AUDIT REPORT

Global Fund audit of

In-country data and data systems

GF-OIG-23-006
3 April 2023
Geneva, Switzerland

THE GLOBAL FUND
Office of the Inspector General

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1. Executive Summary

1.1 Opinion

The availability of quality data is critical in the fight against the three diseases to support robust decision making and oversight, both for implementers and the Global Fund Secretariat. The importance of data quality is reflected in the inclusion of key objectives to strengthen data quality and systems in both the 2017-2022 and 2023-2028 Global Fund strategies.

To support these objectives, the Global Fund has invested US$1 billion in in-country *programmatic data systems*, tools and processes in the New Funding Model 2 (NFM2) and Grant Cycle 6 (GC6)[1] implementation cycles. Coordinated with key domestic and international technical partners, these investments have improved programmatic data availability, disaggregation and reporting completeness at the country level. However, there has been less success in enhancing data accuracy and timeliness. While in-country programmatic data timeliness has improved by 22% between 2017 and 2021, further progress has been hindered by country-level challenges with data systems, use of manual tools and multiple fragmented systems. Data accuracy of key programmatic indicators also continues to vary significantly, both across the three diseases and across portfolios.

For procurement and supply management (PSM) data, there is limited end-to-end data visibility and quality at the country level, despite 55% of the Global Fund's total grant allocations in NFM2 and GC6 relating to PSM activities. These country-level issues are linked to gaps in the Secretariat's approach to data, including sub-optimal performance monitoring of the Global Fund's strategic framework for programmatic data (Global Fund Strategic Framework for Data Use for Action and Improvement at Country Level, 2017-2022 "DUFAI"), as well as the lack of a detailed Global Fund PSM data strengthening strategy. There is also limited portfolio-wide visibility on country-level investments in data and data systems, which limits the ability to effectively address data issues. Considering the improvements in programmatic data availability and completeness alongside the issues in programmatic data accuracy and challenges with PSM related data, the adequacy and effectiveness of the strategic framework for strengthening in-country data and data systems **needs significant improvement.**

The Global Fund has developed detailed guidance and tools on monitoring programmatic data availability and quality at the country level. There are also health management information systems (HMIS) and monitoring and evaluation (M&E) performance indicators within performance frameworks in all sampled countries. Over 40% of the total Global Fund investment in HMIS and M&E relates to monitoring and oversight activities for programmatic data and data systems. These Global Fund investments support guidelines and provide tools for implementers to monitor health facilities. While there are well-designed guidelines and tools for monitoring and assurance, the OIG noted implementation challenges. Regarding implementer monitoring of data quality, most issues were identified at the health facility level, where processes and controls over in-country HMIS are not always formalized and followed, and there are significant M&E staff capacity gaps impacting the robustness of monitoring of data quality.

Outside health facilities, there are issues with monitoring, oversight, and supervision visits by national and regional entities. These reviews are often delayed, not performed, or do not result in improved data accuracy. There is also a lack of triangulation of patient and PSM consumption data, as well as limited monitoring of data accuracy, which affects the ability of implementers to detect material inaccuracies in reported data. At the Secretariat level, there is limited differentiation of Local Fund Agent assurance over programmatic data based on portfolio risk. Thus, the design and effectiveness of the Global Fund's monitoring and assurance over programmatic data risks at country level **need significant improvement.**

[1] Naming convention for grant cycles updated in 2023 to better align to funding cycles – Grant Cycle 6 (GC6) equates to NFM3

1.2 Key Achievements and Good Practice

Improvements in programmatic data availability and quality linked to increased Global Fund investments

The proportion of high-impact and core countries with fully deployed and functioning health management information systems (HMIS) increased from 11% in 2017 to 53% in 2021.[2] Significant improvements have also been made to integrate HIV, TB and malaria data into national data systems. A larger share of countries now has the ability to report disaggregated data, growing from 27% in 2017 to 65% in 2020. The large increases in investment through country allocations and strategic initiatives have enabled this progress.

The Global Fund allocated US$1 billion from country grants and US$57 million through the Data Strategic Initiative (Data SI) to support HMIS and related monitoring and evaluation during NFM2 and GC6.[3] The grant funding grew by 20% between NFM2 and GC6 and Data SI also increased by 11%. These investments have focused on addressing data quality challenges, including inadequate monitoring, staff capacity issues, fragmented HMIS, non-adherence to guidelines and procedures and lack of tools/registers.

Improved coordination with donor and technical partners at both country and global level

The Global Fund has leveraged its partnerships with domestic, technical and other donors in its approach to improve in-country data and data systems. Multiple technical and international organizations provide support to countries through grants and the Data SI, including the University of Oslo and the World Health Organization (WHO). Routine partner meetings and technical working groups at the country and Secretariat level are helping to ensure a coordinated approach. Some notable examples of working group meetings with partners on DHIS2[4] were in the Democratic Republic of Congo, Kenya and Mali.

The Global Fund has also improved coordination with external partners to improve in-country PSM data systems, such as joint financing of electronic Logistics Management Information Systems (LMIS) and data monitoring with USAID and Gavi in selected countries. The Global Fund and Gavi jointly developed country guidance for selecting LMIS,[5] to support country planning for new LMIS software selection, acquisition and deployment.

1.3 Key Issues and Risks

Programmatic data timeliness and accuracy issues persist due to gaps in systems, processes, tools and capacity at the health facility level

In all countries the OIG reviewed, data quality for at least one disease component was assessed as poor or very poor following a national or targeted data quality review (DQR). This is due to challenges at the point of data collection and entry, as well as critical gaps in human resources for health at the health facility level. The use of paper-based tools and manual processes for primary data collection and reporting exacerbates these challenges as does the existence of multiple/fragmented systems with limited or no integration and/or interoperability.

The OIG noted that reporting timeliness is inconsistent between countries and across the three diseases. These challenges are reflected in the timeliness of reporting, which has improved significantly but remains below the target (76% vs 80%) in high-impact and core countries since 2019. Average timeliness across high-impact and core countries is skewed by high performing[6] portfolios with 59%[7] of high-impact and core countries having timely reporting from health facilities.

[2] As of December 2021, 53% (vs 11% at the end of 2017) of high-impact and core countries with fully deployed (i.e., at least 80% of facilities reporting) and functional HMIS (i.e., complete and timely facility reporting). NFM2 grants implemented 2017-2019 funding cycle and GC6 2020-2022 funding cycle.
[3] Strategic Initiatives refer to catalytic investments managed by the Secretariat to support cross-cutting strategic areas that cannot be addressed through country allocations.
[4] DHIS2 is an open source, web-based platform for data collection, management and analysis (www.dhis2.org/in-action) accessed 16 Nov 2022.
[5] Country guidance for selecting LMIS created in 2019 by the Global Fund and GAVI - Country guidance for selecting LMIS
[6] 37% (19 out of 51) of a cohort of high-impact and core countries have average health facility reporting timeliness ranging from 90-100%. This drives up the portfolio-wide average reporting timeliness.
[7] As of December 2021, 30 out of 51 of high-impact and core countries (cohort at point of time)

Lack of data triangulation between patient and PSM consumption data to effectively identify and resolve data issues

In six[8] out of eight sampled countries, there was no process to routinely reconcile patient data with health product consumption data. This reconciliation is necessary to validate the accuracy of data sets, resolve data quality issues and inform decision-making to strengthen program interventions. In Nigeria and Mali, for instance, reconciliation of tuberculosis (TB) and malaria service data consistently flagged material[9] variances between consumption and patient data.

Gaps in strategic frameworks have undermined the ability to address data issues

For *programmatic data and data systems*, the Global Fund has developed the Global Fund Strategic Framework for Data Use for Action and Improvement at Country Level, 2017-2022 (DUFAI). Yet gaps in the monitoring and oversight of the DUFAI itself have undermined its implementation. There is no systematic reporting on progress of key components[10] with 30% (6 out of 20) of indicators[11] formally reported to senior management through key performance indicators (KPIs). There are also no strategic or operational KPIs at Secretariat level in place to assess and monitor data accuracy and data completeness[12] for core HIV, TB and malaria indicators.

Likewise, for *PSM data and data systems*, there is no detailed implementation framework in place to guide Global Fund investments. The adequacy and effectiveness of in-country supply chain data and systems is minimally assessed. On-Shelf Availability (OSA) is the only board-approved strategic KPI that is measured. This has allowed issues with PSM data at the country level to persist, including lack of alignment with programmatic data sources and lack of interoperability between HMIS and PSM data systems.

Inadequate monitoring at the health facility level limits the ability to detect data quality issues

The OIG noted gaps in the execution of monitoring visits by in-country implementers. This includes delays or cancellation of planned supervision visits at the health facility level to assess data quality. Regarding assurance, 27% (15 out of 54) of high-impact and core countries performed a national DQR in the last 4 years. The OIG also noted issues in the effective use of Local Fund Agents (LFAs) to support assurance on programmatic data quality. LFA services are not sufficiently differentiated across risk-rated portfolios with a significant proportion[13] of M&E expert time spent on non-core M&E assurance.[14] Most monitoring of programmatic data is performed through verification of performance indicators in PU/DR,[15] which does not involve in-depth verification of accuracy of reported data. In six[16] of the sampled countries, this work is completed via desk reviews of HMIS data extracts and does not involve verification of primary data sources.[17]

COVID-19 disruptions and delays at the start of grant implementation (e.g., hiring staff, onboarding staff and implementers, sub-recipients and procurement) also resulted in non-implementation of activities and low absorption of M&E funds.

[8] Angola, Kenya, Tanzania, Indonesia, DRC and Mozambique

[9] In Mali, triangulation exercise identified a variance between HMIS and consumption data of 296% for malaria data from 2019. In Nigeria, while variances for malaria data reduced over time from -40% in 2018 to 17% in 2020, the gap remains high (i.e., >10%).

[10] The Global Fund Strategic Framework for Data Use for Action and Improvement at Country Level (2017-2022) includes five components: (i) investing in country data systems and analytical capacity, (ii) support for program monitoring (iii) systematic data analysis and synthesis, (iv) evaluations, and (v) use of data at the country level.

[11] Indicators that are not systematically reported include, but are not limited to, the percentage of countries with a comprehensive, costed national M&E plan and the percentage of countries with national HMIS that captures key aggregate LMIS indicators or is interoperable with the national LMIS

[12] Data completeness is different from overall reporting completeness, which only assesses the receipt of monthly or quarterly reporting forms from health facilities.

[13] A significant proportion (40% to 60%) of the LFA M&E experts' time was spent on cross-functional reviews such as grant-making and grant closure in addition to other related services in years one and three of the grant cycle.

[14] Local Fund Agents undertake both cross-functional reviews (e.g., grant making, capacity assessments, PU/DR reviews) and core M&E specific reviews (e.g., program and/or data quality spot checks, targeted data quality review and targeted health facility assessments) to provide assurance over programmatic risks.

[15] PU/DR refers to a Progress Update and Disbursement Request. The PU/DR is a comprehensive report completed by the Principal Recipients on grant programmatic and financial progress as well as management issues. Performance indicators include impact, outcome and coverage indicators and disaggregation of indicators.

[16] Nigeria, Mali, Indonesia, Tanzania, Mozambique and Angola

[17] This is within the current PUDR guidelines (Feb 2022), but within the discretion of Global Fund Secretariat to request more detailed review.

1.4 Objectives and Scope

The overall objective of the audit is to provide reasonable assurance to the Global Fund Board on the adequacy and effectiveness of the Global Fund's framework for strengthening in-country data and data systems and quality. Specifically, the audit assessed the adequacy, design and effectiveness of:

Objective	Rating	Scope
The strategic framework for strengthening in-country data and data systems.	**Needs Significant Improvement**	**Audit period** January 2018 to June 2022 **Scope exclusion** The audit does not opine on in-country financial data and systems and use of data for decision-making at the country level. In-country financial data and data systems were covered in the OIG's Managing Investments in Resilient and Sustainable Systems for Health audit. Data driven decision making at country level was evaluated by the Global Fund Technical Evaluation Reference Group (TERG) at the same time as this audit. The review of in-country PSM data was limited to the extent to which PSM data/data systems are interoperable with programmatic data. The audit did not assess health product procurement, storage or distribution data.
The Global Fund's monitoring and assurance over programmatic data risks at country level.	**Needs Significant Improvement**	

The audit reviewed:

- Secretariat policies, structures, systems, processes and tools to strengthen in-country data and data systems
- Current state of in-country data quality and availability
- Global Fund's oversight and assurance arrangement over programmatic data at the country level

The OIG sampled eight countries with detailed desk reviews and engaged in-country implementers and partners and leveraged prior OIG audit findings from reports published between 2018 and Q3 2022.

Figure 1: Geographical spread of sampled countries

2. Background and Context

2.1 Overall Context

In line with the Global Fund's country ownership principle, each country is responsible for implementing its response to the three diseases including the use of health management information systems (HMIS) that depend on quality and timely programmatic data to be effective. This was recognized in the Global Fund's 2017-2022 strategy that outlined how the Global Fund would support countries to strengthen their data systems and analytical capacity and affirmed again in the Global Fund's 2023-2028 strategy. The latest strategy emphasizes data-driven decision-making and calls for investing in systems and capabilities to enable the rapid generation, analysis, and use of complete, timely, and accurate context-relevant disaggregated data.

The WHO's health systems framework[18] identifies HMIS as one of the core pillars of a health system. It refers to them as essential to enhance the capacity and resilience of health systems and to ensure quality of programs with impact. The Global Fund has supported countries to improve the quality of their data and data systems with country grants supplemented by Strategic Initiatives (SI).[19] Due to the complexity of national health systems and limited resources, the Global Fund has leveraged partnerships with domestic, technical and other donor partners to facilitate this work. Given the complex nature of data and data systems and broader health sector challenges, improvements in health systems often require longer term investments to generate improvements.

2.2 Overview of In-Country Data and Data Systems

The WHO[20] defines a health information system as a system that integrates data collection, processing, reporting, and use of the information necessary for improving health service effectiveness and efficiency.

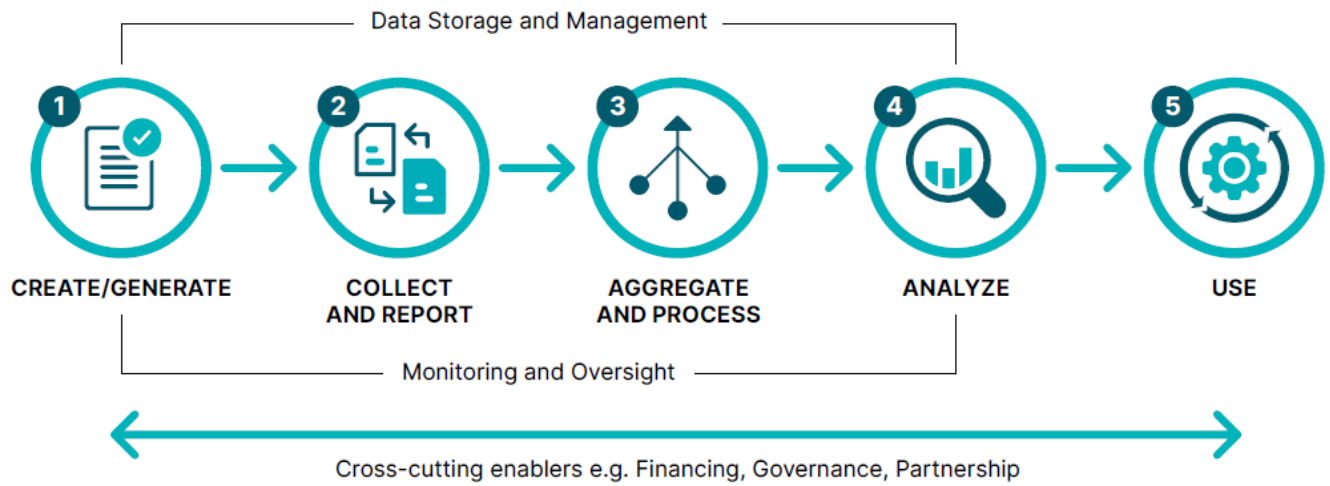
Programmatic and PSM health information is collected through various types of systems or subsystems[21] at national, regional and facility levels, which can be manual and/or electronic. They are either parallel to or integrated with the aggregate national health information systems depending on the maturity of the country's health information ecosystem. However, the Global Fund aims to strengthen and support national data systems where possible.

According to the Global Fund Strategic Framework for Data Use for Action and Improvement at country level (2017-2022), complete, timely and accurate data is required for sound decision-making (i.e., investment decisions, program planning, monitoring program performance, program impact assessment, as well as reporting).

Typically, the national HMIS and disease specific reporting systems collect data on routine health services that are reported from health facilities. The data collected undergoes several critical processes during the reporting from health facilities to the national level, as seen in figure two below.

[18] WHO 2010: Monitoring the building blocks of health systems (Accessed 19 August 2022)
[19] Strategic Initiative (SI) refer to catalytic investments managed directly by the Global Fund Secretariat and used to support cross-cutting strategic areas that are not directly funded through country grants.
[20] WHO 2021: Global strategy on digital health 2020-2025 (Accessed November 2022)
[21] Examples include community health information systems, case management systems, laboratory information systems, logistics management information systems, and warehouse management systems.

Figure 2: Generalized data life cycle[22]



There is no standard data life cycle, and the stages vary depending on nature, source, and use of data and can differ significantly across portfolios. Typically, the life cycle is continuous with data extracted, used and repurposed multiple times and at different stages. The Global Fund targets its investments to improve and reinforce a country's data life cycle according to the maturity of its health system.

While in-country data and data systems are country owned, investments and joint effort from multiple stakeholders (governments, donors, partners, and implementers) are required to be able to develop and strengthen them. Progress in this area is contingent on the cross-cutting enablers that affect the entire data life cycle such as:

- **availability of resources** (both domestic and donor funding) to ensure availability of human resources - adequately staffed and trained, infrastructure, etc.
- **robust governance and implementation arrangements** (e.g., laws, policies and procedures, leadership, administrative structure, etc.) to ensure sustained results
- **well-coordinated partnerships amongst stakeholders** (in-country and international level) to steer investments in the prioritized areas

[22] Adapted from the World Bank's - World Development Report 2021: Data for Better Lives (Accessed Nov 2022)

3. Findings

3.1 Progress made in improving programmatic data availability and completeness, but gaps remain in data timeliness and accuracy

The Global Fund has supported improved deployment and integration of HIV, TB and malaria data into national electronic HMIS. The ability of funded programs to report complete and disaggregated data have improved, but challenges in timeliness and data accuracy impacts effective decision-making.

The availability of quality programmatic data is vital to facilitate good decision-making at both country and Secretariat levels. According to the Global Fund Strategic Framework for Data Use for Action and Improvement at country level (2017-2022), the key dimensions of data quality include completeness, accuracy and timeliness. Grant implementers and national disease programs require quality data to assess implementation effectiveness. The Global Fund Secretariat uses in-country data to measure performance and inform investment decisions. In line with the principle of country ownership, the Global Fund invests in national data systems to strengthen their capacity, investing US$1 billion in NFM2 and GC6 through country grants[23], as well as additional funding in targeted catalytic investments, including US$57 million in the Data Strategic Initiative.[24]

The OIG noted good coordination with domestic, technical and other donor partner organizations to improve data availability, disaggregation and completeness. However, progress has been slow to improve the timeliness of reporting. Data accuracy also varies considerably at the country level. The OIG identified some of the key contributing root causes underlying these issues at the country and health facility levels, as well as at the Global Fund Secretariat.

Global Fund investments have helped to improve data disaggregation, availability and completeness resulting in better access to aggregate programmatic data for analysis and decision making

The Global Fund has increased its investments to strengthen HMIS and programmatic data – including monitoring and evaluation - by 20% (US$93 million) between NFM2 and GC6. The Secretariat also took opportunities throughout the grant life cycle to further increase this investment, with HMIS budgets increased in grant revisions for five[25] out of the eight countries sampled. These investments support routine and non-routine programmatic data. The Global Fund, in coordination with other partners such as Gavi, has also contributed to the global roll-out and implementation of DHIS2,[26] with 81% (44 out of 54) of the high-impact and core countries using or piloting DHIS2. The system facilitates the strengthening of programmatic data collection, analysis, and use of aggregate data in countries. The Global Fund uses innovative partnerships with the University of Oslo and the DHIS2 regional hubs[27] to support this digital transformation.

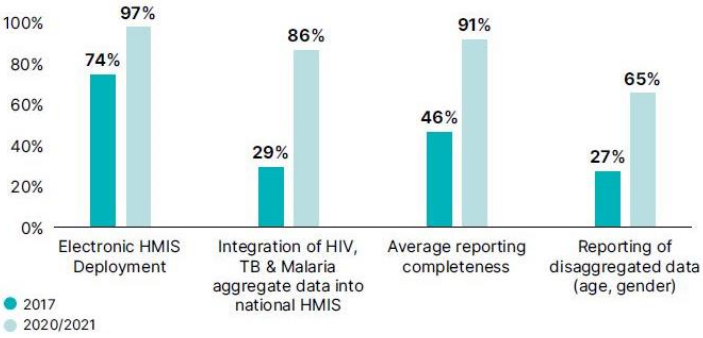
The Global Fund has also improved coordination with donor and technical partners at both country and global levels. Examples of coordination were noted in all eight sampled countries through joint investments and technical working groups. There are also technical and international organizations implementing and providing technical support to countries through the Data SI. Funding for Data SI was not renewed for the 2023-2025 allocation, underscoring the need for continued coordination with partners to support cross-cutting strategic areas that cannot be addressed

[23] NFM2 is short for New Funding Model 2, which refers to grants implemented under the 2017-2019 funding cycle. GC6 is short for Grant Cycle 6, which refers to grants implemented under the 2020-2022 funding cycle.
[24] Strategic Initiative (SI) refers to catalytic investments managed directly by the Global Fund Secretariat and used to support country allocations through programs not directly funded with country grants.
[25] HMIS & M&E budget allocations under NFM2 (original vs final) increased in Mali, Indonesia, Kenya, Tanzania and Mozambique.
[26] DHIS2 is an open source, web-based platform for data collection, management and analysis (www.dhis2.org/in-action) accessed 16 Nov 2022.
[27] Health Information System Programme (HISP) regional hubs

through country grants. The current Data Quality Review (DQR) framework[28] was developed through a collaborative effort with the World Health Organization (WHO), the Global Fund, Gavi and USAID.

As seen in figure 3, the OIG noted improved programmatic data availability, disaggregation, and reporting completeness across high-impact and core portfolios.

Figure 3: Data availability, disaggregation, and completeness



Improved reporting timeliness but progress hindered by gaps in systems and tools at sub-national level impacting early detection and response to programmatic issues

The Global Fund considers reporting timely when at least 80% of reports from health facilities are submitted to the electronic HMIS within the deadline. Progress has been made in improving reporting timeliness at the country level, with average timeliness (i.e., percentage of health facilities reporting within stipulated timelines) across high-impact and core countries improving by 22% between 2017 (54%) and 2021 (76%). However, performance on this metric has stagnated since 2019 and remains below target as of December 2021. In addition, the average timeliness across high-impact and core countries is skewed by high performing[29] portfolios with 59%[30] of high-impact and core countries having timely reporting from health facilities.

The different achievements in terms of timeliness between countries and across the three diseases has many root causes, including disruption from the COVID-19 pandemic that impacted timely routine reporting. These are all, however, linked to continued issues at the sub-national level in countries, including gaps in electronic systems at health facility levels[31] due to infrastructure challenges such as electricity and internet access coupled with gaps in human resources to support timely data reporting. In addition, multiple fragmented systems – with limited or no integration – impact the timeliness of aggregated reporting, as noted in all sampled countries. These challenges are linked to national level gaps in strategies to improve data.

Two[32] out of eight sampled countries did not have a national HMIS policy and strategy. This limits the ability to coordinate and direct strategic investments in HMIS. As health facilities are the primary source of health sector data, lack of timely health facility reporting impacts early detection and response to programmatic issues, such as surges in disease infections or outbreaks at sub-national level.

Varying degrees of data accuracy across the three diseases impact effective decision making

Across the sampled countries, there are significant variances in the level of data accuracy. All sampled countries that had a national or targeted DQR during the audit period (since 2018) have rated data accuracy of selected indicators as poor or very poor for at least one of the three diseases.[33]

[28] Data Quality review framework finalized in December 2020 - WHO Data Quality Review (Framework and Metrics)
[29] 37% (19 out of 51) of a cohort of high-impact and core countries have average health facility reporting timeliness ranging from 90-100%. This drives up the average portfolio wide average reporting timeliness.
[30] As of December 2021, 30 out of 51 of high-impact and core countries (cohort at point of time)
[31] The point of data entry and collection
[32] i) No national HIS policy in Angola (PR-UNDP developed an HMIS roadmap for GC6) ii) obsolete HIS policy in Mozambique (issued 2009 and expired in 2014, funding for new policy in GC6 grant).
[33] Data accuracy is measured as the ratio of recounted value in source documents at the health facility to the value in the reporting system (i.e., HMIS). Ratings as follows: >20% (Very Poor); +/-11% to 20% (Poor); +/- 6% to 10% (Moderate); and +/-5% (Good).

Country[34]	HIV (Number of people on ART)	TB (Case notification)	Malaria (confirmed cases)
Indonesia	Good	Poor	Good
Tanzania	Good	Very Poor	Poor
Angola	Poor	Very Poor	Moderate
Nigeria	Good	Poor	Good
DRC	Good	Good	Very Poor
Mali	Poor	Moderate	Very Poor
Kenya[35]	N/A	Poor	N/A
Mozambique[36]	N/A	N/A	N/A

In addition, 18[37] OIG country audits since 2018 (45%) identified material gaps in data accuracy relating to 1) discrepancies between data reported in HMIS and primary source documents at health facilities and 2) discrepancies between consumption and patient data.

The OIG identified root causes for these data inaccuracies, as described below.

At sub-national level

Based on OIG Country audits, most of the following root causes were identified at the point of data generation[38] (26%) and data storage and management[39] (30%), which occurs at the sub-national level and service delivery point.

- Issues with fragmented information systems causing increased workload for staff and decreasing the time and ability to ensure accurate data is reported
- Lack of data reporting tools and registers, resulting in non-standard recording that increases risk of errors
- Staff capacity issues (vacancies, lack of training and knowledge gaps), resulting in non-adherence to guidelines and procedures
- Gaps in programmatic data monitoring and oversight that cause data errors to go unidentified.

At national level

The OIG noted challenges using DHIS2 to analyze data and improve data quality. DHIS2 has built-in functionality to support data accuracy checks, but it is not being effectively used to identify and correct data errors. Data quality validation rules for individual disease components were either not set up or data quality apps[40] functionality not used at national or sub-national levels. In seven of the sampled countries that use DHIS2, data quality apps were not adequately deployed or used.

Examples of inadequate deployment of data quality modules in DHIS2

- **Angola**: the data quality app has only two data sets with customized validation rules. No validations seen for TB and HIV and other diseases programs.
- **DRC**: WHO data quality app was installed, but later deactivated (due to low server capacity).
- **Kenya**: WHO data quality app is installed but not rolled-out to lower levels.
- **Tanzania & Mozambique**: data quality apps installed and mapped, but no evidence of use at national and/or sub-national levels

[34] Source: Indonesia (national DQR, 2018), Tanzania (national DQR, 2018), Angola (targeted DQR, 2019), Nigeria (National Health Facility Survey, 2019), DRC (national DQR, 2021), Mali (HIV/TB: national DQR (2018) & malaria data and system assessment (2022)
[35] For Kenya, the last national DQR done in 2016. TB data accuracy from the TB disease specific DQA 2021.
[36] In Mozambique, the last national DQR was in 2015 (2017 DQR was downgraded to a data accuracy review due to non-compliant methodology). GC6 grant includes funding for a national DQR (ongoing at the time of the audit).
[37] Data accuracy issues identified in 18 OIG country audits; 2018 (Ukraine, Niger, Kenya, Tanzania, Chad); 2019 (Sierra Leone, Rwanda, Ghana, Malawi, Togo, DRC, Sudan, Madagascar); 2020 (Angola, Zimbabwe, Cote d'Ivoire); 2022 (Mozambique, Congo).
[38] Data generation involves capturing data using standard formats (forms, registers etc.) and tools typically at the service delivery point.
[39] Data storage and management involves the storage, handling and accumulation of data at both service delivery points (primary tools) and through a centralized information management system.
[40] The OIG undertook walk-through tests on two types of data quality apps in DHIS2: the Data Quality App (generic in-built in DHIS2) and WHO data quality app (customizable for specialized functionalities).

At Secretariat level

There is limited portfolio-wide monitoring of data accuracy (see finding 3.3) by the Secretariat. In-country data accuracy is also not systematically tracked: there are no strategic or operational KPIs at the Secretariat level to track data accuracy, which has allowed data accuracy issues to persist.

Inaccurate data hinders effective decision-making and increases reliance on non-routine data (e.g., population-based surveys), which is not regular and can affect quality of operational decisions. For instance, the 2022 OIG audit of the grants in Nigeria identified continued reliance on outdated data from the 2012 TB prevalence survey for planning and prioritizing interventions. This was a key contributing factor hindering progress against TB and persistent high number of missing cases.

Agreed Management Action 1
The Secretariat will (a) develop and (b) implement an End-to-end operational framework to enhance country programmatic data quality (including the dimensions on completeness, timeliness, and accuracy), data use, data analytics (including triangulation) and assurance and oversight. The framework will include: ▪ Processes of monitoring and reporting on data quality ▪ Roles and responsibilities across the Secretariat ▪ Enhanced assurance on data quality To support the embedding and implementation of the operational framework, relevant updates to Secretariat systems, tools and processes will be completed.
OWNER: Rahul Singhal, Chief Risk Officer Head of programmatic monitoring and risk division
DUE DATE: Part A – 30 June 2024, Part B – 30 June 2025

3.2 Limited availability, quality and triangulation of consumption data negatively impacts supply chain management leading to increased risk of stock-outs and expiries at health facility level

There is limited end-to-end supply chain data visibility and significant data quality issues at the country level. Limited investment and lack of a detailed approach to strengthening PSM data and systems undermines the effectiveness of the Global Fund to address these issues.

Over 55% (US$16.1 billion) of the Global Fund's total grant allocations for NFM2 and GC6 relates to health product procurement and supply chain related activities. However, the availability of country-level data for PSM activities is limited and the quality of related consumption data is poor. This is linked to fragmented Logistics Management Information Systems (LMIS) and limited triangulation of health product consumption data as detailed below.

- *Fragmented LMIS limit the availability of aggregate consumption data at the central level:* According to the joint Global Fund and Gavi country guidance for selecting LMIS,[41] a digital LMIS tracks a number of indicators (the rate of consumption of health products, stock levels throughout the system, risks of stock-outs or expiration, temperature excursions and asset functionality for cold chain or diagnostic equipment and operational performance at all levels of the supply chain). Five[42] out of eight sampled countries did not have aggregate health product consumption data available through a centralized LMIS. LMIS are fragmented with multiple standalone electronic and/or manual systems to manage health commodities at different levels of the supply chain from the central to health facility level. This limits end-to-end visibility and availability of health product consumption data, risking over- or under-supply of health commodities impacting program beneficiaries.
- *Material variances between health product consumption and patient/programmatic data:* Data triangulation exercises consistently flagged material variances between patient data and health product consumption data in sampled countries. In Mali, for instance, there was a variance of 296%[43] following a limited triangulation exercise of data of uncomplicated malaria cases against consumption data from 2019. In Nigeria, while data variance for malaria reduced over time from -40% in 2018 to 17% in 2020, the gap remains high (i.e., >10%), indicating persistent underlying data quality issues.

These variances can be attributed to low-quality reporting for patient data in DHIS2 and/or consumption data in LMIS. Despite the lack of LMIS and HMIS interoperability,[44] triangulation of patient and health product consumption data is not done routinely. Two[45] (Nigeria and Mali) out of eight sampled countries triangulated data in reviews for TB and malaria. Nine[46] OIG country audits since 2018 have also noted failures to perform data triangulation and material unreconciled variances between HMIS and LMIS data.

There is limited direct investment in routine data quality, reporting and verification to support a robust PSM process. Grant funding for health product management systems mainly relate to infrastructure (e.g., construction, maintenance and renovation of warehouses) and other enablers (e.g., technical assistance) for storage and

[41] Country guidance for selecting LMIS

[42] Issue noted in Mozambique, Angola, Indonesia, Kenya and DRC. Nigeria and Tanzania have one eLMIS at national and sub-national levels, while Mali has a management information dashboard that provides visibility of consumption data from the health facility to the central level.

[43] Difference between the number of uncomplicated malaria cases reported in DHIS2 and projected malaria commodity consumption data for the age range 2 months to 3 years 11 months and 4 years to 7 years 11 months for the period January-June 2019.

[44] Interoperability is the ability of different applications to access, exchange, integrate and cooperatively use data. It involves the use of shared application interfaces and standards within and across organizational, regional and national boundaries. It enables timely and seamless portability of information and optimizes health outcomes (source: WHO, Global strategy on digital health 2020-2025).

[45] Global Fund supports triangulation HMIS and LMIS triangulation in Nigeria (malaria since 2018, TB since 2022) and Mali (since 2019)

[46] Issues reported in nine OIG country audits; 2018 (Niger, Tanzania); 2019 (Sierra Leone, Rwanda); 2020 (Zimbabwe, Cote d'Ivoire); 2022 (Mozambique, Nigeria, Congo).

distribution of health commodities, while 16% (US$77 million)[47] of grant funding for health product management systems relate to investment in PSM data and data systems.

While the respective countries have the primary responsibility for data, investments and joint effort from multiple stakeholders (governments, donors, partners and implementers) are required to develop and strengthen in-country supply chain data and data systems. Gaps in the wider in-country supply chain governance impact accountability, ownership and coordination of various supply chain actors to strengthen the visibility and availability of supply chain data. For instance, the 2022 OIG audit of grants in Mozambique, noted that LMIS software upgrades were supported by other donors, however these were not accompanied by matching investments in hardware, maintenance, training and supervision.

At the Secretariat level, the Global Fund's ability to address data gaps is undermined by the issues described below.

- **No detailed implementation framework focused on supply chain data and systems impacts allocation and prioritization of resources.** The Global Fund Supply Chain Road map was finalized in April 2021 and includes an objective to enhance digitalization, data availability, quality and analytics. However, there is no detailed implementation framework or guideline to operationalize this objective. The "Guide to Global Fund Policies on Procurement and Supply Management of Health Products" (June 2021) includes a requirement to report on price and quality (PQR), but not on wider PSM data (e.g., stock status, consumption data and quantification). Information on these areas is usually fragmented, is not centrally available and is collected by the Global Fund in an unstructured as-needed basis (e.g., budgeting or procurement ordering). Implementers are required to regularly report on the risk of stock-outs and expiries at central level through PU/DRs.[48]. Due to the PU/DR reporting cycle, and the time it takes until the final verified report is received by the Secretariat, this information is historical and does not enable proactive supply planning, pipeline monitoring, procurement plan implementation, and health product financing gap analysis.

- **Lack of appropriate measures to track availability and quality of in-country supply chain data and systems limits visibility of country-level PSM data maturity.** The "Global Fund Modular Framework Handbook" (October 2019) includes five PSM coverage indicators, none of which track or measure availability and quality of PSM data. On-Shelf Availability (OSA) is currently the only strategic KPI, but it measures availability of stock at the health facility level. The operational KPI on the LMIS reporting rate, tracked since Q4 2021 during supply chain spot checks, was implemented without a baseline assessment to inform targets. In addition, the low reporting rate[49] on this indicator and the subjective basis to determine the denominator (number of facilities *expected* to report in LMIS) implies that the disease-specific and overall weighted LMIS reporting rate is not accurately representative. However, the Secretariat is revising the spot check methodology to include an assessment of LMIS data quality at central and health facility level. If fully implemented, this will enable the Secretariat to understand the coverage and current state of LMIS data systems and aid in identifying areas where Global Fund interventions can support grant implementers to enhance LMIS data quality at the country level.

- **Fragmented roles and responsibilities over programmatic and PSM data in the Secretariat undermine implementation of cross-cutting interventions.** The Supply Operations department at the Secretariat is the business risk owner for overall in-country supply chain (ICSC) risk. However, the department has limited control and visibility over country-level investments and activities through country grants that are managed by Country Teams within the Grant Management Division. Health Product Management Specialists within Country Teams have no clear responsibility for monitoring in-country supply chain data quality and data systems, unlike

[47] Training related per diems, transport and other costs (US$22.3 million / 4%); IT - computers, equipment and applications – (USD$25.5 million / 5%); Supervision, surveys, data collection related per diems, transport and other costs (US$22.4 million / 5%); Printed materials (US$7.2 million / 2%)
[48] PU/DR refers to a Progress Update and Disbursement Request. The PU/DR is a comprehensive report completed by the Principal Recipients on grant programmatic and financial progress as well as management issues.
[49] Reporting rate in Q4 2021 is 57% (26 out of 45); Q1 2022 – 86% (39 out of 45), with high-risk countries such as Sudan and Benin not reporting.

PHM&E[50] specialists who are involved in the assessment of programmatic data and systems. There are also different approaches for systems strengthening across the Global Fund (i.e., programmatic versus PSM). This undermines cross-cutting interventions e.g., interfacing electronic HMIS with LMIS to enable the different applications to access, exchange, integrate and cooperatively use data. For instance, the Data SI identifies the need for coordination with the PSM SI in the aspects for systems interoperability in 10-15 countries while the PSM SI focuses on five countries. At the time of audit, there was no evidence of any coordination between the two initiatives.

- **Limited central visibility of funding for country PSM data systems impacts ability to measure, monitor and evaluate the impact of Global Fund investments.** Although investments can be tracked through the detailed grant-specific budgets to different countries, the Secretariat has no centralized visibility on investments in in-country PSM data (systems, tools and processes) across the Global Fund portfolio. There is no specific budget module for PSM data systems to support monitoring unlike for programmatic data and systems. It is also unclear how to track investments on data and data systems (warehouse management systems or LMIS) that are part of a wider module for health product management systems.[51] To tackle this, the Secretariat is revising the budget coding for next grant allocation cycle to allow for better tracking and differentiation of Global Fund investments in PSM data systems from the wider supply chain-strengthening investments.

Limited availability and quality of key PSM data affects PSM processes including quantification and forecasting. Twelve OIG country audits since 2018 have highlighted in-country PSM data issues with resulting stock-outs and expiries.[52] These audits also showed forecasts performed without complete consumption data[53] and inadequate data that impacted commodity visibility, accountability and traceability.[54] For instance, the 2022 OIG audit of the grants in Congo identified recurring and material stock-outs for HIV, TB and malaria commodities at the health facility level despite being available at the central level. This is linked to the slow process for collecting and consolidating orders from health facilities and weak LMIS, impacting health commodity availability at service delivery level potentially leading to treatment disruption.

Agreed Management Action 2
The Secretariat will (a) develop and (b) implement a detailed implementation framework for supply chain data and systems to support the operationalization of the "Supply Chain Road Map" with the objective of enhancing digitalization, data availability data analytics (including triangulation) and use of in-country supply chain data. This framework would include key metrics to monitor and assess the availability and quality of in-country supply chain data, processes to report on these metrics and guidelines on coordination with global partners.
OWNER: Hui Yang, Head, Supply Operations department
DUE DATE: Part A – 30 June 2024, Part B – 30 June 2025

[50] Public health monitoring and evaluation specialist
[51] Grant funding for health products management systems mainly relates to infrastructure (e.g., construction, maintenance and renovation of warehouses) and other enablers (such as technical assistance) for storage and distribution of health commodities.
[52] Stock-outs and expiries identified in six OIG country audits include: 2019 (Ghana, Uganda, Madagascar, S. Sudan); 2022 (Mozambique, Congo). For example, in Congo, ARVs, first-line TB drugs, ACTs and microscopy tests were stocked-out at the health facility level.
[53] Issue of forecasts performed without complete consumption data noted in six OIG country audits in 2018 (Niger) and 2019 (Sierra Leone, South Sudan, Sudan, Uganda and Madagascar).
[54] Visibility, accountability and traceability issues noted in four OIG country audits: 2018 (Tanzania); 2019 (Uganda); 2020 (Ivory Coast); 2022 (South Africa and Congo). For example, in South Africa, the lack of PSM data impacted the traceability and stock availability analysis for COVID-19 commodities.

3.3 The Global Fund has a strategic framework for programmatic data in place, but gaps were identified in performance measurement and tracking

Investment in programmatic data systems at the country level and country ownership are key strategic priorities for the Global Fund. But gaps in performance measurement and tracking of related objectives have limited the Secretariat's understanding of, and response to, the residual challenges for data quality.

The Global Fund has made significant efforts to ensure programmatic data and data systems are prioritized. This is reflected in the Global Fund's 2017-2022 strategy – which outlined how to support countries to strengthen their data systems and analytical capacity – and was affirmed again in the 2023-2028 strategy. The latest strategy emphasizes data-driven decision-making and calls for investing in systems and capabilities to enable the rapid generation, analysis, and use of complete, timely, and accurate context-relevant disaggregated data. To track its progress, there are two related strategic KPIs in place.[55]

The Global Fund developed the "Global Fund Strategic Framework for Data Use for Action and Improvement at Country Level, 2017-2022 (DUFAI) to support these strategic objectives and achieve the KPIs. Corresponding operational guidelines for data use and improvement[56] were also developed. DUFAI describes five linked but discrete components, i.e., investing in country data systems and analytical capacity, support for program monitoring, systematic data analysis and synthesis, evaluations, and use of data at the country level. However, the roll-out and implementation has varied, as described below.

Gaps in measuring and tracking DUFAI performance indicators impacting achievement of the strategic objectives

For the five components in the DUFAI, there are a total of 20 related indicators. However, these indicators are not adequately tracked and monitored, with 30% (6 out of 20) of indicators formally reported to senior management. This is despite the DUFAI requiring continuous evaluation and annual reporting to senior management.

As per the DUFAI, the key elements of data quality include completeness, accuracy and timeliness. Reporting completeness and timeliness are adequately covered within the DUFAI. However, in-country data accuracy is not systematically tracked within the DUFAI indicators. There are also operational gaps in tracking data completeness since the Secretariat does not monitor completeness of indicator data at the facility level. This is different from overall reporting completeness, which only assesses the receipt of monthly or quarterly reporting forms.[57] Both data accuracy and completeness of indicator data at facility level can be verified through a data quality review (DQR), in line with WHO data quality review guidelines.[58] Sustainable improvement in data quality is a long-term endeavor that requires country ownership and joint investments and coordination from multiple stakeholders.

Tracking and measurement of performance against the DUFAI indicators is hindered by gaps in tools and processes as described below.

- *The Global Fund's M&E system profile platform is not working as planned*
  The Secretariat developed what is known as an "M&E system profile" to consolidate key data related to the status and functioning of M&E systems in countries supported by Global Fund grants. However, 33% (13 out of

[55] There are three M&E KPIs approved under the new Global Fund strategy (2023-2028). KPI S2 (Percentage of countries with improvement in scores for provision of supportive supervision at health facilities from latest baseline); KPI S6a (Percentage of countries with digital HMIS functionality baseline maturity score of 3 or less that increased by at least one maturity level); KPI S6b (Percentage of countries with data use maturity score of 3 or less that increased by at least one maturity level in terms of leveraging programmatic monitoring for data-driven decision making)
[56] Operational Guidelines for Data Use and Improvement at Country Level
[57] Data quality review: a toolkit for facility data quality assessment. Module 3 includes data verification and system assessment. Geneva: World Health Organization; 2017. License: CC BY-NC-SA 3.0 IGO
[58] Ibid

39 data points) are not reflected in the online system dashboard due to M&E system profile design limitations[59]. Currently the Secretariat uses different tools for data collection and visualization of the M&E profile indicators. The process of data collection requires manual entry of results into an offline excel template and multiple emails across several stakeholders. The system cannot track progressive performance overtime since only the last updated information is displayed in a country M&E profile. These issues are expected to be addressed by the IT department during 2023 before the next funding cycle.

- *Fragmented roles and responsibilities at Secretariat level over programmatic data*
  Within the Secretariat, the Monitoring and Evaluation and Country Analysis team (MECA) the business risk owner for overall M&E risk in the Organizational Risk Register (ORR). However, MECA has limited control and visibility over country-level investments and activities supported through grants.[60] MECA provides normative guidance and plays an advisory support role to the PHM&E[61] specialists who are responsible for managing M&E risk for individual country portfolios. While MECA can advise on a programmatic data strengthening action for a country, they do not have authority to ensure its implementation. However, MECA's role continues to evolve with the team moving into the newly created Programmatic Monitoring and Risk Division (PMRD) effective October 2022. At the time of the audit, the specific amendments to MECA's role beyond the managerial reporting lines had not been finalized.

These gaps in the design and implementation of the Global Fund programmatic data framework reduce its ability to effectively oversee the Global Fund's portfolio in relation to data quality at the country level. This has allowed many of the issues flagged at the country level in finding 3.1 to persist. In 53% (21 of 40) of country audits since 2018, the OIG has identified persistent issues relating to data accuracy and/or completeness for indicator data elements reported at the health facility level. For example, the 2022 OIG audit of the grants in Nigeria identified incomplete data in DHIS2 for sampled PMTCT[62] interventions, which impacted the interventions for pregnant women.

Ultimately, these challenges have impacted the achievement of the strategic goals. Some 65% (13 out of 20) indicators for the DUFAI achieved the target for 2020. Six of the 13 indicators are at risk of not achieving the 2022 targets. Key targets missed include percentage of countries that have a comprehensive, costed national M&E plan and the percentage of countries reporting on data quality with medium or good rating. See Table 2 in Annex B for more details.

Agreed Management Action 1 will address identified issues in this finding around the M&E system profile platform, the process for monitoring and reporting on data quality and roles and responsibilities across the Secretariat.

[59] The data entry process into the backend excel database is a non-automated process requiring manual data entry of each country's data into the database.
[60] 95% (US$1 billion of US$1.057 billion) Global Fund investment in HMIS and M&E is through country grants. The Data SI provides remaining 5%.
[61] Public health monitoring and evaluation specialist
[62] PMTCT refers to Prevention of Mother to Child Transmission services

3.4 The Global Fund has detailed policies, guidelines and tools in place, but challenges were identified in monitoring programmatic data at the country level

The Global Fund has developed detailed guidance and tools to monitor data availability and quality, but inadequate supervision and oversight at the facility level undermines the ability to detect and remediate material data inaccuracies.

For Global Fund grants, data monitoring is the primary responsibility of grant implementers and national disease programs. The Global Fund also relies on monitoring done by third parties it contracts, as well as by other in-country partners. Various mechanisms exist to monitor programmatic data quality and availability including routine supervisions, internal IT checks and controls of HMIS software applications through data quality modules, and periodic assessments of facility-reported data. The Global Fund has developed detailed guidance to assist with monitoring data availability and quality in its "Operational Guidelines for Data Use and Improvement at Country Level," covering the period 2017–2022. Detailed Local Fund Agent (LFA) guidelines and tools, standard terms of reference and reporting templates are also available.

At the grant level, there are HMIS and M&E performance indicators within grant performance frameworks for at least one grant in all eight sampled countries. All have at least one national level indicator for reporting completeness or timeliness within grants with significant funding for HMIS and M&E interventions. This enables the Global Fund to measure, monitor and evaluate the impact of Global Fund investments and track trajectory of routine data quality at country level. For GC6 grants, four[63] of the eight sampled countries have an outcome indicator to track national aggregate HMIS deployment and functionality.

Despite this, the OIG identified challenges in the effective monitoring of programmatic data at the health facility level and for in-country assurance. As described below, this undermines the ability to detect and remediate material data inaccuracies.

Inadequate supervision of programmatic data risks at health facility level

Since 2018, 43% (17 of 40) OIG country audits highlighted challenges relating to monitoring and oversight of programmatic data risks. Common issues reported by the OIG include ineffective supervision and monitoring, as well as oversight not focused on data quality at the facility level. The OIG also reported on limited funding for supervision visits, lack of supervision frameworks, and inadequate number and technical capacity of M&E staff. These issues are consistent with observations from sampled countries during this audit.

The OIG noted delays or nonperformance of monitoring and oversight activities in six[64] of eight countries sampled. This is due to inefficiencies in coordination among stakeholders in the health system (national, sub-national and civil society implementers). COVID-19 disruptions and delays at the start of grant implementation (e.g., hiring staff, onboarding staff and implementers (SRs) and procurement) also resulted in non-implementation of activities and low absorption of M&E funds.

Of the total Global Fund investment in HMIS and M&E, 40% relates to monitoring and oversight activities for programmatic data and data systems. The OIG found low absorption for these investments at the end of NFM2 in

[63] Outcome indicators included in GC6 grants in Nigeria, DRC, Kenya and Mali. Kenya and Nigeria achieved target as of December 2021 (DRC at 75%). Not reported for Mali.
[64] Nigeria, Mali, DRC, Kenya, Tanzania and Angola

three[65] of eight sampled countries. This has continued in the first year of GC6 for HMIS and M&E in all eight sampled countries.[66]

As noted in Findings 3.1 and 3.3, 27% (15 of 54) of high-impact and core countries have undertaken a national Data Quality Review (DQR) in the last 4 years. This is despite a Global Fund requirement for countries with moderate or good data quality to complete a DQR every 3-4 years (every 2 years for poor or very poor-quality data). There are no strategic or operational KPIs at the Secretariat level to monitor completeness of indicator data at facility level.

Limited focus, depth, and differentiation of Local Fund Agent assurance over programmatic data based on portfolio risk

Local Fund Agents undertake both cross-functional reviews (e.g., grant making reviews, capacity assessments, PU/DR reviews) and core M&E specific reviews (e.g., program and/or data quality spot checks, targeted data quality review and targeted health facility assessments) to provide assurance over programmatic risks. While the overall services budget for Local Fund Agents (excluding training and other direct costs) increased by 2% between 2018 and 2021, the M&E component decreased by 21%. In the same period, the overall reduction in budgets for other function areas such as finance and PSM increased by 43% and 23% respectively. There is limited depth in the verification of reported data and a lack of focus on core M&E specific reviews by the LFA in relation to programmatic data as detailed below:

- *Limited core programmatic data assurance for high M&E risk portfolios:* Over 57% (eight of 14 countries) of the cohort[67] of high M&E risk-rated countries did not have any spend on M&E specific Local Fund Agent reviews in at least one of the last four years since 2018 (e.g., Congo and Niger had no review since 2019). This is despite significant data quality risk in high M&E risks portfolios due to weak infrastructure, fragmented or suboptimal in-country data systems and data sources, insufficient human and financial resources, and inadequate supervision.
- *Lack of in-depth verification of reported data at the primary source:* At the grant level, routine data is monitored mainly by verifying programmatic indicators reported in the PU/DR. However, this verification is mainly completed through desk reviews and does not assess primary data from health facilities (on a sample basis). This was noted in six[68] of the eight sampled countries (including Angola which is rated as "Very High" for M&E risk since 2018), LFAs only performed desk reviews on PU/DRs from 2018 to 2021. This is within the current PUDR guidelines (February 2022), but within the discretion of the Global Fund Secretariat to request a more detailed review, for medium and high-risk grants.
- *Significant proportion of M&E expert time is spent on cross-functional reviews:* The nature of Local Fund Agent services varies depending on the stage within the grant life cycle.[69] Across the sampled countries, a significant proportion (40% to 60%) of the LFA M&E experts' time was spent on cross-functional reviews such as grant-making and grant closure in addition to other related services in years one and three of the grant cycle. Throughout the grant cycle, 40% to 70% of the LFA M&E experts' time is spent on PU/DR reviews. While cross-cutting reviews are necessary to ensure that programmatic interventions are well designed and performing, it is important for LFA M&E experts to spend a similar proportion of their time on M&E specific reviews, such as data quality spot checks and targeted health facility assessments, especially in high M&E risk portfolios.

Failure to obtain adequate assurances against material data inaccuracies in reported data may lead to inadequate decision-making, program planning and performance measurement at country and Secretariat levels.

[65] Low NFM2 absorption in Angola (36%), Mozambique (56%) and DRC (65%) for RSSH: HMIS and M&E module

[66] Year one budget absorption for GC6 in Angola (6%), DRC (37%), Indonesia (30%), Kenya (59%), Mali (6%), Mozambique (46%), Nigeria (52%) and Tanzania (31%) for RSSH: HMIS and M&E module

[67] Cohort includes 26% (14 of 54) of high-risk and core portfolios rated as "High" or "Very High" M&E risk in at least 3 of 4 years in 2018-2021 period. These include Afghanistan, Angola, Burundi, Central African Republic, Chad, Congo, Guinea, Guinea-Bissau, Madagascar, Niger, Papua New Guinea, Sierra Leone, Somalia, South Sudan and Sudan

[68] Nigeria, Mali, Indonesia, Tanzania, Mozambique and Angola

[69] For example, based on the analysis of LFA workplans, year one and three in a grant cycle is characterized by support to grant making and grant closure of previous grants. Year two consists predominantly of grant implementation review activities.

Agreed Management Action 1 will address identified issues relating to process for monitoring, reporting and enhanced assurance on data quality.

Annex A: Audit Rating Classification and Methodology

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**.**

The OIG audits in accordance with the Global Institute of Internal Auditors' definition of internal auditing, international standards for the professional practice of internal auditing 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 safeguard the independence of the OIG's auditors and the integrity of its work.

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 is used to provide specific assessments of these different areas. 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 B: Results of Key Data Indicators

Table 1: Summary table for analysis of average performance trajectory for key indicators

Analysis of average performance trajectory	2017	2018	2019	2020	2021
Electronic HMIS Deployment	74%	89%	97%	97%	97%
Integration of HIV, TB & Malaria aggregate data into national HMIS	29%	45%	61%	80%	86%
Average reporting completeness	46%	86%	90%	91%	91%
Average reporting timeliness	54%	68%	77%	76%	76%
Ability to report disaggregated (age, gender) data*	27%	43%	58%	65%	N/A

*KPI target was 50% by 2019

Legend:

Below Global Fund KPI target

Above Global Fund KPI target

Table 2: DUFAI indicators at risk of not achieving 2022 targets

	Component/Indicator	2021 (Results)	2022 (Target)
#	**Component 1: Investing in country data systems and analytical capacity** (6 out of 8 indicators above 2020 target: 4 indicators at risk of not achieving 2022 target)		
1.1.	Percentage of countries that have a comprehensive, costed national M&E plan	50%	80%
1.2.	Percentage of countries with fully deployed and functional HMIS (KPI-6d)	53%	70%
1.4.	Percentage of countries reporting on data quality with “medium “or “good” rating	68%	80%
1.8.	Percentage of countries with mortality and cause of death reporting in the national HMIS	50%	70%
#	**Component 2: Program monitoring** (1 out of 2 on target; 1 indicator not tracked)		
#	**Component 3: Systematic data analysis and synthesis** (4 out of 6 above 2020 target: 2 at risk of not achieving 2022 target)		
3.2.	Percentage of countries that had a program review quality assured according to WHO standard in the last three years for at least one disease	62%	80%
3.6.	Percentage of countries that had systematic analysis of mortality and cause of deaths in the last three years	22%	50%
#	**Component 4: Evaluations** (1 out of 2 on target; no 2022 targets)		
#	**Component 5: Data Use** (1 out of 2 on target; 1 indicator not tracked)		

Note: DUFAI indicators do not have targets for 2021. However, based on 2021 results, six indicators are at risk of not achieving 2022 targets (end period for DUFAI).