



Audit Report

Data Management at the Global Fund

GF-OIG-18-009
22 May 2018
Geneva, Switzerland

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Audit Report

OIG audits look at systems and processes, both at the Global Fund and in country, to identify the risks that could compromise the organization mission to end the three epidemics. The OIG generally audits three main areas: risk management, governance and oversight. Overall, the objective of the audit is to improve the effectiveness of the Global Fund to ensure that it has the greatest impact using the funds with which it is entrusted.

Advisory Report

OIG advisory reports aim to further the Global Fund mission and objectives through value-added engagements, using the professional skills of the OIG auditors and investigators. The Global Fund Board, committees or Secretariat may request a specific OIG advisory engagement at any time. The report can be published at the discretion of the Inspector General in consultation with the stakeholder who made the request.

Investigations Report

OIG investigations examine either allegations received of actual wrongdoing or follow up on intelligence of fraud or abuse that could compromise the Global Fund 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

The Global Fund is dependent on the availability of reliable financial, allocation and programmatic data to make critical business decisions. The 2017 – 2022 Strategy emphasizes the use of data to measure and maximize impact. Thus, the management and the quality of data are critical to ensure that the Global Fund can operate effectively and achieve its strategic objectives.

The Secretariat has recognized the importance of effective data management processes and has taken several steps to improve data management, particularly in the areas of finance and allocations. An integrated system is in place to manage financial data, leveraging multiple sources across the organization into a single repository that minimizes manual and duplicative entries. Reporting capabilities are automated for analysis and decision-making. Effective controls are embedded into the financial processes and systems. The Secretariat has also established effective processes and controls to ensure the validity, accuracy and completeness of data related to country allocation amounts. Overall, the maturity of data management processes is actively managed¹ for financial and embedded for allocation data.

Nevertheless, whilst pockets of good practices exist, the organization generally continues to manage data in silos. The Global Fund does not yet have an overarching strategy for data management that defines expectations around availability and maintenance of data as well as the related policies, processes and controls to ensure ownership and accountability for its quality. As a result, data management practices across the organization have a varying degree of maturity, ranging from ad-hoc in some business areas to actively managed in others. Whilst finance and allocation data are at the higher end of the spectrum, there is significantly lower maturity for key data elements related to procurement data and data related to program impact. These data sets are used in Board and Committee reporting as well as the Global Fund's Annual Results report. Processes and controls over these data either are absent or not formalized. There is limited accountability for the quality of these data elements, the processes are not yet supported by adequate technology and are heavily reliant on key people. They also involve significant manual workarounds without adequate input controls.

However, the OIG did not identify any material errors in the final data outputs that were used for management information and decision-making. The primary reason for this is that the lack of data input controls is generally compensated by several layers of controls and verifications at the data reporting stage. This approach to data management is inefficient and does not adequately leverage technology and synergies from crosscutting business processes. In addition to the inefficiencies arising from the absence of an enterprise-wide approach to data management, there is also an increased risk of inconsistent data management practices across the organization and for significant variability in the quality, accuracy and completeness of data. Therefore, data governance at an enterprise levels requires significant improvement.

The issues surrounding data management for the organization were pre-identified by the Secretariat before the OIG audit. There are several mitigating actions currently in development to address the issues. These are facilitated by a Data Governance Committee, which started in November 2017. Full implementation of the actions is expected by mid-2019.

1.2. Key Achievements and Good Practices

The Secretariat has strengthened several data management processes and systems for financial and country allocation data. For these critical areas, there are strong systems, consistent processes, and

¹ The OIG methodology to assess the adequacy and effectiveness of processes and controls for data management at an enterprise level and departmental level include the use of a data maturity framework. See [Section 3](#) of this report.

clear accountability for data quality. Sufficient segregation of duties exists across key data points and there are preventative and detective controls over the final outputs.

The Secretariat has also improved grant management data, which represents the core of the organization's activities. Grant management activities have moved from a manual environment in 2010 to progressive automation of data capturing, processing and reporting.

In 2015, the Secretariat launched Project AIM (Accelerated Integration Management) to integrate grant management systems and processes into a single platform, the Grant Operating System. The first phase of the project was completed at the end of 2017. Project AIM helped standardize data inputs, streamline data transformation processes and aggregate grant management data for monitoring and decision-making purposes. It also reduced the risk of manual error by embedding controls around data transformation and some elements of data input.

Through Project AIM, the Secretariat also identified a number of data issues at the business process and enterprise levels. This triggered the establishment of the Data Governance Committee, which has been tasked with operationalizing data management principles across the organization. This will include a full data catalogue for the organization, prioritization of the data, associated risks and controls, definition and formalization of data ownership and accountability, and data governance procedures to be embedded into key business processes and operational policies. The work of the Data Governance Committee started in November 2017. In addition, the Secretariat has also developed an IT Strategy, which has identified a number of opportunities where technology can be improved to support the organization's data requirements.

1.3. Key Issues and Risks

Lack of enterprise-wide data management strategy has resulted in low levels of maturity for key data elements and an inability to leverage technology and support the organization's data requirements.

The Global Fund does not yet have a comprehensive data management strategy. Data management policies and guidance are limited at the organizational level. There is a need to formalize data governance roles and responsibilities, and related accountabilities for data quality, including delineation between business units and IT. Critical data elements are yet to be identified and prioritized based on business needs.

This lack of an overarching strategy and governance framework has led to varying levels of data maturity and inconsistent controls over data quality across the organization. There is a high level of maturity over financial data management processes. In contrast, controls are less established for programmatic data. This is notably the case for controls over the preparation and reporting on the Global Fund results and for data related to programmatic areas such as, for example, Community, Human Rights and Gender or Resilient and Sustainable Systems for Health. There is key dependency on a limited number of staff and, in the absence of formal processes, controls, and systems to manage data; there is not reasonable assurance that the data will be accurate in the future.

In addition, the data management process related to health commodities procurement is also ad-hoc and manually intensive. This activity represents approximately 40% of grant funds. The process involves collecting data from a combination of systems and sources, both internal and external, significant transformation of all data through adjustments, calculations, pivots and analysis using large excel spreadsheets in order to produce relevant reports for management information and decision-making. This is also the case for corporate procurement data. Whilst the OIG found that several layers of controls were in place to compensate for the manually intensive process and to ensure data accuracy, the approach is inefficient and unsustainable. These data elements feed into the Global Fund Key Performance Indicator results as well as numerous reports to the Board and its committees.

The heavy reliance on manual processes is attributable in part to a technology landscape that is not able to meet the organization’s data requirements. A number of legacy applications exist at the Global Fund that has limited capability to integrate or to evolve. The Global Fund has not yet leveraged tools such as centralized data repositories with controlled and structured data that can be shared and used across the organization. In addition, current IT applications offer limited reporting and analytics capability. This has resulted in many divisions and departments finding their own IT solutions or using large excel spreadsheets to transform data, increasing the risk of data inconsistency, duplication, poor quality and reliability.

The Secretariat had already identified these issues and mitigating actions before the OIG audit of Data Management. These include the establishment of a Data Governance Committee, which started in November 2017 to develop a data strategy, a catalogue, and related governance structures to ensure accountability for data quality. Some of the mitigating actions have already been developed and in the process of being implemented. For example, an IT Strategy was approved in July 2017 and solutions to improve Business Intelligence and Analytic Capability have been designed with plans to implement in 2018. Upgrades to the organization’s central ‘data warehouse’ are also planned to start in 2018. The warehouse should hold the bulk of the organizational data and provide a single source of data for management information and decision-making.

1.4. Rating

	<p>Objective 1. Adequacy and effectiveness of entity level data governance OIG rating: Needs significant improvement. There is a need for an overarching strategy for data management that defines expectations around data availability, maintenance, performance, as well as the related policies, processes and controls to ensure accountability for data quality. Whilst there is a strong level of management awareness, as most of the key issues have already been recognized and remediation actions under way, data management processes and governance remain weak until those actions are implemented and the improvements are embedded into operational processes.</p>
	<p>Objective 2. Adequacy and effectiveness of data input, transformation and reporting controls OIG rating: Partially effective. Processes and controls for financial and allocation data are effective. However, key control gaps exist for procurement and programmatic data. In addition, data management processes for grant management need to be formalized in operational policies and processes, including ownership and accountability for data quality</p>

1.5. Summary of Agreed Management Actions

Through the establishment of the Data Governance Committee, the Secretariat has developed a work plan for 2018 and 2019 to progress on the work initiated to address the data management challenges faced by the organization. The Secretariat anticipates having the following core components of data management completed by 30 June 2019:

- An enterprise-wide data management strategy that builds on the existing design framework;
- Data catalogue for corporate data sets and their owners and stewards; and
- Data management policies and processes, including
 - Risks identified and related controls; and
 - Defined accountabilities, roles and responsibilities.

2. Background and Context

2.1. Overall Context

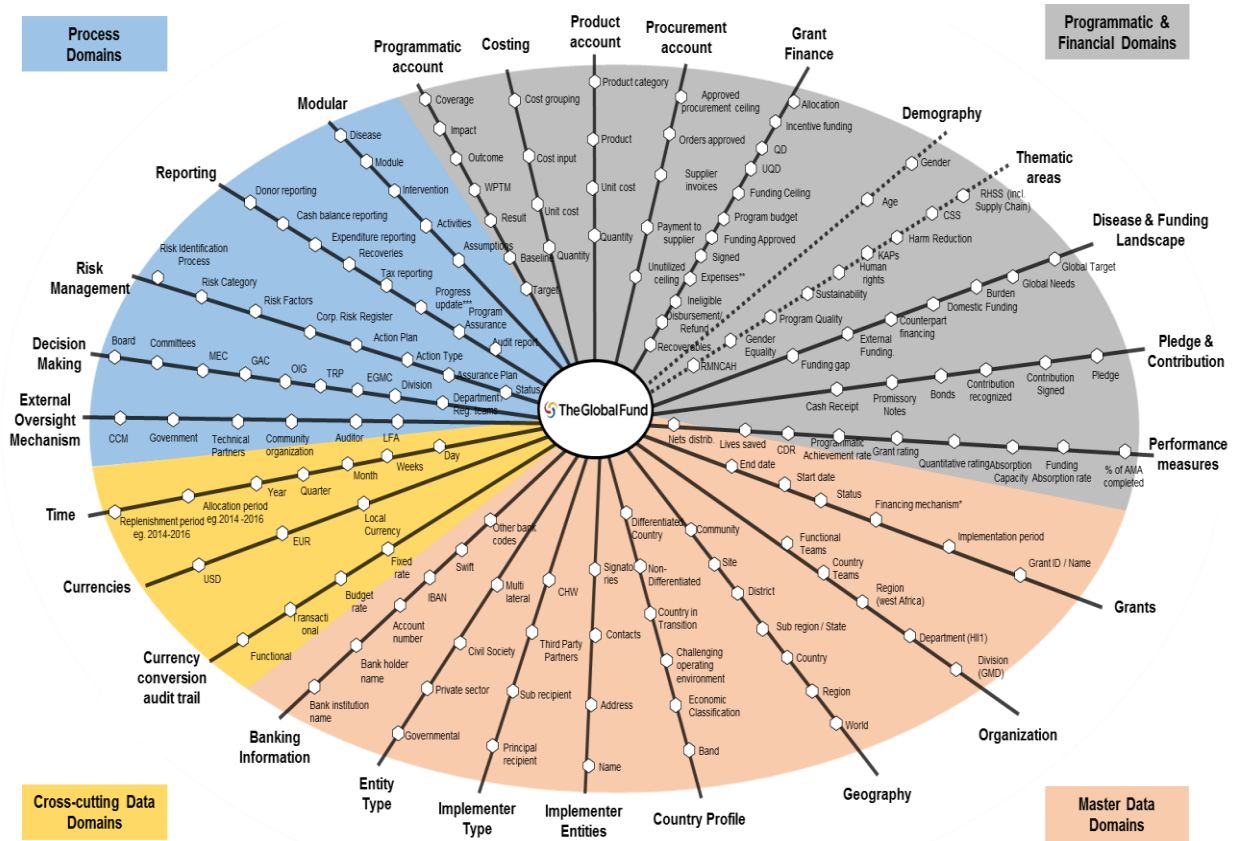
Enterprise data management is an end-to-end process that includes governance, practices and tools designed to support the availability and use of consistent data, with high quality and integrity, across the organization. The Global Fund uses multiple internal and external data in the management of its day-to-day operations. The following categories represent the different types of data as defined by the Secretariat:²

- **Transactional Data:** These are generated from specific events and comprises different measures, dates, or statuses recorded for these events. At the Global Fund, examples of these would be disbursement amounts, dates for implementation periods, indicator targets, or travel costs. Transactional data are typically handled in operational applications, such as the Grant Operating System or the Global Fund System.
- **Master Data:** This represents key business information supporting transactions. Master data are generally focused on the entities used to store data against and represents items such as grant numbers, implementer names, bank account information, and lists of products.
- **Reference Data:** This is data referenced and shared by a number of systems, used as a high-level dimension to categorize transactional or master data. Compared to master data, reference data changes less frequently and is used in more data subject areas, across the organization (or with partners). Examples are disease components, countries, types of disaggregation, etc.
- **Reporting Data:** These are specifically organized for the purpose of reporting and business intelligence. It is derived from other types of data (transactional, master and reference data), generally transformed or made more explicit to allow for clearer and more efficient reported. The Global Fund has an extensive amount of data reported internally for senior management information and decision-making as well as externally to its Board, committees and grant recipients.
- **Metadata:** Metadata describes other data; it is the underlying definition or description of data. It is generally composed of technical fields such as data type and creation date that are not business-specific.
- **Structured Data:** These refer to data with a high level of categorization, such that inclusion in a relational database is seamless and readily searchable by simple, straightforward search engine algorithms or other search operations. Data captured in the Grant Operating System or the Global Fund System are examples of structured data.
- **Unstructured Data:** These data does not have a predefined structure. It is generally used as “free text” or comments, often stored in Adobe PDF and Microsoft Word documents or ad-hoc Microsoft PowerPoint presentations and Excel sheets. In addition, the Global Fund Grant Operating System and the Global Fund System has functionality to capture unstructured data in the form as “free text”.

Some of these data elements are derived from internal sources within the Global Fund. Others are from external third parties, such as partner and recipient country data. Yet others are a combination of the two. Thus, the Global Fund’s data landscape is a relatively complex one, as shown in the illustration below, which is only illustrative, as a full data universe has not yet been completed by the Global Fund:

² These definitions and examples are from the Global Fund Secretariat’s Data Design Governance Framework. This document was prepared by the Secretariat in an attempt to identify the problem statement and propose design principles for a Data Governance Framework.

Figure 1. Global Fund Key Data Universe as at March 2017³



³ The Global Fund Data Universe illustration was performed by the Project and Business Development Team in the Secretariat and last updated in March 2017

3. The Audit at a Glance

3.1. Objectives

The overall objective of the audit was to provide reasonable assurance to the Board over the adequacy and effectiveness of:

1. Enterprise-level data governance
2. The processes and controls for:
 - Data Input
 - Data Transformation
 - Data Reporting

Where relevant to the above key processes and controls, the audit assessed the adequacy and effectiveness of key systems supporting data management at the Global Fund.

3.2. Scope and Methodology

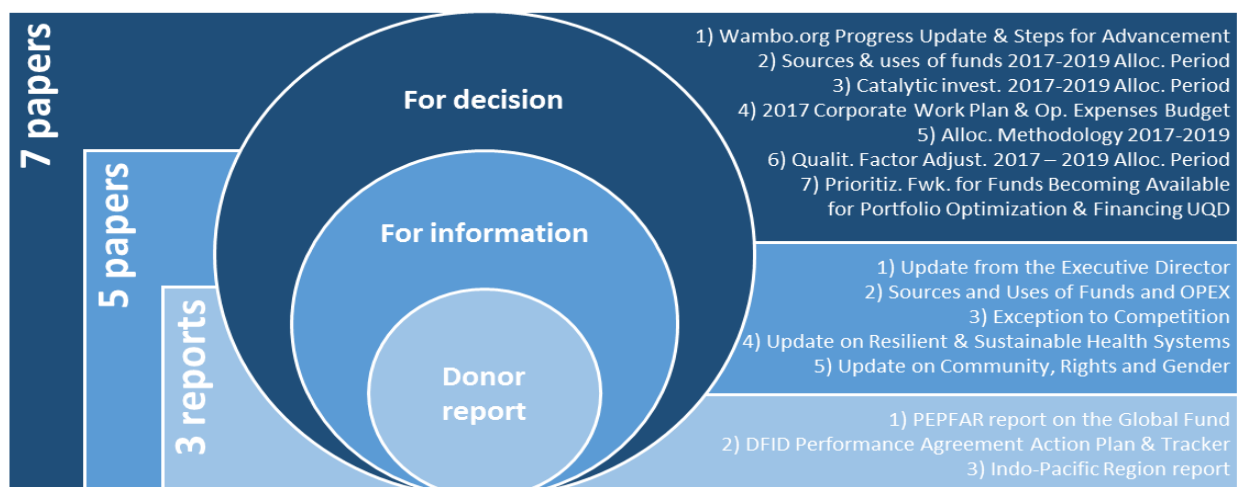
Scope

The audit considered all processes and controls for key data sets in the following areas of the organization:

- Grant Management Division
- Finance and Sourcing Division
- Strategy Investment and Impact Division
- External Relations Division
- Communication Department
- Office of the Executive Director
 - Policy and Strategy Hub
 - Office of Board Affairs

In addition, the audit performed detailed tests of the processes and controls for data input, transformation and reporting from key business processes on 15 Board, committee and donor reports presented for information and decision between January 2016 and June 2017.

Figure 2. Sample of Global Fund reports in this audit for data from key business processes



Finally, the audit considered a Management Self-Assessment completed by the Global Fund Secretariat on Data Management. The self-assessment acknowledged all known data management issues, the related business impact, the mitigation actions completed or in progress.

Out of Scope

Human Resources Data – At the time of the audit, a significant transformation project of Human Resources processes, including data management, was underway. Therefore, a combination of new and old processes was running in parallel. Given the significant change to Human Resources processes, the OIG audit did not cover data management processes for Human Resources.

Risk Management Data –Data management processes for risk were covered in a previous audit released in 2017 (GF-OIG-17-010).

Methodology

The audit included the following:

- Interviews with Global Fund Secretariat staff from all relevant departments and divisions.
- Review of policies, procedures and guidelines relevant to data management.
- Assessment of key processes and controls with a specific focus on data governance and quality.
- For grant management data specifically, the OIG recognized that there is a significant transformation project underway through Project AIM, which affects the end-to-end data management process. As a result, a tailored audit approach was adopted that focused primarily on governance and design of data management processes. Due to the ongoing system implementation, the review did not include a detailed assessment of key grant management data.
- Review of systems, tools and methodologies supporting key data transformation.
- Testing of key Global Fund reports used for decision-making and information, for accuracy or reasonableness of the underlying data included in those reports.

In addition to the above, the OIG considered a data maturity assessment approach to review data management practices across the organisation, consistent with international best practices for enterprise data management. The COBIT 4.1 Maturity Level Framework was used in the assessment, which is a widely used measurement of Data Management Processes. This framework, which is widely used in industry, is developed by ISACA which is an international professional association focused on IT and data governance

4. Findings

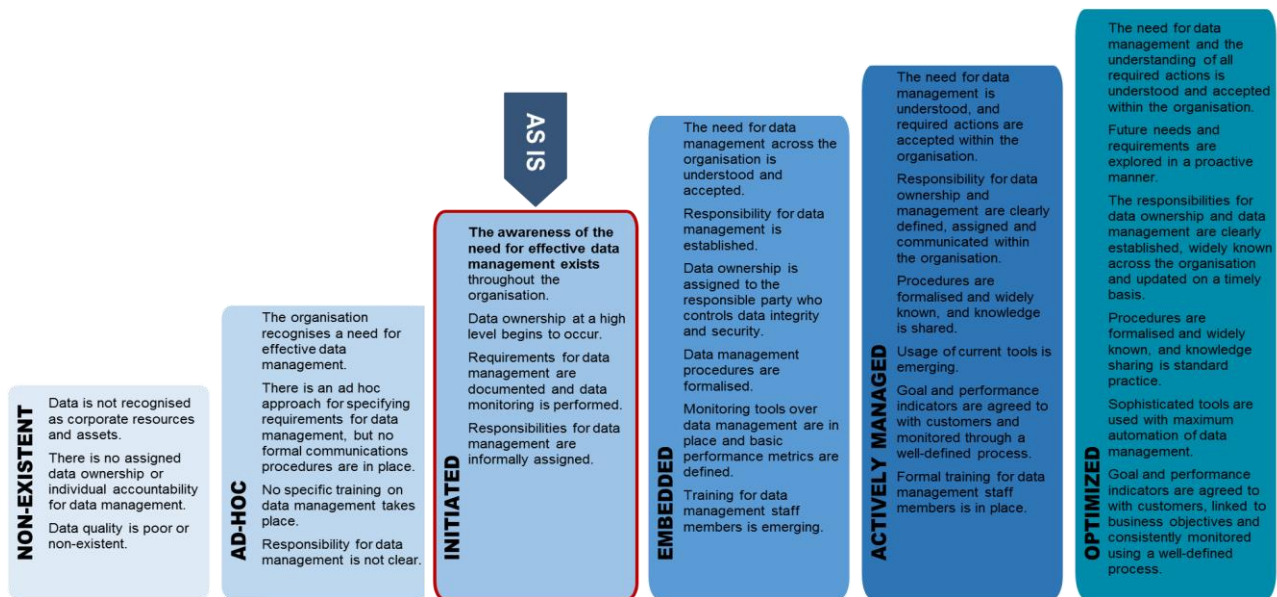
4.1. Lack of enterprise-wide data management strategy and enabling technology impedes organizational data maturity

In recent years, the Secretariat undertook a number of initiatives to improve the organization's key data elements. These included the Finance Step-up Project in 2014, which streamlined and accelerated financial information workflows with the automation of financial procedures, processes and systems. Financial and allocation data are at a relatively embedded maturity level, with clearly documented processes as well as effective controls to ensure data are valid, accurate and complete. Project AIM was launched in 2015 and implemented an integrated solution with automation capabilities to support efficient grant portfolio management. Grant management data are at an initiated level of maturity, with key data sets now defined, the implementation of a Grant Operating System that has reduced manual processes and the risk of errors, and overall improved efficiency in grant management activities.

However, in 2016, the Secretariat acknowledged that it does not have a data strategy that defines the organization's approach to data management. This includes robust data governance processes and data quality policies and procedures. In addition, responsibility and accountability for data quality were not clearly defined.

This missing enterprise-wide strategy has led to a fragmented approach to data management. Key organizational data sets such as procurement and programmatic data processes are ad-hoc, with limited controls to ensure data quality from input to processing and reporting. In addition, the current IT landscape is not able to support the organization's data and reporting requirements and significant data related initiatives are insufficiently coordinated and monitored. The Secretariat has initiated a number of mitigating actions to address these gaps. This includes the establishment of the Data Governance Committee with senior management representation from across the organization. The Committee first met in November 2017 to put together a work plan, which includes developing a full data catalogue along with prioritization, associated risks and controls. The work plan also includes defining and formalizing data ownership and accountability for data quality. Whilst these actions are adequate in design, the risk of poor data quality persists until they are implemented and embedded into operational processes. As a result, the OIG found that the overall data maturity of the organisation was at an initiated level.

Figure 4. OIG Assessment of Data Maturity at the Global Fund adapted from COBIT 4.1 Data Maturity Model developed by ISACA⁴



Low levels of data maturity for procurement data and programmatic data

The management of data related to grant management and corporate procurement is ad-hoc. This is also the case for impact data used in the organization’s Annual Results, Key Performance Indicators and Board reporting. For example:

- Procurement Data:** Direct procurement of health commodities through the Pooled Procurement Mechanism represents 40% of grant funds overall. In addition, indirect procurement related to corporate expenditures is approximately \$250 million. Inputs, transformation and reporting of data related to these significant procurement activities are currently performed on an ad-hoc basis. The processes to extract, transform and review the related data remain manually intensive, or spreadsheet-dependent, and generally not documented. The processes followed are not systematic and vary from one period to another depending on data availability and reporting requirements. High-level controls are performed, but inconsistently, on final data outputs. The process is significantly dependent on people, with limited segregation of duties between preparation and review, and accountability for the quality of the data are not clearly defined. In the case of procurement orders that are placed through the wambo.org online purchasing platform, no formal processes and controls were in place to aggregate, report, store and safeguard critical transactional data. Since the individual has left the organization, the OIG was not able to validate key data related to current procurement orders such as order lead-time, value of transactions processed, net cost savings, or platform performance. These data are reported at the Board and committee level.
- Impact Data for the Global Fund Annual Results Report:** Formal process controls have not yet been established around the input, transformation and reporting of impact data used for the Global Fund Annual Results Report. Whilst most of the impact data supporting the Global Fund results is directly from external partner sources, the process of obtaining and using this data are heavily reliant on personal knowledge of the staff within the teams responsible for Strategic Information and for Resilient and Sustainable Systems for Health. A formal process has not yet been developed around the production of the impact data for the Global Fund Results Report, including the methodology, calculations and relevant adjustments made to

⁴ COBIT 4.1 is a Maturity Level Framework for the measurement of Data Management Processes developed by ISACA is an international professional association focused on IT and data governance

data taken from external sources. However, despite the absence of formal controls, no material errors were identified in the Global Fund Results Report. This is primarily due to the technical skill, competence and experience of the staff collecting, transforming and reporting the data. This reliance, however, presents a key person dependency risk.

- *Data for the Community, Human Rights and Gender Department and for Health System Strengthening Data* - Similarly the inputs, transformation and reporting process for data on the Community, Human Rights and Gender Department and Health System Strengthening are not supported by defined methodologies and formal controls. There is limited traceability from data input to transformation and reporting. However, no material errors were identified.

The current IT landscape does not support the organization's data and reporting requirements

The current IT landscape consists of various legacy systems that cannot be easily upgraded or integrated to meet the organization's data management needs. This has resulted in many divisions and departments running their own IT solutions or resorting to spreadsheets to conduct key business activities.

For example, the procurement of health commodities through the Pooled Procurement Mechanism relies on both systems and large excel spreadsheets. Critical data from order to delivery and payment is captured on an excel spreadsheet that has been developed in house to compensate for the lack of an end-to-end procurement management and reporting system.

The tracking of funding amounts to countries is also managed on a sophisticated excel spreadsheet, including allocation amounts communicated to applicants, program splits, increases to upper ceilings with matching funds or portfolio optimization decisions, or deductions and final amount available for grant signing. Whilst this process is manual, the steps are formalized and clear roles, accountability and controls have been put in place. However, the lack of integration between the access to funding process with the grant management system has led to a number of instances where different figures are used as a data inputs in different documents (for example, the funding request narrative versus the grant budget, or the Technical Review Panel form versus the funding request). Manual processes and controls applied by the Access to Funding team were able to identify errors when they occurred and these were subsequently corrected by Grant Management.

The central data warehouse is a repository that collects and maintains data in a controlled and structured environment for use across the organization. The central data warehouse for the Global Fund is currently holding a small volume of the organization's data and the migration of grant management data to the warehouse is still underway. As a result, queries on a single grant may require triangulation of data from four different sources. In addition, the preparation of regular reports submitted to Global Fund donors on grant disbursements and expenditures involves heavy data mining on Annual Financial Reports from Principal Recipients, the use of sophisticated spreadsheets and manual adjustments to the data before it can be reported to donors. Similarly, whilst Key Performance Indicators are available centrally, getting the data involves a three-month long process of collecting information from each of the division and department owners, cleansing and reviewing the data, before being able to finally report it.

Agreed Management Action 1:

As planned in the Data Governance Committee work plan for 2018 and 2019, the Secretariat will continue the ongoing work and by 30 June 2019 will have in place:

- An enterprise-wide data management strategy that builds on the existing design framework;
- Data catalogue for corporate data sets and their owners and stewards; and
- Data management policies and processes, including
 - Risks identified and related controls; and
 - Defined accountabilities, roles and responsibilities.

Due Date: 30 June 2019

Owner: Chief of Staff, Marijke Wijnroks

4.2. Need for improvements in ownership and accountability of key grant management data

Through the implementation of the Grant Operating System, the Secretariat has defined data management requirements and the quality assurance requirements over programmatic data. Several enhancements have been made to address legacy programmatic data quality issues and to improve data quality going forward. As grant management represents the core business of the Global Fund, the resolution of these data issues represents a significant milestone in data management for the organization:

- *Optimization of Tools and Templates and Integration with Grant Operating System:* Whilst tools and templates to assist grant management activities have existed for many years in the Global Fund, Project AIM enhanced the data structure and controls in the tools and templates.
- *Automatic Upload of key Grant Documents:* the Grant Operating System includes functionality for key documents to be directly uploaded into the system. This reduces the risk of errors through the manual capture process that was in place with the legacy Grant Management System. Performance Framework, Grant Budget and Principal Recipient reports are all directly uploaded into the system using pre-defined templates. The system has built-in checks on the structure and content of the document being uploaded to ensure consistency of data and it rejects a document if it does not meet the defined requirements.
- *Training:* Intensive trainings have been undertaken, for the end-to-end grant management process and the related Grant Operating System modules, which include detailed elaboration as to the data requirements, processes and data quality controls for key grant management documents such as the Performance Framework and budget completion.
- *Integration between systems* of the Grant Operating System and Global Fund System was also performed to ensure integrity of data across systems.

However, the focus of Phase 1 of the project was on the development and implementation of a new system for grant management rather than on processes and controls to ensure data quality. For example, there is still need for clarity on ownership and accountability for data quality related to the grant Performance Framework. This accountability is currently split between the Monitoring, Evaluation, Control and Analysis team, the Public Health and Monitoring Evaluation Specialist from the Grant Management Division Country Team, and the Fund Portfolio Manager. Whilst all of these members are key actors in the development and approval of the final performance framework, the accountability of each over the grant performance framework is not clear. This is also the case for the Grant Budget and the lack of clarity of roles between the Finance Officer and the Fund Portfolio Manager. Periodic reporting by Principal Recipient also involves a number of actors who receive, review, adjust or determine final performance assessments. However, the ownership of data and accountability for quality between these various actors are not clear and formally assigned.

The Country Team Responsibility Matrix introduced in 2013 does highlight ownership and accountability for key grant management data such as the Performance Framework, Grant Budget and Periodic Reporting by Principal Recipients. However, this has been ineffective in ensuring the quality of key grant management data, with large amounts of inaccurate, inconsistent and incomplete data recently identified during Project AIM and in the 2017 OIG Grant Monitoring Report (GF17-022).

Whilst the implementation of the Grant Operating System contains a number of controls to validate key grant management data, these are mainly around the structure and content (ensuring that data are captured into the system in a consistent format according to predefined templates, data fields

and data definitions). Control gaps still exist over the management of quality for key grant data. For example:

- *Controls to ensure that data in the Performance Framework is accurate* – The finalization of the Performance Framework supporting grants includes a quality assurance process performed by the Monitoring Evaluation, Control and Analysis team. This is to ensure that the Performance Framework is accurate and complete. There is however, no validation that the final Performance Framework imported into GOS is the one that has been quality assured. Only the Country Team validates the Performance Framework that is imported into the system and not the team that performed the quality assurance.
- *Controls to ensure that the Country Team final performance assessments from Principal Recipient progress reporting data are accurate* – The final assessment of grant performance is performed by the Country Team. This assessment can be based on either the results reported by Principal Recipient, or the results reported by the Local Fund Agent, or the Country Team's own assessment. In the case of an assessment performed by the Country Team, no independent validation of the Country Teams final assessment is performed to ensure that validity and accuracy. The final assessment by the Country Team is critical as it links into the final grant rating, which influences the annual funding decision. This data will also influence the programmatic data reported in the Global Fund Results and Key Performance Indicator reporting. As noted in finding 4.2, several enhancements have been made over the Principal Recipients reporting process through the implementation of the Grant Operating System. However, whilst they reduce the risk of manual errors in the progress updates received from the Principal Recipient and Local Fund Agent, they do not address issues arising from subsequent transformations of the data.

The Secretariat expects to address grant management reporting through Tableau, which is a reporting platform that will be integrated with the Grant Operating System in 2018.

The Secretariat has acknowledged that all of the above elements still require attention and remediation; however, it was impractical to cover all of these elements into a single project scope with limited time and budget. The Secretariat has now initiated the second phase of Project AIM that will address these remaining elements.

Agreed Management Action:

As per AMA1

4.3. Embedded and actively managed financial and allocation data

Allocation Data

The data management process for 2017 – 2019 country allocations was embedded. There was a strong acknowledgement of the need for data management from the Board and committee level all the way down to the divisional level and allocation team in the Secretariat. The methodology was well documented and approved at all relevant levels in the organization. Key input data for the allocation model was defined along with ownership and accountability for data quality. Preventative and detective controls were in place to ensure that input data was valid, accurate and complete. The allocation model that transforms input data to determine the country allocations was independently validated and found to be fit for purpose. A number of controls were also applied to the final outputs of the allocation process including senior management in the allocation team, the Management Executive Committee of the Secretariat. The Head of Grant Management and the Executive Director of the Global Fund applied the same level of rigor to the transposing of data from the final outputs of allocation process to the allocation letters received by countries, which included review and approval of allocation letters,.

Financial Data

Data management processes and controls for finance are at an embedded level, with clear responsibility and accountability for data quality. Data management procedures and controls are embedded into key business process policy documents and a number of monitoring mechanisms are in place to ensure data quality throughout the data lifecycle. For example:

- *Financial data for the annual corporate work plan and budget:* There is a clear process for data collection, review and approval of the financial data received from all the divisions and departments in the Secretariat to produce the annual corporate work plan. The strategic controlling team within the Finance Division reviews data inputs received from other departments. Within the team, there is adequate segregation of duties and controls between staff responsible for data input, transformation and final output to ensure data consistency and quality. The controls also include review and approval by senior management in the Secretariat all the way to the Board. However, this team has now been disbanded and, at the time of the audit, it was not clear how the corporate work plan will be developed in future years or if the identified processes and controls will remain.
- *Financial data related to contributions and pledges:* The full data lifecycle from input to transformation to output is documented in both a process flow chart and procedure document. Responsibility and accountability for data quality are clearly defined and the data transformation process has been built to be almost autonomous with excel files to pull data directly from Hyperion, the financial reporting and budgeting system, validated by finance and donor relations, then uploaded back into Hyperion. This decreases manual processes and risk of human error. Additional detective controls are also performed by both accounting and donor relations to ensure data accuracy and completeness of the final data output.
- *Financial data for the annual financial statements:* The financial statement closing process that generates data used in the annual financial statements has an even higher level of data management maturity as it is actively managed from the start to the end. The process is well documented, with responsibility and accountability clearly assigned. The Global Fund System has been designed to meet all requirements of financial statement reporting, with embedded preventative controls to ensure data validity and accuracy. In addition, detective controls are in place and regular monitoring is performed on the monthly financial data by the financial services, treasury, and accounting teams all the way up to the Chief Financial Officer.

5. Table of Agreed Actions

Agreed Management Action	Target date	Owner
1. As planned in the Data Governance Committee work plan for 2018 and 2019, the Secretariat will continue the ongoing work and by 30 June 2019 will have in place: <ul style="list-style-type: none">• An enterprise-wide data management strategy that builds on the existing design framework;• Data catalogue for corporate data sets and their owners and stewards; and• Data management policies and processes, including<ul style="list-style-type: none">○ Risks identified and related controls; and○ Defined accountabilities, roles and responsibilities.	30 June 2019	Chief of Staff Marijke Wijnroks

Annex A: General Audit Rating Classification

Effective	<p>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.</p>
Partially Effective	<p>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.</p>
Needs significant improvement	<p>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.</p>
Ineffective	<p>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.</p>

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 work.

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

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

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

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