund grants in Rwanda for funding cycle 2015-2017. Nine of these performance indicators are assessed through surveys while 14 are monitored using routine data.

Generally, surveys are used for data that cannot be collected through existing routine systems. Two key malaria performance indicators at the health facilities and community levels¹⁰ are measured through surveys, as agreed in the performance framework. Surveys provide both quantitative and qualitative information useful for decision making, and are conducted every two years, meaning results are available once during the life cycle of each grant. The scope of a community level survey is limited to a small component of the potential population, and results may not be representative of the national average. The recent community level survey for malaria case management indicators covers only 57 of the 45,000 community health workers, a sample size of 0.1%, yet is reported as the national average. Meanwhile, the quantitative information for all 45,000 community health workers as required by the Global Fund is routinely available in the HMIS. The community-level malaria survey was conducted in line with the data sources agreed in the performance framework.

Using routine data from national systems is more sustainable and cost effective than using survey results. Routine data is already being collected as part of existing data reporting systems and processes. While the survey provides more qualitative information, the quantitative component which is required by the Global Fund could routinely be reported on and coverage refined to gain more efficiencies.

⁹ 23 agreed indicators for funding cycle 2015-2017 and 19 agreed indicators for 2018-2021.

¹⁰ Two outcome indicators: CM-2a(M): Proportion of confirmed malaria cases that received first-line antimalarial treatment at public sector health facilities; CM-2b(M): Proportion of confirmed malaria cases that received first-line antimalarial treatment in the community

Agreed Management Action 3: a) In light of the progress made in the country's routine data systems, the Global Fund Secretariat in collaboration with partners will support efforts to ensure the Principal Recipient uses available routine data from the HMIS to report on malaria treatment;

b) The Global Fund Secretariat will review and approve all survey protocols developed for the collection of survey-based data used by the PR for reporting on the agreed indicators in the Global Fund grants. The protocols will include sample sizes and data collection methodologies.

Owner: Mark Edington, Head Grant Management Division

Due date: 31 December 2019

4.4. Insufficient oversight and assurance over data

A key component of the National Strategy Financing model is the use of existing national systems, in line with the Global Fund's principle of country ownership. The systems relied upon under the model include financial assurance from the Office of the Auditor General, which conducts an annual financial statements audit, and data assurance from the Ministry of Health, which conducts bi-annual Integrated Supportive Supervision and Data Quality Audits (ISS-DQA). The Secretariat has continuously strengthened the grant agreement to improve its management of the portfolio. For instance, the new grant agreement indicates that the Global Fund may, at least once during the current implementation period, engage in data verification and quality assurance using internationally recommended methods to be agreed with the Principal Recipient. The Global Fund and the Principal Recipient will also hold at least one strategic dialogue annually to facilitate the optimization of programmatic results and resources. These are new initiatives in the recent grant agreement, and are yet to be implemented. Overall, the existing oversight and assurance arrangements for financial results are effective, but those for data and their related systems are insufficient, despite being critical to the National Strategy Financing Model.

Oversight and assurance on data systems

Data assurance can be provided either through a detailed validation of reported results or by testing the systems and controls that produce the data. In line with the 2014 audit, the Secretariat decided not to verify the results directly before disbursement, choosing instead to review the underlying systems and controls. In particular, the Secretariat planned a deep review of the system of internal controls to verify their effectiveness; however, this plan has not been fully implemented. The only system review conducted by the Secretariat was performed in January 2016 when the Local Fund Agent was engaged to perform a follow-up review of the 2014 OIG audit. The Local Fund Agent indicated that the system weaknesses previously identified by the OIG had not been fully addressed. The Secretariat has not instituted any subsequent mitigation action around the system issues confirmed by the Local Fund Agent.

In July 2015, the Secretariat decided that the verification of systems and controls should be performed by the Ministry of Health as part of its semi-annual health sector wide ISS-DQA, rather than by an independent provider (the Local Fund Agent participates in the review as an observer). However, the ISS-DQA has not been consistently performed by the Ministry of Health in two out of five instances. Where the ISS-DQ was performed, the effectiveness of the information technology system and controls that produce the results were not reviewed. For instance, the deficiencies in the Health Management Information Systems were not identified during the ISS-DQA reviews. This indicates that the current ISS-DQA does not provide assurance on the systems and controls and new assurance systems and tools will be needed.

The Secretariat and the Ministry of Health agreed to include at least one Global Fund supported indicator per grant (a total of at least three) in each ISS-DQA. While the country is meeting this requirement, the same three out of 14 potential routine indicators have consistently been included in the ISS-DQA in the last three years. As a result, the Global Fund has not received any assurance over the accuracy, completeness and validity of the other 11 indicators, which are equally weighted for disbursement decision-making purposes.

These issues mean that the Global Fund does not verify the data or the underlying controls before making disbursements based on the results reported by the Ministry of Health. Therefore the Secretariat risks making unvalidated disbursement decisions due to insufficient assurance over the results data.

The Secretariat recently engaged with the Ministry of Health to incorporate some requirements from the Global Fund's Harmonized Health Facility Assessment into the country's ISS-DQA, but these changes do not address the weaknesses in the current assurance over data. Since the audit, the Ministry of Health has initiated measures to revamp the ISS-DQA to address the weaknesses

identified. This is expected to include changes in the frequency and indicators covered, as well as using staff with relevant expertise to conduct and analyze the results to inform decision making.

Assurance on financial management

The Office of the Auditor General (OAG) continues to provide financial assurance on the portfolio through financial statement audits. The scope of assurance provided by the OAG, which is determined by the Global Fund Secretariat, is currently limited to financial assurance. The OAG's terms of reference do not include validation of data or assessment of internal controls over data. External audit reports are submitted on time to the Global Fund and in some cases include additional reviews of stock and asset management at the central and service delivery level.

In view of the Global Fund's model and the inherently low fiduciary risks, the financial assurance is generally effective. However, the OIG noted that the recommendations from OAG audits have not been implemented on time. 15% of the OAG's material recommendations since June 2016 remain to be implemented by the Ministry of Health, with 56% partially implemented. For instance, material procurement and inventory management issues raised in June 2016 have not yet been resolved. These issues include differences between system and physical stock balances at warehouses, and delays in procurement processes which affect the timely availability of medicines and commodities.

Grant oversight by the Single Project Implementation Unit (SPIU)

The Single Project Implementation Unit is responsible for the overall oversight and coordination of the implementation of grant activities; this unit is embedded at RBC, the main grant sub recipient, instead of at the Principal Recipient, causing a potential conflict of interest as the sub recipient is responsible for directly implementing grant activities. At the time of the audit fieldwork, the Ministry of Health had decided to assign the overall grant oversight and management back to the Principal Recipient.

Agreed Management Action 4: a) The Global Fund Secretariat will update the portfolio's assurance plan to include independent verification of data systems and related IT systems that produce the results. This plan will include: i) the assurance activities relative to the identified controls on data systems, ii) the frequency of these activities, and iii) the assigned assurance providers.

b) The Global Fund Secretariat will ensure that the Principal Recipient develops an action plan to address outstanding Office of the Auditor General (OAG) audit recommendations.

Owner: Mark Edington, Head Grant Management Division

Due date: 31 December 2019

5. Table of Agreed Actions

Agreed Management Action	Target date	Owner
<p>Agreed Management Action 1:</p> <p>Following the actions taken by the country since the audit, the Principal Recipient with support from the Global Fund Secretariat in collaboration with partners will:</p> <ul style="list-style-type: none"> a) Further strengthen the electronic HMIS and associated Information Technology controls including i) ensuring automatic locking of the HMIS after each reporting period, ii) updating data validation rules to prevent entry of negative numbers; ii) securing access for users to physical servers; and iii) restricting super-user access to a minimum; b) Improve community level data and the supervision arrangements by i) recruiting and training of additional Community and Environmental Health Officers in data management and supervision of Community Health Workers; and ii) standardizing use and management of registers across health facilities and communities. 	31 December 2019	Mark Edington, Head Grant Management Division
<p>Agreed Management Action 2:</p> <p>In order to improve the reliability of supply chain data, the Global Fund Secretariat will support the Principal Recipient and partners to:</p> <ul style="list-style-type: none"> a) Perform further analysis of the differences identified in this audit report in order to identify the underlying reasons for discrepancies between consumption and patient data in line with terms of reference that are to be agreed with the Office of the Inspector General; b) Develop an action plan including timelines and responsible parties to address the identified underlying causes; and c) Conduct at least annual data triangulation or external consistency checks in line with WHO guidelines on Data Quality Review. 	31 December 2019	Mark Edington, Head Grant Management Division

<p>Agreed Management Action 3:</p> <p>a) In light of the progress made in the country's routine data systems, the Global Fund Secretariat in collaboration with partners will support efforts to ensure the Principal Recipient uses available routine data from the HMIS to report on malaria treatment;</p> <p>b) The Global Fund Secretariat will review and approve all survey protocols developed for the collection of survey-based data used by the PR for reporting on the agreed indicators in the Global Fund grants. The protocols will include sample sizes and data collection methodologies.</p>	<p>31 December 2019</p>	<p>Mark Edington, Head Grant Management Division</p>
<p>Agreed Management Action 4:</p> <p>a) The Global Fund Secretariat will update the portfolio's assurance plan to include independent verification of data systems and related IT systems that produce the results. This plan will include: i) the assurance activities relative to the identified controls on data systems, ii) the frequency of these activities, and iii) the assigned assurance providers.</p> <p>b) The Global Fund Secretariat will ensure that the Principal Recipient develops an action plan to address outstanding Office of the Auditor General (OAG) audit recommendations.</p>	<p>31 December 2019</p>	<p>Mark Edington, Head Grant Management Division</p>

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 help our auditors to provide high quality professional work, and to operate efficiently and effectively. They 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 across the Global Fund as well as of grant recipients, 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 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.