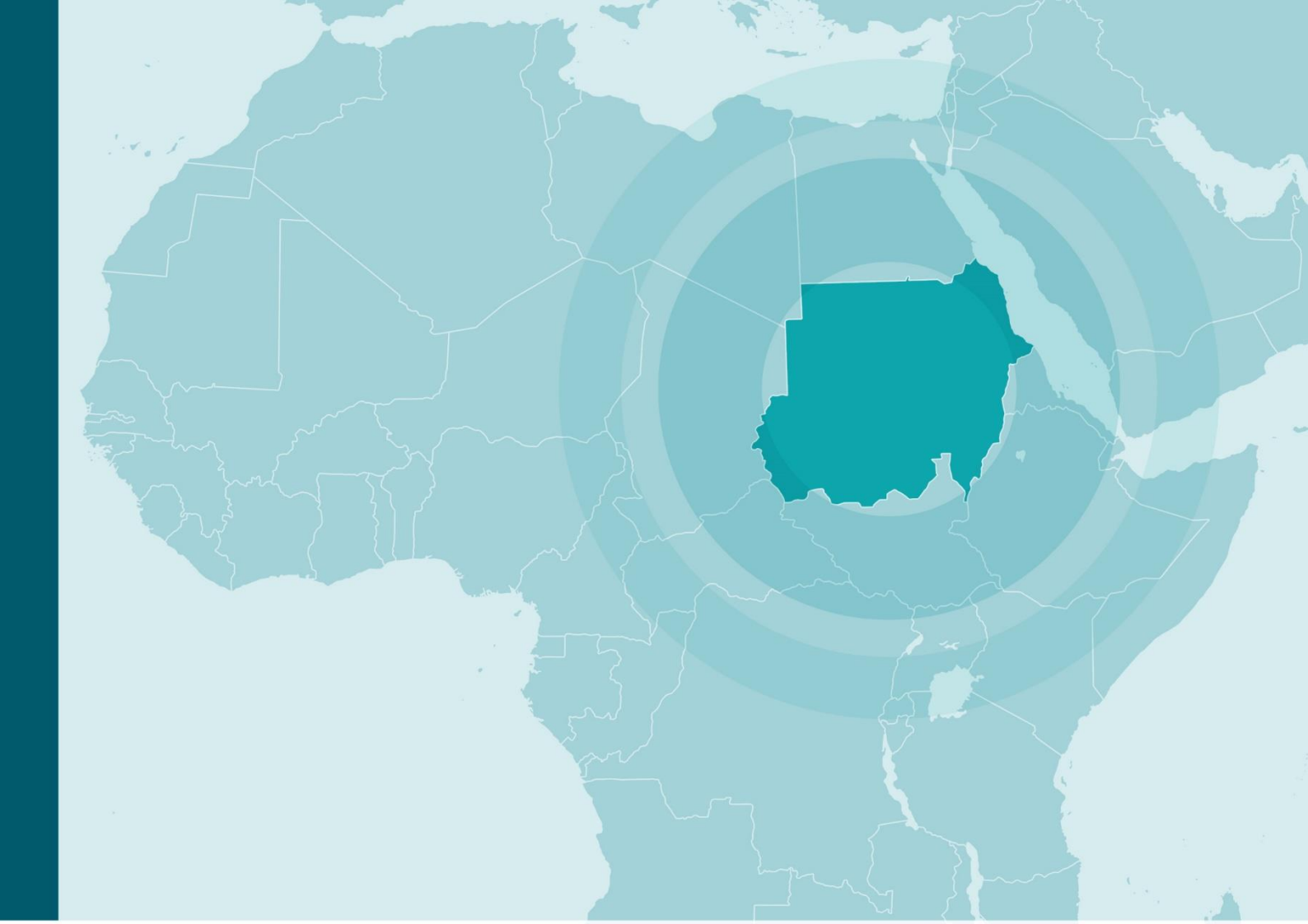

AUDIT REPORT

Global Fund grants to the Republic of Sudan

GF-OIG-23-007
4 April 2023
Geneva, Switzerland

THE GLOBAL FUND
Office of the Inspector General

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1. Executive Summary

1.1 Opinion

The Republic of Sudan is the third largest country in Africa with a population of about 45 million. Since 2002, the Global Fund has disbursed nearly US$822 million to support the fight against HIV, tuberculosis (TB) and malaria in the country. The Global Fund has classified Sudan as a challenging operating environment (COE) due to the country's history of civil war and political instability. Limited domestic resources and sanctions against the Sudanese government by the international community have contributed to low donor funding and high dependence on the Global Fund to fight the three diseases. Hyperinflation has led to the downgrading of the Sudanese Pound and contributed to Sudan's status as a low-income country.[1] Natural disasters and weak infrastructure also continuously undermine the implementation of Global Fund grants.

The flexibility, innovation, and partnership principles that the Global Fund COE policy[2] allows have yet to be effectively leveraged in Sudan. Although the OIG noted considerable improvement in financial management, innovative and flexible solutions are ineffective to address data quality challenges, to increase the use of malaria rapid diagnostic tests, to improve vector control interventions, or to increase grant oversight beyond the state level. The use of a "developmental approach" during humanitarian emergencies in Sudan has proven ineffective. Grant performance remains below expectations, even after considering the impact of the pandemic and the risk mitigation measures put in place. Furthermore, some risk mitigation measures for the portfolio are not adequately addressing the challenges identified by both the OIG and the Secretariat, while implementation of other measures has yet to start. The adequacy and effectiveness of implementation, oversight and assurance arrangements **needs significant improvement.**

While recognizing the impact of COVID-19 health system disruptions on the programmatic performance, implementation approaches are not yielding the expected results. As a result, Sudan is currently losing ground in the fight against malaria and HIV. In 2021, the estimated malaria cases and deaths in the country had increased over 52% and 64%[3] respectively since 2016. The OIG noted insufficient planning and coordination of malaria vector control activities with distribution delays during the long-lasting insecticidal nets (LLINs) mass campaign. No substitute was agreed when needed for indoor residual spraying activities and the treatment of malaria cases was also inefficient. Progress on the UNAIDS cascade has been slow, the number of people living with HIV who know their status went from 37% to 45% between 2019 and 2021.[4] The design model for testing is inefficient, negatively impacting the positivity yield among key populations. Inaccurate data, as well as weak oversight over activities, also undermines programs. Implementation of HIV and malaria interventions to ensure access to quality services by beneficiaries **need significant improvement.**

Improvements to the supply chain management system for health commodities in Sudan have been slow to progress since the last audit in 2019. The supply chain is not integrated and is managed by several stakeholders with diluted accountability and ownership. There is limited oversight over the supply chain at all levels, with limited availability and traceability of health commodities at the locality and health facility level, exacerbated by low human resource capacity. All these issues have contributed to material stock-outs and expiries of medicines. The design and effectiveness of supply chain mechanisms to ensure timely and uninterrupted availability of health and non-health commodities is **ineffective.**

[1] https://data.worldbank.org/country/SD (accessed on 22 August 2022)
[2] The Global Fund's COE policy is meant to accelerate the response to HIV, TB, and malaria, while building resilience through stronger community and health systems.
[3] World Malaria Report - WHO 2021report page 217
[4] UNAIDS – Sudan fact sheet accessed on 4 August 2022

1.2 Key Achievement and Good Practice

Good internal control systems to address financial and fiduciary risks[5]

The Global Fund has established sound control systems and processes in grant management to reduce financial and fiduciary risks in Sudan. The Principal Recipient, the Federal Ministry of Health (FMOH), had established a Program Management Unit that provides overall financial management and oversight of the Global Fund grants to the Ministry of Health and ensures timely completion of financial reporting. The grants also have a Fiscal Agent that oversees financial management procedures, including monitoring program activities and verifying financial transactions. The Fiscal Agent applies an oversight protocol manual when conducting quality checks at different levels. The Fiscal Agent has also improved the timely reporting to the Global Fund Country Team.

1.3 Key Issues and Risks

Improvement needed in the Global Fund's approach to achieve grant objectives in a challenging operating environment

The OIG found the financial assurance arrangements as a COE country to be generally satisfactory with few areas for improvement. Significant improvement is needed, however, in program management to leverage the flexibility and innovation allowed in COEs to deliver results. The Secretariat could have worked continuously with the government to find a suitable substitution for the indoor residual spray intervention. Especially since the two states involved account for about 25% of malaria cases. Innovative measures were not taken to increase the use of rapid diagnostic tests or to improve programmatic and logistic data quality.

Oversight from Principal Recipients and in-country implementers is mainly in the capital due to the political instability and security risks in the rest of the country. While some options to provide assurance in hard-to-reach and conflict zones have been put in place, these have proved ineffective when it comes to overall grant performance. Consequently, the OIG noted long outstanding and reoccurring issues and unaddressed recommendations from various assurance providers.

Current trends suggest Sudan may not reduce malaria morbidity and mortality by 30% by 2025

Sudan is the leading contributor to the malaria burden in the WHO-EMRO region, accounting for about 56% of cases in 2021. The entire population is at risk of malaria with 86.7% classified as high risk.[6] Between 2015 and 2020, the country registered an increase of more than 40% in its malaria case incidence. Contributing factors to this worsening outcome include sub-optimal planning and coordination of vector control interventions, recurring gaps in malaria case management and data quality issues.

The program has no operational plan for malaria case management and has not led a malaria review meeting in five years within the audit period.[7] Despite significant investment, weak data reporting from health facilities to the central level remains a major limitation on malaria monitoring. Recommended malaria case management indicators are not yet included in the integrated disease surveillance system.

Improvement needed in HIV prevention and links to care to achieve 2025 targets and eliminate HIV as a public health threat in Sudan

HIV/AIDS-related deaths in Sudan have decreased by 17% since 2017.[8] In 2020, the country's antiretroviral treatment guidelines were updated to include community activities. Starting in NFM1, the HIV program has also expanded the scope of community-based organizations to engage in HIV service delivery. Sudan's HIV cascade,

[5] The OIG did not audit expenditure of UNDP and other UN agencies implementing Global Fund grants in Sudan due to the UN's Single Audit Principle (see section 1.2).

[6] World Malaria Report - WHO 2021

[7] Malaria review meeting was held in May 2022

[8] UNAIDS – Sudan fact sheet

however, shows stagnant progress compared to the regional average. In 2021, the country's HIV cascade was 45-27-0[9] compared regional average of 61-43-37.[10]

Slow progress made in addressing supply chain challenges to ensure health commodity availability and accountability result in stock-outs at all levels and a lack of stock visibility at the locality and health facility levels

While significant costs[11] have been sustained in Sudan to address supply chain gaps, including regular operational costs, little improvement has been seen to ensure health commodity availability and accountability. Weak oversight associated with lack of supportive supervision at the sub-national level and low human-resource capacity at all levels of the supply chain are affecting commodity traceability at the locality and health facility levels. This in turn has contributed to expiries and stock-outs.

National quantification and forecasting exercises are using adjusted morbidity data because of inaccurate and incomplete consumption data from health facilities and localities. This results in poor quantification and forecasts that are both under- and over-stated. Standard Operating Procedures (SOPs) to guide staff activity and to ensure quality control at warehouses did not exist at three of five state warehouses visited.

[9] Viral load coverage is still very limited, in 2019 about 10% of PLHIV on ART had viral load testing as per the UNAIDS Sudan Country Report 2020. In 2021, the country was no able to report to UNAIDS on the percentage of people living with HIV who are on ART who are virologically suppressed.
[10] UNAIDS – Data 2021
[11] About US$10m between NFM 2 and NFM 3

1.4 Objectives and Scope

The overall objective of the audit is to provide reasonable assurance to the Global Fund Board on the Global Fund grants to Sudan. Specifically, the audit assessed the objectives below.

Objective	Rating	Scope
Adequacy and effectiveness of implementation of HIV and malaria interventions to ensure access to quality services by beneficiaries.	**Needs significant improvement**	**Audit period** January 2020 to December 2021 **Grants and implementers** The audit covered the Principal Recipients and Sub-Recipients of the Global Fund supported programs. **Scope exclusion** Financial management system and procurement process conducted by UN agencies, as well as the supply chain for TB commodities.
Adequacy and effectiveness of implementation, oversight, and assurance arrangements to ensure achievement of grant objectives in challenging operating environments.	**Needs significant improvement**	
Adequacy and effectiveness of design and effectiveness of supply chain governance and oversight mechanisms to ensure timely and uninterrupted availability of health and non-health commodities.	**Ineffective**	

Our auditors visited 19 health facilities in 6 of 18 states in Sudan, as well as five warehouses belonging to the National Medical Supplies Fund. These states account for 25% of confirmed malaria cases and 60% of patients on antiretroviral treatment in the country.

Exclusion from scope

The United Nations (UN) General Assembly has adopted a series of resolutions and rules that create a framework known as the "Single Audit Principle." Under this framework, the UN and its subsidiaries do not consent to third parties accessing their books and records. Instead, all audits and investigations are conducted by the UN's own oversight bodies. The Global Fund Board and its committees have considered this assurance over funds managed by the United Nations Development Program (UNDP), and other UN subsidiary bodies, and rely on the assurance provided by these UN oversight bodies. Accordingly, the OIG did not audit expenditure of UNDP and other UN agencies implementing Global Fund grants in the country.

Scope limitation

The OIG was not granted access to the supporting documents of sub-sub-recipients managing HIV activities, due to the refusal of UNFPA (UNDP's sub-recipient). Details about the general audit rating classification can be found in Annex A of this report.

2. Background and Context

2.1 Country Context

Located between Sub-Saharan Africa and the Middle East, the Republic of Sudan has been affected by political instability and faced severe economic challenges in recent years. The country's economic status fell from a middle-income country to low-income country with GDP declining by 62% between 2014 to 2021.[12] Inflation more than doubled from 163% in 2020 to 359% in 2021, owing to currency depreciation and removal of fuel subsidies.[13] This has impacted government spending on health care (reduced from US$159 per capita in 2014 to US$47 in 2019), which has limited the population's access to services.[14] The country's overall instability has negatively impacted activities across the Global Fund portfolio.

The country has a shortage of healthcare workers, with 1.9 physicians per 10,000 people, while the regional average is 10. Human resources for health are inequitably distributed with 70% of health workers located in urban areas and more than half in the capital, Khartoum.[15] [16] Staff turnover and the migration of health workers out of Sudan is a major challenge that undermines the health system. Causes for migration include low local salaries, poor working environments and a lack of appropriate professional development.

Country data[17]	
Population	44.9 million
GDP per capita	US$764 (2021)
Transparency International	164 of 180 (2021)
UNDP Human Development Index	170 of 189 (2020)
Gov't spending for health	4.5% (2019)

The effective and efficient implementation of the Sudan portfolio is undermined by the factors below.

Political instability: The secession of South Sudan led to the loss of oil revenue that accounted for more than half of the government revenue and 95% of its exports. This impacted economic growth and created price inflation that has led to a cycle of political unrest.[18] Since 2013, the country has seen many mass demonstrations, leading to the overthrowing of the ruling regime in April 2019. Another coup in October 2021 has led to two transitional governments with military and civilian leaders. This instability has extended to the Ministry of Health.

Human resource gaps and staff turnover at all levels: Since the first coup in 2019, there have been many changes in leadership in the Federal Ministry of Health, with seven ministers of health, four global health directors and three disease control department heads.[19] This instability has undermined accountability and implementation of grant activities. The number of health workers is also insufficient.[20] Since 2017, the Global Fund no longer supports performance-based incentive payments at the health facility level due to the decrease in the country's HIV

[12] The World Bank in Sudan. Link. (Accessed on 22 July 2022)
[13] Sudan Economic Outlook - African Development Bank Group (Accessed on 22 July 2022)
[14] Current Health Expenditure per capita – Sudan – World Bank (Accessed on 22 July 2022)
[15] The Sudan National Health Recovery & Reform policy and Strategic Plan 2020 – 2022
[16] The National Health Sector Strategic Plan 2012 – 2016
[17] Sources: population, GDP, Health expenditure from data.worldbank.org; Corruption Perception Index 2021- Sudan. Human Development Index Sudan – UNDP - Accessed 22 July 2022
[18] The World Bank in Sudan. Link. Accessed on 22 July 2022
[19] Disease Control Department (DCD) is the department which houses the disease control programs within the Federal Ministry of Health
[20] Human Resources for Health Strategic Plan Sudan, 2030

allocation. This change has affected staff involvement in implementing Global Fund-supported HIV and malaria interventions.

Limited number of partners investing in health: The Global Fund is the main donor for the HIV, TB, and malaria response in Sudan. There are still major funding gaps for malaria and HIV diseases. For example, not all states are covered with active malaria control interventions despite being included in the Malaria National Strategic Plan, and HIV prevention activities are limited to eight priority states.

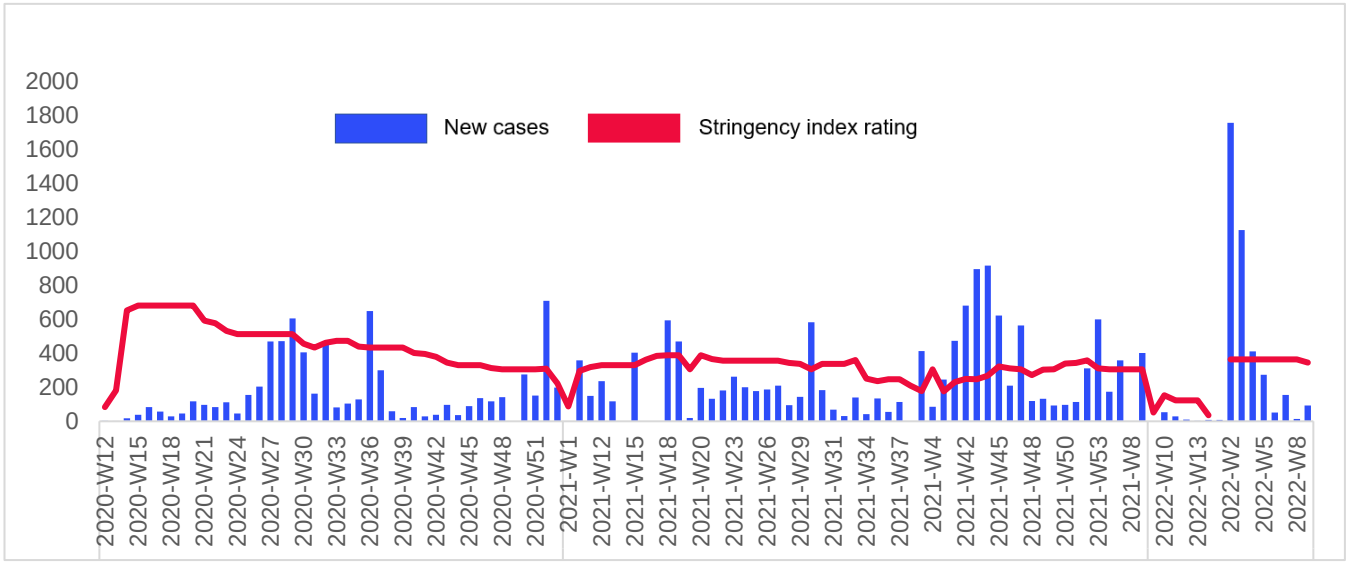
2.2 COVID-19 Situation

Since March 2020, Sudan has taken stringent containment measures, including lockdowns and curfews, to slow the spread of the virus. Cumulatively, from the start of the pandemic until 24 November 2022, the case fatality rate has been 7.8%.[21] Despite the efforts of the Sudanese government's containment measures, COVID-19 had an impact on the health system as demonstrated in the programmatic performance under the grant.

COVID-19 statistics (24.11.2022)

- Cases – 63,625
- Deaths – 4,986
- Vaccinated – 11,735,049

Figure 1: COVID-19 cases and stringency index in the Sudan[22]



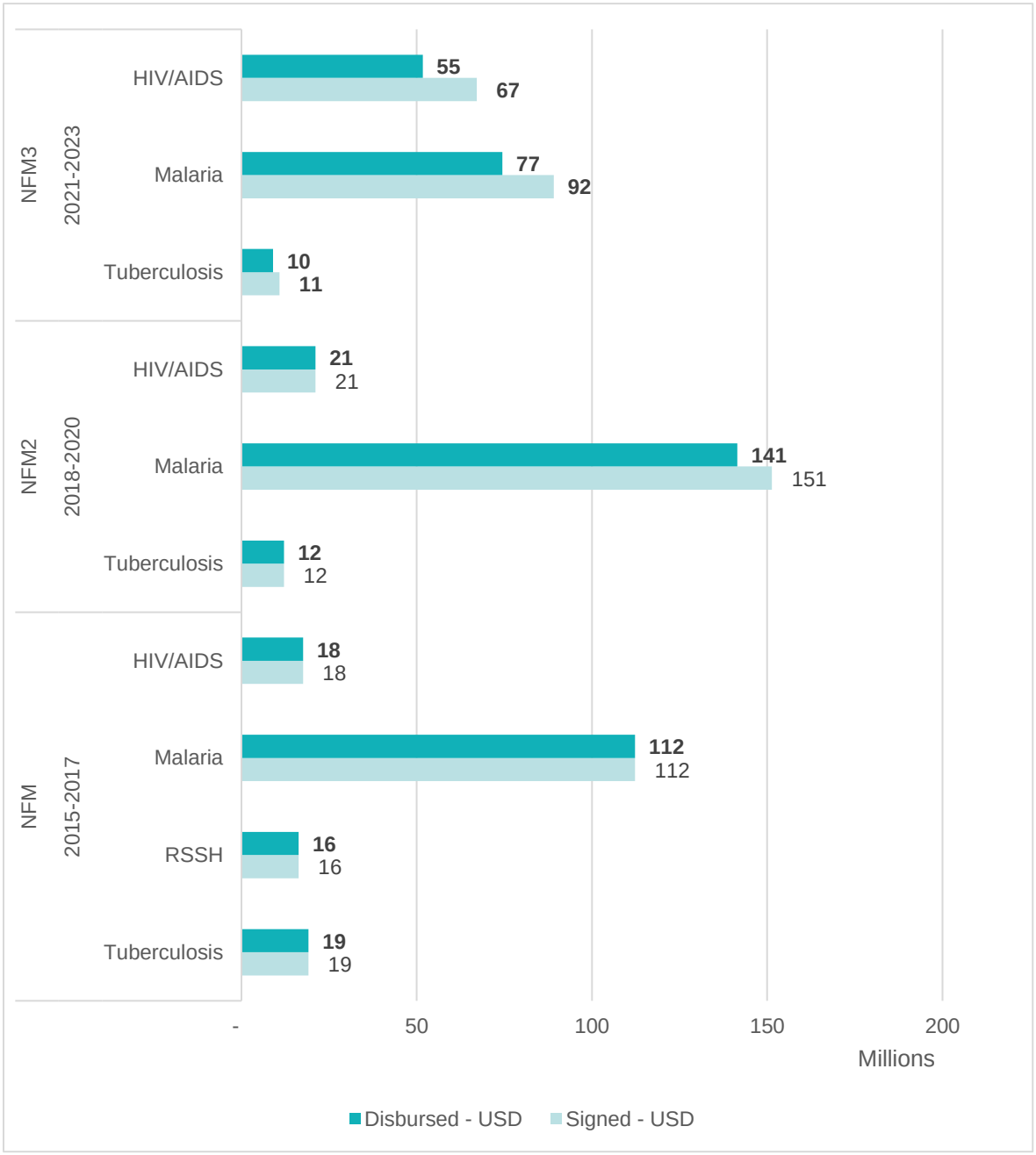
[21] University of Oxford Our world in data (Accessed on 24 November 2022)
[22] University of Oxford Our world in data (Accessed on 7 April 2022). Covid Cases numbers: our world in data and recovered cases

2.3 Global Fund Grants in the Republic of Sudan

Since 2002, the Global Fund has signed more than US$884 million and disbursed over US$822 million in funding to Sudan. Active grants total US$170 million for the 2020-2022 funding allocation period (i.e., January 2021 to December 2023 implementation period), of which 64% has been disbursed. Full details on the grants can be found at the Global Fund's Data Explorer.

Sudan's Federal Ministry of Health (FMOH) and the United Nations Development Programme (UNDP) are the Principal Recipients for malaria and HIV/TB, respectively. Grants are also implemented via the Sudan Disease Control Directorate of FMOH for HIV, TB, and malaria (acting as a sub-recipient).

Figure 2: Funding allocations, prior and current funding cycles (as of December 2021)[23]



[23] Global Fund Data Explorer (Accessed on 01 December 2022)

An estimated 80%[24] of grant funding for malaria goes towards procuring medicines and health products, including LLIN procurement performed by UNICEF, while for the HIV and TB grants it is 45%. The National Medical Supplies Fund is responsible for storing and distributing these health commodities in coordination with the Ministry of Health.

2.4 The Three Diseases

HIV / AIDS	TUBERCULOSIS	MALARIA
An estimated **41,000 people are living with HIV**, of whom 45% know their status (vs. 52% in the region). Among identified PLHIV, **27% were on treatment** (vs 43% in the region). The number of **new infections has not changed in 10 years**, remaining at around 3,500 per year. **AIDS-related deaths have decreased** over time (17%) from 2,300 in 2017 to 1,900 in 2021. **Viral load coverage is still very limited with only 10% of PLHIV on ART tested in 2019 and 2021**. The country has not reported to UNAIDS on the percentage of PLHIV on ART who are virologically suppressed. *Source:* UNAIDS – Sudan fact sheet	Sudan has a **declining trend** of TB incidence and mortality rates. **Estimated number of annual TB cases decreased** from 30,000 in 2019 to 28,000 cases in 2021. **Overall treatment coverage has declined** from 67% in 2019 to 62% in 2020. **TB treatment success rate increased** from 80% in 2017 to 83% in 2020. 28% of TB patients have a **known-HIV status. 2.3% of them are positive**, of whom 98% are enrolled in antiretroviral treatment. *Source:* Global TB Report 2021 and WHO data	Sudan had the **highest burden** of malaria in the Eastern Mediterranean Region in 2020, **accounting for more than half of all cases** (56%) **and deaths** (61%). Between 2015 and 2020, the country registered **an increase of more than 40%** in its malaria case incidence. Estimated **malaria cases grew by 65%** in 2020 over 2010 (3+ million cases). Estimated **malaria-related deaths grew by 170%**, from 2,770 in 2010 to 7,533 in 2020. *Source:* World Malaria Report 2021

[24] Budget for NFM2 and NFM3

3. Portfolio Risk and Performance Snapshot

3.1 Portfolio Performance

NFM2 Implementation Period (2019-2020)

Comp	Grant	Principal Recipient	Total Signed (US$)	Absorption (US$)	Absorption (%)	Jun19	Dec19	Jun20	Dec20	Jun21
	SDN-H-UNDP	United Nations Development Programme	21,150,556	21,150,556	100%	B1	B1	B1	B1	N/A
	SDN-T-UNDP	United Nations Development Programme	12,119,973	12,119,973	100%	B1	B1	B1	B1	N/A
	SDN-M-MOH	Federal Ministry of Health	151,335,893	141,570,466	94%	B1	B2	B1	B1	B1[25]
TOTAL			184,606,422	174,840,995	**95%**					

NFM3 Implementation Period (2021-2023)

Comp	Grant	Principal Recipient	Total Signed (US$)	Absorption (US$)	Absorption (%)	Jun21	Dec21	Jun22
	SDN-H-UNDP	United Nations Development Programme	67,117,980*	14,604,569	22%	B2	B2	C5
	SDN-T-UNDP	United Nations Development Programme	10,833,666	4,058,083	37%	B2	B1	C5
	SDN-M-MOH	Federal Ministry of Health	89,110,006**	34,939,091	39%	B1	B2	C5
TOTAL			167,061,652	53,601,743	32%			

*C19RM grant ending 2023 totals US$43,712,046, implemented by UNDP

** US$89 million was the result of $21.2 million used under the six-month extension under NFM2

[25] SDN-M-MOH grant for the 2018-2020 allocation cycle was extended by six months up to 30 June 2021

3.2 Risk Appetite

The OIG compared the Secretariat's aggregated assessed risk levels of the key risk categories covered in the audit objectives for the Sudan portfolio with the residual risk that exists based on the OIG's assessment, mapping risks to specific audit findings.

Audit area	Risk category	Secretariat-aggregated assessed risk level (June 2022)	Assessed residual risk based on audit results	Relevant audit issues
Program quality	HIV	**High**	**Very High**	Finding 4.2
	Malaria	**High**	**Very High**	Finding 4.3
In-country governance	In-country governance	**Very High**	**Very High**	Finding 4.4
In-country supply chain	In-country supply chain	**High**	**Very High**	Finding 4.1
Financial assurance framework and mechanism	Grant-related fraud and fiduciary risks	**Very High**	**High**	Finding 4.4
	Accounting and financial reporting	**High**	**High**	Finding 4.4

The full risk appetite methodology and explanation of differences are detailed in Annex B.

4 Findings

4.1 Slow progress in addressing supply chain challenges is affecting health commodity traceability, availability, and accountability

Although significant costs of US$10 million between NFM2 and NFM3 have been sustained in Sudan to address supply chain gaps, including operational costs, the OIG found little evidence of improvement. Weak oversight associated with lack of supportive supervision at the sub-national level, and low human resource capacity at all supply chain levels, are affecting health commodity traceability, availability, and accountability. This has contributed to material levels of expiries and stock-outs.

Procurement and distribution of health products constitute 71% (US$140.6 million) of NFM3 grants to Sudan, with UNICEF procuring malaria commodities and UNDP procuring for TB and HIV. Health commodities except LLINs are stored and distributed by the National Medicines Supplies Fund (NMSF), which has a network of 18 regional warehouses in the country.

Distribution of these commodities follows a similar path that moves from the NMSF central warehouse to its 18 state warehouses to service delivery points. Malaria medicines and test kits generally have one additional step, with distribution to locality stores before reaching service delivery points. Sudan has a functional web-based ERP[26] system that enables real-time visibility of inventory movement at national and state levels.

Gaps were noted in the supply chain for health commodities in Sudan to guarantee effective and timely delivery of drugs to health facilities. The OIG noted gaps in quantification and forecasting, as well as in warehouse and distribution processes. The lack of monitoring and supervision over localities and health facilities has impacted the availability of health commodities at all levels.

Ineffective quantification and forecasting at central and state levels

National quantification and forecasting exercises are using adjusted morbidity data because of inaccurate and incomplete consumption data from health facilities and localities. This results in poor quantification and forecasts. At the central level, a quantification and forecasting working group was established with clear terms of reference as per the AMA from the last audit. This group is meant to monitor health commodity stock levels and take appropriate decisions to guarantee adequate availability. However, monitoring is not effective, leading to long periods of material stock-outs and over-stocks at the facility level. The risk of expiry for malaria and HIV health commodities is also significant at the central level.

All key malaria health commodities were stocked out at the central level for periods ranging from four to 15 months over the 41 months reviewed. Malaria Rapid Diagnostic Test kits (MRDTs) and Artesunate Injections (30mg and 60mg) were stocked out between three to six months. Likewise for HIV commodities, the Unigold test kit was stocked-out for 35 cumulative months and the treatment drug, Abacavir/Lamivudine (120/60mg) was over-stocked by 250 months, risking expiries. See Annex C (graph A and B) for details.[27]

[26] Enterprise Resource Planning

[27] Analysis based on NMSF stock data (in the NMSF Logistic Management Information System) - Analysis was made based on the Average Monthly Consumption (AMC) used by the country to monitor the level of stock- the AMC is subject to weak consumption data reported, it does not represent the real commodities consumed and the national stock level could be above or below the national need. This is the only available data to monitor the availability of the stock level.

While buffer stocks can trigger an early warning alert for stock refills, buffer stock levels set for central and state levels were not implemented, especially at the state level, due to weak stock monitoring. On the day the OIG visited state warehouses, there was no stock available, while malaria commodities were available at the central warehouse. The Principal Recipient attributes the issues to gaps in the transportation in some hard-to-reach region, to political strikes and to states' push of health commodities to localities. In parallel, distribution plans do not exist to guide commodity refills from states to localities, and from localities to health facilities. See Annex C (graph C) for details.

Ineffective warehousing and distribution at central and state levels

The National Medical Supply Fund (NMSF) stores and distributes health commodities procured with Global Fund grants. This arrangement is guided by a Memorandum of Understanding (MoU) between NMSF and the Federal Ministry of Health (FMOH).

The OIG noted that there was no mechanism in place to monitor the performance of the NMSF as required in the performance framework of the first signed MoU (2018). Although the MoU called for an annual performance review, it was never completed. This was a missed opportunity to update the MoU in response to Sudan's changing and challenging operating environment. Consequently, health commodities that were supposed to be delivered to health facilities by NMSF were not delivered, due to its weak distribution capacity (only a limited number of vehicles were available to make deliveries to health facilities) and a lack of KPI monitoring of deliveries during NFM2.

In NFM3, a second MoU was signed by NMSF and FMOH. While KPIs were added, they are not specific, measurable, achievable, relevant or timebound (SMART), making it difficult to assess whether implementation is on track or to ensure accountability. The MoU was also endorsed over one year after the start of grant implementation.[28] This was attributed to long negotiations over warehousing and distribution costs, culminating in the MoU being signed.

Finally, the MoU mandates that NMSF ensure last-mile commodity availability in all states. NMSF delivers commodities from the central warehouse to states with their own transportation fleet and support from third-party logistics. While NMSF vehicles distributed antiretroviral medicines to treatment facilities, they did not deliver malaria commodities. Instead, health facilities picked them up from localities that received them from states. In the four states visited, only 15 vehicles were available to deliver to 1,450 health facilities and 31 localities, with 20% of the vehicles not functioning.

Weak oversight over health commodities undermines visibility and traceability

Standard Operating Procedures (SOPs) are essential to guide staff activity and ensure quality control at warehouses. Yet key SOPs including for stock count, reconciliation and ordering were absent at three of five state warehouses that the OIG visited, as well as at all four localities and eight health facilities visited.

Consequently, the OIG noted non-adherence to good storage practices. For example, 40% (2/5) of state stores kept commodities at temperatures above the recommended level (30° Celsius). There was also no temperature monitoring at 60% (3/5) of state stores and at all localities stores visited.

The OIG's review of NMSF's web-based Enterprise Resource Planning (ERP) system, which is used to manage inventory, sales, and human resources, showed erroneous data entry. There were instances in which consumption reports from localities indicated zero stock-out days, although commodities were stocked-out for consecutive months. State-level use of the system was also undermined by frequent internet and power disruptions.

Health facilities also lacked crucial documents including stock cards for managing inventory. Instead, they relied on improvised and non-standardized dispensing registers, as well as other documents that proved ineffective in recording commodities issued to patients. Only 8% (1/13) of health facilities and 50% (2/4) of localities visited maintained stock cards for HIV and malaria commodities. Similarly, 20% (1/5) of antiretroviral treatment facilities and 25% (2/8) of malaria health facilities had dispensing registers. Only one health facility had an

[28] MoU was signed on 29 June 2022

updated dispensing register. In these conditions, health commodities cannot be adequately tracked, and patient treatment is at risk.

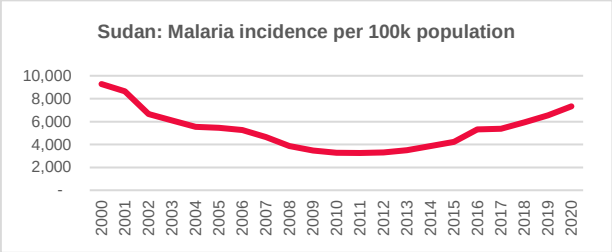
Stock-outs for malaria medicines were noted at all health facilities the OIG visited. However, the OIG could not quantify the extent of the stock-outs and expiries over a period due to the lack of stock cards and other relevant documentation at 12 of 13 health facilities and 2 of 4 localities visited.

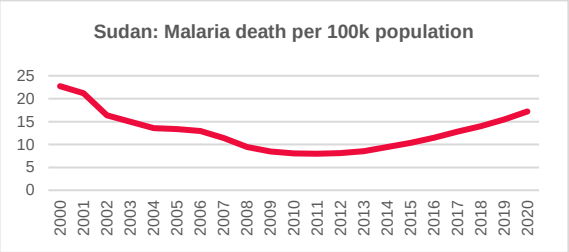
Agreed Management Action 1:
The Secretariat will work with the Principal Recipient to : i. Clarify the roles and responsibilities of the Quantification and Forecasting Technical Working Group, including to mandatorily monitor the stock levels at the central and state level and take appropriate decisions to avoid stock out at these levels. ii. Update the last capacity assessment of NMSF to understand the root cause of the challenges to deliver up to the last mile, including: - to revisit the distribution strategy for Sudan - to strengthen the governance and accountability framework of identified implementers - to provide a costed prioritization plan based on the capacity assessment results iii. Enhance Human Resources for Supply Chain Management in the country to monitor stock level of health commodities and to improve logistics data collection and reporting.
OWNER: Head Grant Management Division
DUE DATE: 31 December 2024

4.2 With the current trend, Sudan may not be able to reduce malaria morbidity and mortality by 30% by 2025

Despite substantial Global Fund investments (US$353 million since 2015) in malaria, programmatic results have remained stagnant. Grant performance and impact are undermined by sub-optimal conditions for implementation, insufficient Principal Recipient oversight from state to health facility levels and the limited funding landscape.

Sudan is currently losing ground in the fight against malaria. In 2021, estimated malaria cases were up by more than 52% and deaths increased by 64% respectively since 2016.[29] Currently, Sudan accounts for about 56% of malaria cases in the WHO-EMRO region, with 86.7% of the population classified as high risk for infection.[30]





Sudan has recently adopted the "High Burden to High Impact" (HBHI) approach to accelerate progress against malaria.[31] The WHO has agreed to provide technical support to Sudan to reignite the pace of progress in the fight. Although the Global Fund is the main donor supporting the malaria response in the country, funding allocation is limited.

Reversing the worsening trends in Sudan will require confronting the many challenges identified during the OIG's audit, including suboptimal planning and coordination of vector control interventions, recurring gaps in malaria case management and data quality issues.

Suboptimal planning and coordination of vector control interventions could result in increased malaria transmission and malaria cases

Vector control interventions, including long-lasting insecticidal nets (LLIN) and indoor residual spray, constitute 62% and 59% of NFM2 and NFM3 malaria grants, respectively. For the current grant, Sudan shifted from the annual LLIN distribution to one campaign every three years, moving from a rolling mass campaign to statewide coverage. The 2022 LLIN campaign planned in June 2022 was delayed by six months due to lack of coordination on planning, and accountability. At the time of the audit in July, Sudan had received only 50% of the total 18 million nets planned with distribution scheduled for December, which is after the peak malaria season. This increases the risk of malaria transmission and cases.

Microplanning – which should be done six months before the start of an LLIN campaign[32] – had not been started at the time of the audit. Neither planning for monitoring and evaluation, nor post-campaign activities were performed.

[29] World Malaria Report - WHO
[30] Idem
[31] WHO congratulates Sudan on adopting the "High burden to high impact" approach Link. (Accessed on 22 July 2022)
[32] Recommendation from the 'Technical Report of Sudan mass distribution campaign of LLINs 2020 – Developed by the PHC General Directorate – Federal Ministry of Health

More fundamental, however, is the historical ineffectiveness of these campaigns. While LLIN coverage for the previous campaign was 96%, utilization remained low (35%[33] in 2016 and 53%[34] in 2019). In 2021, the Global Fund's Technical Review Panel made recommendations to improve LLIN use, including calling for an improvement plan and operational research studies. Neither of these have begun. Without identifying the root causes for the poor performance of previous campaigns and lessons learned, the campaign executed in December is unlikely to meet its goals.

Funding constraints in NFM3 grants are also undermining impact in the Sudan portfolio. The Global Fund does not have the budget to fund indoor residual spraying in year two and three of the current malaria grant in two high malaria burden states that account for 21% of cases in Sudan.[35] An alternate vector control option proposed by the Secretariat was not accepted by the government, and without other vector control options or alternatives planned for these two states, the risk of malaria spread increases.

Similarly, one of the malaria grant objectives is to distribute LLINs to all pregnant women in LLIN- and IRS-targeted areas. Yet, under NFM3 there is neither a budget for routine LLIN distribution (which was included in the Prioritize Above Allocation Request) – including to this vulnerable group – nor any performance metric in the grant. The OIG saw no evidence of a remedial solution despite this being a funded activity in NFM2. Since the Principal Recipient did not report after 2019 on the performance indicator, the OIG could not assess the impact of this intervention.

Due to shortage of funding, the Secretariat could not continue funding IRS interventions.[36] The country did not agree on other vector control activities proposed by the Secretariat (i.e. LLINs), as it does not align with the National Malaria Strategic plan 2021-2025. Despite the commitment from the country to finding alternate sources of funding for IRS, the current absence of a clear solution increases the risk of malaria rise. No management action was agreed to address IRS substitution activities or funding.

Recurring gaps in malaria testing and case management impact efforts to reduce malaria incidence and mortality

Despite Rapid Diagnostic Tests (RDT) being free and the recommended method of diagnosis, most malaria confirmed cases[37] are still diagnosed with microscopy in Sudan even though this involves a cost for patients. All facilities that the OIG visited use microscopy as a first method of testing. Overall, 68% (5.5 million) of suspected cases were tested with microscopy, with just 17% (929,000) tested with RDTs.[38] This highlights the limited impact of the Global Fund's significant investment in RDTs, as well as the waste created by excess RDTs in the supply chain with high expiry risk.

While microscopy is available in all hospitals and health centers, quality varies due to capacity constraints. By 2019, only 50% of staff had been trained on case management and, at the time of the audit, there was no visibility on the total number of staff trained to conduct microscopy diagnosis. There is no national reference lab, instead, there are state labs (in 10/18 states) with variable functionality and equipment. Only two of seven health facilities that the OIG visited conduct quality assurance on microscopy tests, increasing the risk of misdiagnosis.

The program has no operational plan for malaria case management and has not led a malaria review meeting in five years. One of the objectives of the NFM2 grant was to improve meaningful engagement of community-based organizations (CBOs) and networks to promote health service use and address inequalities. This, however, has not been achieved. There continues to be limited CBO engagement in the malaria response. No CBO mapping had been completed to understand the functional areas they support, nor has M&E captured CBO activity. Finally, the US$4.3 million allotted for the community-led monitoring, advocacy, and capacity building

[33] Sudan Malaria Indicator Survey 2016
[34] LLINs 2019 post campaign survey
[35] Federal Ministry of Health - Disease Control Department (DCD) Malaria Data shared on June 27, 2022
[36] 2023-2025 Allocation Letter states: "The Global Fund will be unable to support investments in Indoor Residual Spraying in this funding cycle due to the limited resources.
[37] According to FMOH data, 57% of suspected malaria cases were tested and 53% were treated in 2021
[38] WHO report: https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2021 - Report pages 243

– which includes activities such as providing small grants to 14 CSOs to deliver key messages on health and COVID-19 – has not been spent.

At the time of the audit, 10 states still had not received the national malaria treatment protocols revised in 2018. The OIG could not check the quality of treatment provided to patients since none of the health facilities visited maintain stock cards of malaria drugs. Stock-outs for malaria medicines were also noted at all malaria health facilities and locality stores that the OIG visited.[39]

Gaps in data quality and oversight arrangements impact effective monitoring of quality of services for the malaria program

Despite significant investments,[40] data reporting from health facilities to the central level is still weak and remains one of the major limitations on malaria monitoring. In the first semester of 2022, only 23.6% of health facilities submitted reports, of which 60% were complete. Prior to 2018, 70% of health facilities were reporting, though only to 40% completion. These reporting and quality issues can be attributed to limited oversight and supervision at the locality and health facility level. While recommended malaria case management indicators could help, they are not yet included in the integrated disease surveillance system. Altogether, these gaps significantly undermine data quality and the services provided to patients and people at risk.

Agreed Management Action 2:
The Secretariat in collaboration with the Principal Recipient support the Federal Ministry of Health to: i. Conduct operational research and a post-campaign survey complemented with focus group discussions and key informant interviews to understand the root causes of low utilization of the LLINs in Sudan. ii. To improve RDT use: - Implement use of RDT as per national testing guidelines, ensuring protocols have been distributed, and staff are trained - Conduct an assessment for root causes of low usage of RDT and prioritized costed recommendations iii. Human Resource capacity enhancement in the country to improve programmatic data collection, quality and reporting for malaria, HIV and TB.
OWNER: Head Grant Management Division
DUE DATE: 31 December 2024

[39] OIG visited eight malaria health facilities and four county stores
[40] About US$10 million between NFM2 and NFM3

4.3 Gaps in grant design and implementation, as well as inadequate funding, are slowing progress on the HIV cascade.

While Sudan has made progress at improving HIV outcomes, it is inadequate to meet the UNAIDS cascade target. There has been insufficient improvement in HIV prevention and linkage to care, affecting the country's efforts to eliminate HIV as a public health threat by 2030.

HIV outcomes have improved in Sudan with a decrease in HIV/AIDS-related deaths by 17% since 2017. In 2020, the government updated its antiretroviral treatment guidelines to include community activities and expanded the scope of community-based organizations to engage in HIV service delivery. While notable, this progress is insufficient to achieve the 95-95-95 target by 2025. As seen in the figures below, Sudan's progress in the HIV cascade is limited compared to the regional average.[41]

[42]Figure 1

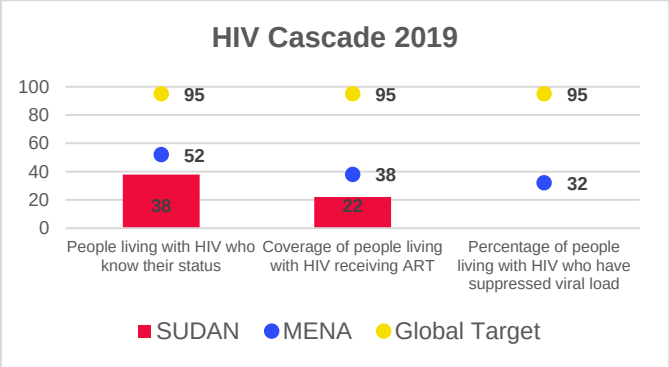
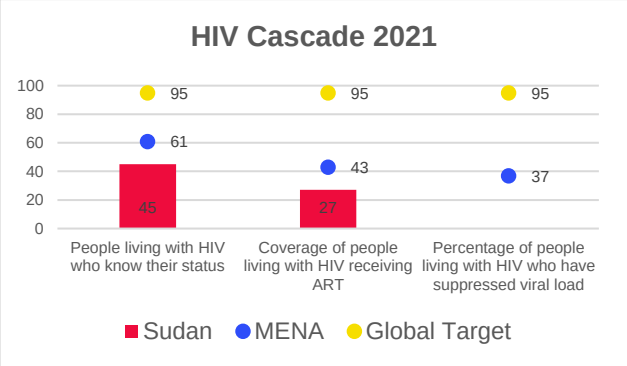


Figure 2



The OIG identified several contributing factors for this poor performance, including gaps in grant design and implementation, as well as inadequate funding.

Gaps in grant design and limited funding undermine Sudan's ability to achieve HIV national and global commitments

HIV grant objectives for NFM2 and NFM3 are not SMART,[43] making it difficult to assess whether implementation is on track or to ensure accountability. For example, one of the NFM2 and NFM3 grant objectives was to improve the health, dignity and prevention of people living with HIV. But there is no indicator to monitor and measure implementation. Coverage of HIV testing services is inadequate with 45 antiretroviral treatment sites limited mainly to urban areas due to funding constraints. With this rate of expansion, it is unlikely that Sudan can achieve national and global commitments. HIV testing results measured against targets have shown a downward trend since 2019. Compared to National Strategic Plan targets and Global Fund grant targets, testing achievement was 32% and 29% respectively in 2020 and 23% and 19% in 2021.

The NFM2 grant has targeted key populations using three models: (I) peer education interventions, (II) peer driven interventions, and (III) hotspot testing/mobile clinics. These models contributed to high acceptance of HIV testing and positivity yield. But due to the limited funding in NFM3, only peer-driven interventions to reach critical populations were adopted. This contributed to the downward trend in actual HIV positive cases identified (positivity yield) among key populations between 2019 and 2021. The positivity yield for female sex workers

[41] UNAIDS – Sudan fact sheet accessed on 4 August 2022

[42] Percentage of people living with HIV who have suppressed viral load in Sudan - the country was unable to report on viral load suppression in the latest UNAIDS report.

[43] SMART stands for Specific, Measurable, Achievable, Relevant and Time-Bound

decreased from 0.7% to 0.5%, and from 0.8% to 0.5% for men who have sex with men. There is also no section in the peer-driven intervention manual to refer positive cases from key populations to health facilities. All the peer-driven intervention sites the OIG visited had antiretroviral treatment referral forms, but there was no evidence that these referrals took place despite registrations for positive cases in 2019 and the first semester of 2022.

Although the current grant is designed to increase testing coverage among key populations, testing is still focused mostly on the general population through voluntary counseling and testing (VCT). Sudan also does not have a self-testing strategy, although HIV stigma and discrimination is high.

Despite the challenging operating environment, there is no recent data or survey to guide the design and implementation of Sudan's HIV program. The last Integrated Bio-Behavioral Surveillance (IBBS) survey was completed in 2015. A follow-on survey was planned for 2019 but delayed due to political instability and the COVID-19 pandemic**.** In addition, although grant funds were available for a study on ART survival and retention in 2021, it was not performed.

Gaps and bottlenecks in grant implementation affect access to service for intended beneficiaries

NFM3 grant implementation delays: As one of the sub-recipients of Global Fund grants in Sudan, UNFPA relies on civil society organizations (CSOs) to serve as implementing partners. But during NFM3, CSO activities began about nine months after the grant start date due to delays in finalizing contracts and making payments to UNFPA. These delays were caused by budget deficiencies for activities to reach out to key populations with preventions packages of services.[44] This contributed to the poor performance seen in prevention and testing services during NFM3. Less than 50% of key population-related indicators were met, while prolonged stock-outs of HIV test kits in 2021 and 2022 also affected HIV testing.

Limited training and supervision: The Disease Control Directorate (DCD) is the main sub-recipient of the HIV grant. DCD is responsible for HIV testing, clinical management of the HIV program, as well as care and treatment in health facility settings. During NFM2, DCD did not spend US$0.9 million (5%) of the HIV grant. Sub-recipients responsible for implementing training and supervision activities spent only 3% of the budget between 2018 and 2020 due to COVID-19 restrictions and low DSA,[45] resulting in cancelled trainings and supervision activities.

Viral load testing coverage remains low: Only 10% of people living with HIV were tested for their viral load in 2021. The OIG observed data collection and referral gaps at the sites visited, viral load tests are logged in the lab register but these are not regularly recorded in the patient card. Secondly, as per the National HIV Program data, the percentage of PLHIVs who have a suppressed viral load was 70% in 2019, 68% in 2020 and 79% in 2021. The Principal Recipient performs assurance on the numbers provided, testing however, only a limited number of facilities. Furthermore, the facilities are not selected through a proper sampling methodology and are not rotated, impairing the reliability of the assurance mechanism. Lastly, the Principal Recipient's database does not track or segregate data on deceased patients or those lost to follow-up.

HIV voluntary counseling and testing (VCT) sites are underused: The limited number of tests conducted despite the high yield in VCT sites is mainly due to limited community awareness of VCT services and high stigma. Distribution of VCT services is also not aligned with the geographical variation of the HIV burden in Sudan. This contributed to the low number of people tested. VCT contributes 32%, 30% and 22% of tests conducted and 86%, 89% and 84% of total yield in 2019, 2020 and 2021, respectively.[46]

Agreed Management Action 3:
The Secretariat will work with relevant Principal Recipients to: i. Conduct the IBBS survey to guide the design and implementation of Sudan's HIV program.

[44] The grant had not allocated adequate funds to finance the intended targets for UNFPA. The issue was resolved late in April 2022.
[45] The Daily Subsistence Allowance (DSA) was impacted by Sudan's currency depreciation and economic instability.
[46] UNDP database

ii. Enhance differentiated HTS to increase HIV testing access to populations at high risk of contracting HIV (e.g. KPs, STIs services and TB patients) and through testing modalities where positivity rates are high (e.g. hospitalized patients).
OWNER: Head of Grant Management Division
DUE DATE: 31 December 2024

4.4 Improvement is needed in the Global Fund's approach to leveraging the COE policy in Sudan, especially during emergencies.

The Secretariat's approach, in-country oversight and implementation arrangements have not adequately leveraged the principles of flexibility, innovation and partnerships that are encouraged in the COE policy. The use of a "developmental approach"[47] to address humanitarian emergencies in Sudan has contributed to weak grant performance and limited progress in the fight against malaria and HIV.

As described in section two, the Global Fund has classified Sudan as a Challenging Operating Environment (COE).[48] The COE policy aims to adapt the Global Fund's approach in COE countries by leveraging principles of innovation, flexibility, and partnership.[49] The OIG found that the Global Fund Secretariat has not effectively leveraged the expected flexibility and innovation to fully adapt arrangements including for oversight, risk management and assurance in Sudan. This is especially the case during humanitarian emergencies caused by the country's political and economic instability.

Under-leveraged flexibility and innovation are undermining effective grant implementation in Sudan's challenging context

Despite Sudan being listed as a COE since 2016, the portfolio has not yet leveraged flexibilities. Here below are instances where the portfolio could further leverage flexibilities:

- *Lack of adaptation limits access to quality services for beneficiaries:* Despite malaria Rapid Diagnostic Tests (RDTs) being free and the recommended method of diagnosis in the country, new or innovative approaches (such as a compensation scheme for health facilities using RDTs instead of microscopy) have not been developed. As detailed in finding 4.2, the health facilities prefer to use microscopy for testing because it generates income for them, hence only 12% of suspected cases were tested with RDTs.[50]

- *Other sources of funding not leveraged for known gaps:* The indoor residual spray intervention was stopped in the two states (Sennar and Gezira) for years two and three of the current grant, due to the expected lack of funding that was recognized at grant signing under the Prioritized Above Allocation Request (PAAR). Government/partner funding was not leveraged to identify opportunities for vector control substitution for the indoor residual spray intervention in these two states that represent 21% of malaria cases.

- *Adaptations not used to improve data quality:* Sudan has made limited progress to improve programmatic and logistic data quality. Programs continue to rely on weak and incomplete data that undermine decision-making.

- *Action not taken on the supply chain assessment performed:* In 2019, the Global Fund Secretariat contracted a service provider to perform an assessment and develop a targeted supply chain transformation plan. Basic supply chain mechanisms and tools from this assessment were not implemented at the health facility level as highlighted in finding 4.1. The report was also only shared with the country two years after the assessment was performed. In addition, there is no clear agreement on how recommendations will be implemented, including the due date and identification of parties responsible for funding the plan.

- *Partnerships not sufficiently leveraged:* Gavi is supporting health system strengthening activities in Sudan, but this partnership with the Global Fund has not been fully leveraged. Coordination and collaboration have been

[47] Humanitarian support is designed to save lives and alleviate suffering during and in the immediate aftermath of emergencies, whereas "development support" responds to ongoing structural issues that may hinder economic, institutional, and social development in any given society (https://www.humanitariancoalition.ca/from-humanitarian-to-development-aid - accessed on 07 December 2022)
[48] Global Fund Operational Policy Manual – Challenging Operating Environment
[49] Conflicts, Crises and Displaced People – How the Global Fund works in Challenging Operating Environments
[50] WHO report: https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2021 - Report pages 243

limited, especially at state and facility levels. There has also been no mapping of community-based organizations that could help both organizations in the fight against malaria.

By not fully leveraging COE principles of flexibility, innovation and partnership, the portfolio has seen limited progress and weak performance. Especially in the fight against malaria and HIV, as seen in findings 4.2 and 4.3.

Improvement needed in oversight and risk management

Principal Recipients and in-country implementers providing oversight are mainly located in the capital due to Sudan's political instability and security risks. Options of providing assurance services in hard-to-reach and conflict zones have not been sufficient, nor has support to the Country Coordinating Mechanism (CCM)[51] been adapted to Sudan's challenging environment. As a result, CCM Oversight Committee meetings and visits were often not conducted as frequently as planned.[52] Consequently, the auditors noted long outstanding and reoccurring issues, as well as unaddressed recommendations from various assurance providers.

The Global Fund has mature processes for risk management at the portfolio level. Risk management is a continuous process, performed by the Country Team with support from various other functions and the Risk Department. Country Portfolio Reviews (CPRs),[53] conducted by the Portfolio Performance Committee (PPC), serve as the primary forum for decision-making on risk acceptance and risk trade-offs. However:

- Sudan did not benefit from a full CPR in 2020 due to the COVID-19 pandemic. Instead, it had two executive sessions in 2021. Yet, national program governance and grant oversight risk levels increased from "High" to "Very High" between 2019 and 2021 due to the political instability.

- In response to the increased risk on governance from the political instability, the Country Team maintained two mitigation measures during the PPC executive session in March 2021. However, these measures are inadequate to address the challenges highlighted in this portfolio. In particular, these challenges consist of the ongoing leadership changes within the FMOH and state government that contribute to poor grant performance.

- Two mitigating actions related to warehouse and distribution systems, including last-mile distribution of health commodities, were not implemented during the NFM2 allocation cycle. These measures were recently replaced with a new mitigating action that is yet to start.[54] This delay has significant impact on service delivery, as per the supply chain issues identified in finding 4.1.

- Only five of the 11 recommendations that the Technical Review Panel (TRP) made for NFM3 have been fully implemented after two years of grant implementation. No mechanism is in place to ensure completion.

Improvement needed in assurance arrangements

The malaria grant represents 77% and 70% of the NFM2 and NFM3 grants respectively. The Global Fund Secretariat put in place several assurance mechanisms for the malaria grant for which the FMOH is the Principal Recipient. These include a Fiscal Agent (FA), Local Fund Agent (LFA), external auditor, and a Program Management Unit (PMU) established in 2018 to mitigate fiduciary risks associated with state-run grants.[55] The OIG reviewed 28% of the total transaction amounts managed directly by the FMOH from 2019 to 2021 and noted a considerable

[51] CCM in Sudan is currently benefiting from the CCM Evolution project to address the noted CCM oversight challenges in Sudan.
[52] Seven out of 18 meetings and four out of 12 health facility visits were conducted during the audit period
[53] As per the Global Fund's Operational Policy Manual - Risk Management across the grant Lifecyle- The CPRs evaluate programmatic, financial, procurement and supply chain, and governance risks. Decisions are made on a country-by-country basis, through a combination of full and executive sessions. The Country Team, with support from a Risk Specialist, prepares a Country Risk Management Memorandum (CRMM) for CPR sessions, and there is clear guidance on its minimum content. All countries are expected to prepare a CRMM annually, unless the PPC agrees to less frequent reviews. During the COVID-19 pandemic, various routine risk assurance and monitoring processes were reasonably deprioritized, such as country portfolio reviews and follow up on key mitigation actions for on-going grants.
[54] In this new action, the FMOH and the NMSF together with the Country Team will engage via the Strategic Initiative for the LMIS last mile.
[55] Where the UNDP is the Principal Recipient for the HIV/TB grants, the Secretariat relies on the United Nations' established assurance.

improvement in financial management at the PMU. The OIG did not audit the financial transactions of the HIV and TB grants, which are implemented by UNDP according to the Single Audit Principle.[56]

Despite the improvements noted in financial management since the last audit, the OIG observed that the Fiscal Agent does not conduct reconciliations between the approved transactions and those recorded in the Principal Recipient's general ledger. This makes it impossible to give assurance on the completeness and accuracy of the financial information reported to the Global Fund.

The Fiscal Agent has conducted trainings according to a capacity-building plan that was not based on a comprehensive needs assessment. The audit also noted gaps in supporting documentation for the indoor residual spray expenditures amounting to US$0.55 million, which were reviewed and approved by the Fiscal Agent. This was mainly due to the Fiscal Agent using a standard checklist to review all transactions that do not include tests for unique expenditures.

Agreed Management Action 4:
The Secretariat will assess the grant design and implementation of grant activities and develop an innovative solution for malaria and HIV activities, it should include: i. Updating the risk mitigation measures that address the identified issues on collecting and reporting quality programmatic and logistics data, quality of service and last mile distribution from the State level down to the Health Facilities level. ii. Supporting the CCM on its oversight role to ensure that the TRP recommendations are addressed and implemented. Implement a plan to support the CCM Oversight Committee taking into consideration Sudan's challenging context: - Training Oversight Committee on roles and responsibilities. - Tracking and reporting the status of the TRP recommendations. - Ensuring the Oversight Plan is adapted and realistic guaranteeing a minimum oversight even in critical situations.
OWNER: Head of Grant Management Division
DUE DATE: 31 December 2024

[56] Under the Single Audit Principal framework, the United Nations and its subsidiaries do not consent to third parties accessing their books and records. Instead, all audits and investigations are conducted by the UN's own oversight bodies.

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 are designed to 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: Risk Appetite and Risk Ratings

In 2018, the Global Fund operationalized a Risk Appetite Framework, setting recommended risk appetite levels for eight key risks affecting Global Fund grants, formed by aggregating 20 sub-risks. Each sub-risk is rated for each grant in a country, using a standardized set of root causes and combining likelihood and severity scores to rate the risk as Very High, High, Moderate, or Low. Individual grant risk ratings are weighted by the grant signed amounts to yield an aggregate Current Risk Level for a country portfolio. A cut-off methodology on high risks is applied (the riskiest 50% of grants are selected) to arrive at a country risk rating.

OIG incorporates risk appetite considerations into its assurance model. Key audit objectives are calibrated at broad grant or program levels, but OIG ratings also consider the extent to which individual risks are being effectively assessed and mitigated.

OIG's assessed residual risks are compared against the Secretariat's assessed risk levels at an aggregated level for those of the eight key risks that fall within the Audit's scope. In addition, a narrative explanation is provided every time the OIG and the Secretariat's sub-risk ratings differ. For risk categories in which the organization has not set formal risk appetite or levels, OIG gives opinion on the design and effectiveness of the Secretariat's overall processes for assessing and managing those risks.

Global Fund grants in the Sudan: comparison of OIG and Secretariat risk levels

The OIG and Secretariat risk levels were not aligned in three risks categories: (I) program quality, (II) in-country supply chain and (III) financial assurance for grant-related fraud and fiduciary risk.

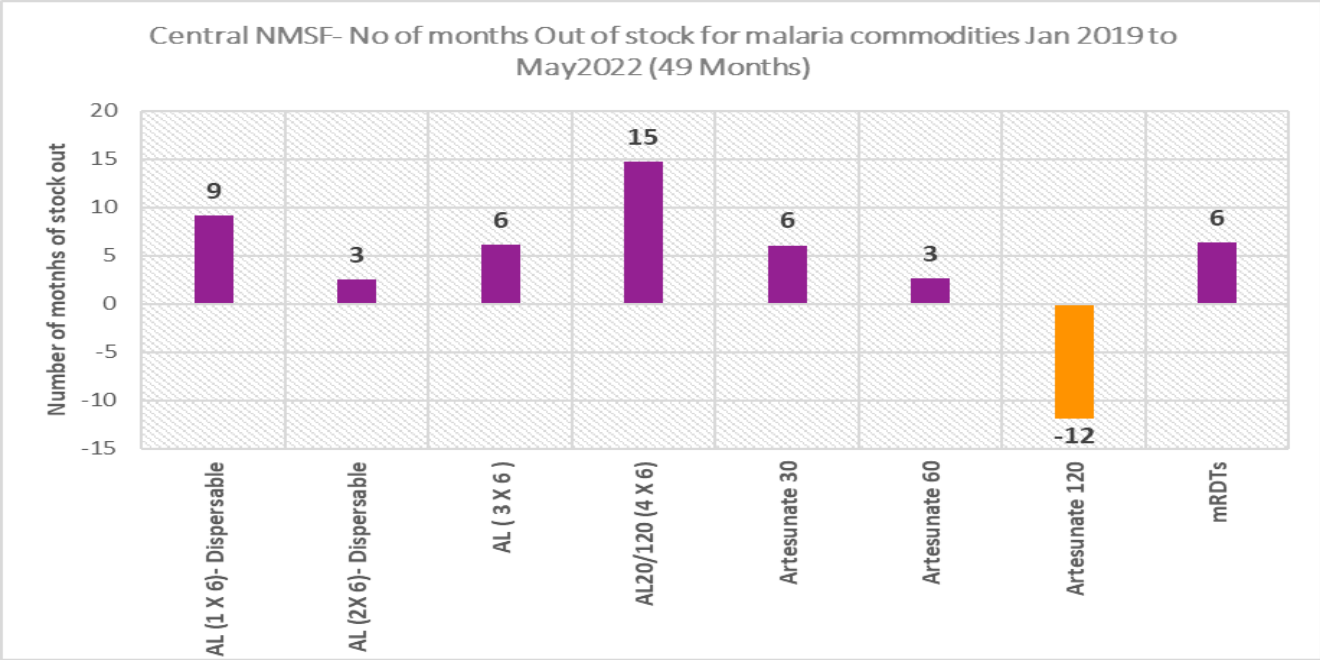
I. For the in-country supply chain, the Secretariat has rated this risk "High," while OIG rated the current level of risk as "Very High." This is mainly due to weak processes for managing the quantification, forecasting and supply planning leading to major stock-outs and expiries at central and state levels. Limited warehousing and distribution processes also do not guarantee a minimum availability of health commodities at the locality- and health facility- level. Finally, there is weak oversight and low human resources capacity at all levels of the supply chain affecting commodity traceability and contributing to expiries and stock-outs.

II. For program quality, the Secretariat has rated this risk "High," while OIG rated the current level of risk as "Very High." The reason for this rating is low achievements of grant indicators especially for HIV, unplanned mitigations for the unfunded malaria IRS component, delay in the LLINs mass campaign distribution and non-adherence to the treatment protocols.

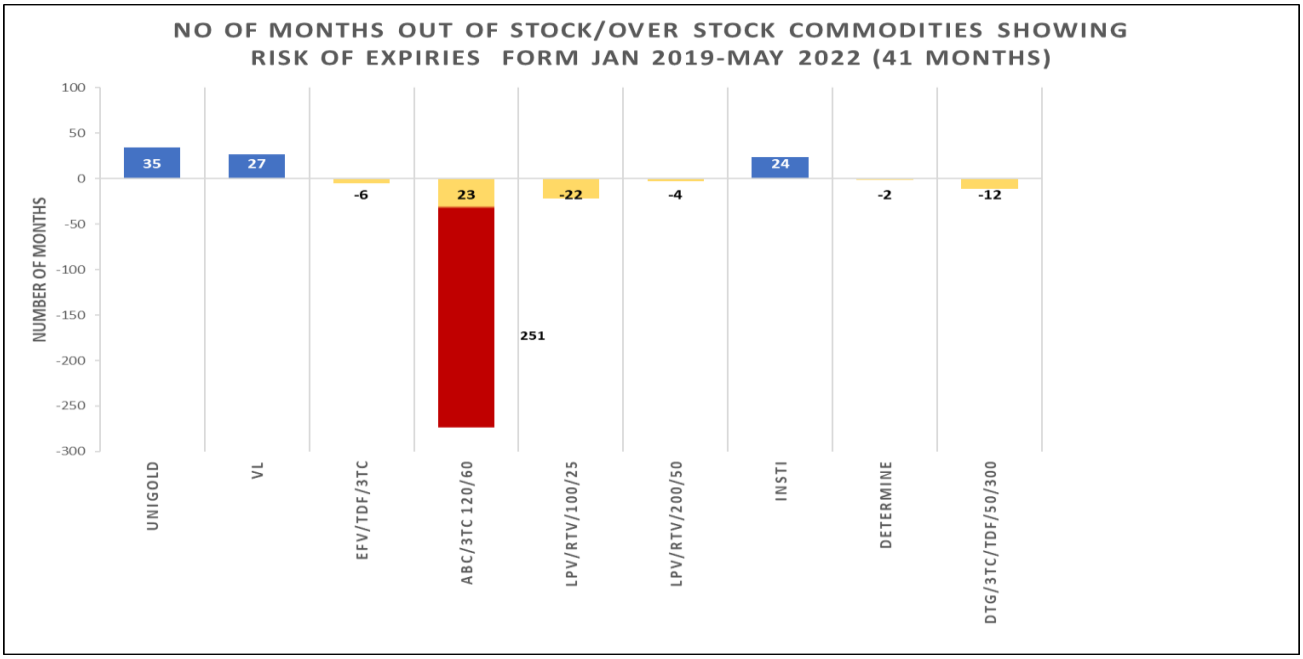
III. For the grant-related fraud and fiduciary risk, the Secretariat has rated this risk as "Very High," while OIG rated the current level of residual risk as "High." The OIG's rating is based on the increased assurance of the Fiduciary Agent that led to rejected transactions being significantly reduced during the last two years. Furthermore, the amount of cash handled by the Sub-Recipients and Sub Sub-Recipients is immaterial, given that part of grant funds, including for Sub Recipients and Sub-Sub-Recipient expenditures, are paid directly by Principal Recipients.

Annex C: Stock-outs of health commodities noted

I. Number of month-long stock-outs of malaria drugs and diagnostic tests at the central level over a period of 41 months reviewed by the OIG. These health commodities are used to test and treat patients.



II. Number of month-long stock-outs and overstock of HIV health commodities at the central level over a period of 41 months reviewed by the OIG.



III. Differences between the level of malaria health commodities available at the central level (NMSF) and the very low amount of stock at state levels at the time of the audit in July 2022. Low stock at the state level means non-compliance with the buffer stock policy at the state level.