# FINAL REPORT

# END OF PROGRAM EVALUATION FOR MAKERERE UNIVERSITY SCHOOL OF PUBLIC HEALTH-MONITORING AND EVALUATION TECHNICAL SUPPORT (MAKSPH-METS) PROGRAM

**By**

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| | |
|---|---|
| ACP | AIDS Control Program |
| AIDS | Acquired Immune Deficiency Syndrome |
| ART | Antiretroviral Therapy |
| BBMBP | Bring Back Mother Baby Pairs |
| CBS | Case-Based Surveillance |
| CDC | Centres for Disease Control and Prevention |
| COP | Country Operational Plan |
| COR | Continuum of Response |
| DHIS2 | District Health Information Systems |
| DHMT | District Health Management Team |
| DHO | District Health Officer |
| DHT | District Health Team |
| DLP | District Led Programming |
| DOD | Department of Defense |
| DQAI | Data Quality Assessment and Improvement |
| DSDM | Differentiated Service Delivery Models |
| eHMIS | Electronic Health Management Information System |
| EMR | Electronic Medical Records |
| FCS | Facility Coding System |
| HCT | HIV Counseling and Testing |
| HIV | Human Immunodeficiency Virus |
| HMIS | Health Management Information System |
| IP | Implementing Partner |
| IT | Information Technology |
| M&E | Monitoring and Evaluation |
| MakSPH | Makerere University School of Public Health |
| METS | Monitoring and Evaluation Technical Support |
| MoH | Ministry of Health |
| MoH DHI | Ministry of Health, Division of Health Information |
| MoLGSD | Ministry of Local Government and Social Development |
| OpenMRS | Open Source Electronic Medical Records Systems |
| PEPFAR | Presidential Emergency Plan for AIDS Relief |
| PMP | Performance Monitoring Plan |
| PMTCT | Prevention of Mother to Child Transmission of |
| QI | Quality Improvement |
| SOP | Standard Operating Procedure |
| UCSF | University of California San Francisco |
| UPHIA | Uganda Population-based HIV Impact Assessment |
| USG | United States Government |
| VMMC | Voluntary Medical Male Circumcision |

# EXECUTIVE SUMMARY

## Introduction

Since 2015, Makerere University School of Public Health-Monitoring and Evaluation Technical Support (MakSPH-METS) Program has been supporting the strengthening of Uganda's health sector capacity to coordinate an effective public health response to the HIV and TB epidemic through; monitoring and evaluation (M&E) and quality improvement (QI) for HIV and TB programs; implement case-based surveillance (CBS) and establish a well-functioning national health information system (HIS). This has been mainly achieved through alignment of the U.S Government M&E and reporting system with the national M&E framework, building M&E and QI capacity for HIV and TB programs, strengthening district-led HIV and TB programing, piloting population CBS to improve the understanding of the HIV disease burden and supporting a well-functioning HIS. This report documents the extent to which the program has achieved its goal and objectives over the last five years of its implementation.

## Objectives

The overall purpose of the evaluation was to establish the extent to which the program achieved its goal and objectives during its 5 years of implementation. The specific objectives of the evaluation were:

1. To assess the relevance of the program in regard to the set objectives and expected outcomes
2. To determine the appropriateness of the program design and implementation approach for achieving the expected outcomes
3. To assess the effectiveness of the program in delivery of expected outcomes (i.e. extent to which the targets have been achieved)
4. To examine the efficiency exhibited during implementation of the MakSPH-METS program
5. To assess the sustainability of the program for continuation and replication of the outcomes
6. To draw recommendations that may inform future programing and/or replication of similar programs

## Methodology

The EPE adopted a mixed-methods cross-sectional design involving both quantitative and qualitative methods of data collection at National and sub-national levels. The methods used adopted the Development Assistance Committee (DAC) evaluation criteria for assessing dimensions of relevance, effectiveness, efficiency and sustainability of programs. The quantitative approaches involved (i) review and analysis of secondary data from program documents and national HMIS and (ii) District health system capacity assessment of the CDC-supported districts. Primary quantitaive data was collected using the electronic district health system strengthening progression model tool which helps to assess the progression such as capacity and competency of a selected health system domain based on a set of criteria. The model is used to identify the gaps between actual and desired states. Progression or health system capacity was evaluated on a four-point Likert scale with '1' (<50%) representing the lowest level and '4' (>90%) representing the highest level of progression or health system capacity. The qualitative component was based on interviews with various stakeholders at the National and sub-national levels.

## Results

The findings are summarised below according to each of the specific objectives of the evaluation

**Objective 1: Relevance of the program:** The relevancy of MakSPH-METS program was premised on the extent to which the program objectives and outcomes aligned with the development priorities at international, national and subnational levels and whether the program operated within the existing policies, frameworks and systems.

At the international level, the program objectives and strategies were in tandem with the international endorsement of the "Three Ones" concept: "one national HIV strategic plan, one national HIV coordinating authority and one national HIV M&E system for each country". In its endeavor to support the alignment of USG M&E system with the national M&E framework, the MakSPH-METS program resonated well with the shared vision of establishing a fully functional one HIV M&E system in Uganda. In addition, the evaluation noted that the program interventions were in accord with the global 90-90-90 targets to help end the AIDS epidemic and were focused on contributing to the realization of these targets. Furthermore, the program interventions were in response to the realization of Sustainable Development Goal 3.0 of achieving good health and well-being through ensuring healthy lives and promoting well-being for all ages. The program was an integral component of PEPFAR's 5-year joint strategy for cooperation between the USG, host governments and other partners towards the blueprint for an AIDS-free generation.

At the national and sub national levels, MakSPH-METS was designed with due consideration of the country's priorities for HIV programming. The program was an exact response and fulfillment of the Funding Opportunity Announcement (FOA) by CDC which called for the need to strengthen capabilities of the Ugandan MoH and DHTs in (i) M&E and QI of HIV programs (ii) district- led HIV programming; (iii) HIV CBS and (iv) strengthening the national HMIS. The FOA was part of the PEPFAR overall sustainability plan to transition M&E of HIV programs into the national M&E framework, resulting into a one national M&E system. This was in response to the numerous challenges faced by the country's M&E system including parallel and uncoordinated reporting systems; multiple paper-based data collection and reporting tools, frequent stock outs of the paper-based tools, insufficient human resource capacity and low data synthesis and use at all levels. The program was designed to tackle these challenges. The evaluation also noted that the program goal was consistent with the National HIV and AIDS strategic plan goal of establishing coordinated and effective national and district systems for management of strategic information for HIV response in Uganda.

**Objective 2. Appropriateness of the design and implementation approach of the program:** MakSPH-METS was designed to be an "above site" mechanism to build capacity of national actors, implementing partners and districts to be able to adequately respond to their mandates. The 'above site' capacity building interventions comprised provision of technical support through training, coaching and mentorship, information sharing for increased access to quality data and development of technological innovations for improved health service delivery. Although the "above site" design is considered appropriate for the challenges it was meant to address, it was apparent that there were broader health system systems challenges which compelled the program to go beyond the 'above site' mandate and engage in lower level health systems implementation. It therefore goes without saying that in the context of fragile health systems, the 'above site' concept was not adequate to address the insurmountable health system gaps. It was therefore inevitable for the program to go beyond the "above site' mandate.

Overall, there was a consistent view that the program's contribution was substantial and appropriate in addressing the critical strategic information priorities and needs for HIV programs at the various levels. The MoH top managers maintained that the program has been spot on and has delivered appropriate outputs for MoH. The IPs considered MakSPH-METS as a savior to their strategic information challenges. Most of the districts appreciated the support from MakSPH-METS as appropriate, timely, and beneficial.

**Objective 3. Effectiveness of the program:** Effectiveness evaluation considered whether the program was able to achieve the intended objectives, outputs and outcomes.

With respect to the objectives and outputs, the program set out to (i) support alignment of the USG supported MER system with the national M&E framework; (ii) enhance district-led HIV/AIDS evidence-based programming; (iii) pilot HIV CBS and (iv) strengthen the national HMIS. The evaluation established that the program undertook critical steps of transitioning the M&E of HIV and TB programs into the national HMIS, resulting into a one national M&E system. Several strategies were undertaken to strengthen district health system capacity to effectively lead the decentralised HIV response. The key strategies included building capacity of District Health Teams (DHTs) in Governance, Leadership and Management (GLM), as well as in M&E through short term GLM and M&E fellowship programs; supporting the development and operationalization of district-specific 5-year HIV and AIDS strategic plans and annual work plans; strengthening CQI approaches along the continuum of HIV response and enhancing data use among the DHT for program improvement and evidence-based decision making.

An assessment of the district health system capacity yielded an overall mean percent score of 75.8% (level 3 of progression), which implies that majority of the districts assessed meet the basic expectations. One district (Rakai) surpassed the basic expectations by attaining a mean percent score of 94.4% which is the highest level (level 4) of progression. Only 12 (20%) districts attained level 2 of progression (needs improvement). None of the districts was at level 1 of progression. Across the domains, leadership and governance registered the highest score of 84.5% (level 3), followed by supply chain 77.3% (level 3), health service delivery 71.3% (level 3), health information systems 65.0% (level 2), and human resources for health registered the lowest scores of 54.5% (level 2). The program interventions may have contributed to the observed high scores in governance and leadership systems, supply chain, health service delivery and HMIS across the districts.

Although significant improvements in most of the outcomes were achieved, the evaluation noted that some targets were not achieved. It was observed that over time, coverage and scope of interventions expanded significantly, overstretching the program. Besides, the targets were set too high for all the key performance indicators. The increase in coverage and scope and the high targets could explain the underperformance in some key indicators, particularly those under the HIV CBS project.

**Objective 4. Efficiency of the program**

The key considerations during assessment of the program efficiency included the following: How the program resources were utilized and converted into results; program organization structures and efficiency in decision making; program cost against the initial budget and the program expenditure.

The evaluation noted that the resources allocated for program activities were utilized for the intended purposes. All the audit reports did not indicate any instances of ineligible expenditure or misallocation of resources. The program had a clear organization structure that facilitated

effective management of resources and efficient decision making. The organization structure had clear reporting lines and responsibilities which facilitated quick decision making and eliminated time lags for ensuring timely delivery of services. There were no budget overruns for the period reviewed. Whereas there were redirections of funds within the different budget lines, the required authorizations were sought. Overall, the program expenditure was below the budgeted amount and this is an indication of good financial discipline. The program costs analysis showed that a significant proportion of program costs (61%) were related to the program core areas. This implies that 39% of the expenditure was related to administration costs. Expenditure on salaries and wages accounted for only 23% of the program costs and this is commendable.

**Objective 5. Sustainability of the program:** The key sustainability strategies adopted by the program included working within the existing structures and frameworks, capacity building and partnerships.

The program functioned to strengthen health systems within the MoH framework, as well as the decentralized district health care system. The evaluation noted that the program operated within the existing national, district and health facility structures. In addition, all project activities were aligned to existing national and PEPFAR policies, guidelines and frameworks. The program heavily leveraged on the existing health information systems, human resources, supply chain and service delivery mechanisms to deliver its mandate. At the National level, the program provided technical and financial support to MoH in the design, development, printing and dissemination of several policies, standards, guidelines and tools. At the subnational level, the program worked with the IPs and DHTs through enhancing their planning and M&E capacity to be able to effectively plan, monitor and evaluate implementation of decentralized HIV response.

In terms of capacity building, MakSPH-METS functioned to develop human resources and infrastructure capacity for IPs, districts and health facilities to support improvements in planning, monitoring, evaluation, quality and reporting of HIV and TB services. For instance, the interest in district-led programming was considered a viable sustainability strategy to enable grassroot strengthening of HIV and TB service delivery. Accordingly, the program played a critical role in uplifting district-led HIV programming capacity through short-term fellowship trainings in GLM and M&E for DHT members. In its capacity building strategy, the program adopted a cascading approach which was deemed cost saving. The assumption was that the trained DHT members would cascade the training to the lower level health facility staff.

Overall, outcomes under the three programmatic areas of M&E, DLP and HMIS appear to have secured reasonable sustainability potential. However, the evaluation noted that the infrastructure and policy environment in support of HIV CBS appears incomplete. In addition, the KP and DREAMS programs are not integrated within the National HMIS and are perceived as IP projects, putting their sustainability potential at risk. The prevailing school of thought is that unless these programs are institutionalized, they are devoid of ownership from MoH which naturally affects their sustainability potential.

There was one notion of concern that without sufficient funding, the potential of sustainability remains weak. The legacy of the MakSPH-METS program is the ability to enhance human resource and infrastructure capacity for the districts. However, the existing domestic funding

is incapable of supporting long term sustainability of the human resources and infrastructure capacity at district level

**Objective 6. Recommendations for future programming**

As the METs program comes to an end, the evaluation makes the following key recommendations which were guided by the findings under each of the evaluation objectives, as well as the implementation of the four thematic areas around which the interventions were built.

- **The "above-site" design:** Although the "above site" design is considered appropriate for the challenges it was meant to address, it was apparent that there were broader health system systems challenges which compelled the program to go beyond the 'above site' mandate and engage in lower level health systems implementation. In the future, the program should consider a more holistic and system-wide approach to tackle key challenges at the various health system levels. This will require close collaboration between the program, MoH, IPs and the District Local Governments.

- **Substantial involvement of key stakeholders.** Much as the program takes credit from the national and district-level stakeholders, there was concern among the national and district-level stakeholders about their non-involvement in the program design, planning and budgeting and therefore did not envision the future of the program interventions. For instance, it was reported that the level of financial investment required to keep the program interventions afloat was not known, and neither were the national and district health managers prepared to take over the responsibilities of the program. It would therefore be appropriate for the program to involve the key national and district-level stakeholders in the program design, planning and budgeting for purposes of fostering ownership and continuity.

- **Follow-on support as a key capacity building element:** Follow-on support is considered key in enhancing adherence to standards and practices. Building capacity of the IPs and districts through training is not sufficient alone if no follow-on support through on-site coaching, mentorship and supervision is provided. Thus, the program needs to develop a follow-on schedule as an integral part of its capacity building strategy.

- **Accurate targeting:** Although the program registered substantial outputs and outcomes, the evaluation noted that over time, coverage and scope of the interventions expanded significantly, overstretching the program. Besides, the program targets were set too high for all the key performance indicators. The increase in coverage and scope and the high targets could explain the underperformance in some in some key indicators. There is therefore need for precise targeting during planning for the follow-on program

- **Support beyond HIV services:** It was noted that the program technical support largely focused on health systems for HIV services with diminutive, if any, support to other non-HIV related HIV services. In line with the PEPFAR Global Health Initiatives which underscores support for other services such as Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) services, the program should consider extending its technical support to cover these essential health services.

- **Internal program efficiency reviews:** The evaluation noted that the program does not carry out internal periodic efficiency reviews. There is need to conduct in-house annual

efficiency reviews to be able to determine whether the targets are being achieved or not in time for prompt corrective actions

- **Sustainability for specific programs:** Whereas outcomes under the three programmatic areas (M&E, DLP and HMIS) appear to have secured reasonable sustainability potential, the evaluation noted that the infrastructure and policy environment in support of HIV CBS appears incomplete. In addition, the KP and DREAMS programs are not integrated within the National HMIS and are perceived as IP projects, putting their sustainability potential at risk. There is need for the program and partners to advocate for the institutionalization of these special programs within the national framework.

# 1.0 INTRODUCTION AND BACKGROUND

## 1.1 Introduction

Over the years, Uganda has made considerable progress towards controlling its HIV epidemic by expanding HIV prevention and treatment services throughout the country[1]. With support from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the country is committed to the global goal of ending the AIDS epidemic by 2030 and currently, 84% of the 1.3 million people living with HIV (PLHIV) are aware of their HIV status, of whom 87% are on antiretroviral treatment (ART) and 88% of those on ART are virally suppressed[2].

Despite the efforts to scale-up HIV prevention and treatment programs nationally, gaps in coverage and uptake of services still exist in the country. New HIV infections still exceed the AIDS-related deaths by nearly two fold and the reasons are multifaceted: (i) uptake of ART among some population groups such as men, adolescents, key and priority population is low; (ii) coverage of evidence-based biomedical interventions such as Safe Male Circumcision (SMC) and Pre-Exposure Prophylaxis (PrEP) is still inadequate; (iii) there are leaks within the HIV testing and treatment cascade with sub-optimal ART linkage, retention, and adherence among some population groups; (iv) there is inadequate integration of HIV prevention and treatment with other health services such as sexual and reproductive health (SRH), non-communicable disease (NCDs) and mental health and (v) a wide range of health system challenges including gaps in human resources, strategic information, supply chain, laboratory services and health financing still exist.

In 2011, the Division of Global HIV/AIDS and TB (DGHT) launched a Country Monitoring and Accountability System (CMAS) to identify any challenges in countries resulting from the rapid scale-up of complex PEPFAR programs. The CMAS initiative incorporates program evaluations into its requirements to ensure accountability of PEPFAR funds invested through the Centers for Disease Control and Prevention (CDC)[3]. Evaluations for HIV and TB programs help to inform decision-making about sustaining and improving programs, as well as contributing to the local and international knowledge base on effectiveness and relevance of programs. It is therefore recommended that the effects of HIV and TB programs should be assessed at each stage of development so that implementation improvements can be incorporated iteratively as evaluation findings become available[4].

## 1.2 Background to the MakSPH-METS Program

The Monitoring and Evaluation Technical Support (METS) program was a five-year (2015-2020) CDC-funded collaboration between the Makerere University School of Public Health (MakSPH) and the University of California San Francisco (UCSF). The program emerged out of the growing recognition of the importance of evidence-based decision making for an AIDS Free Generation in Uganda. At the time, the national HIV M&E system was faced with several policy and programmatic challenges including but not limited to i) parallel and uncoordinated data collection and reporting systems, ii) sub optimal quality of HIV and TB services and data, iii) inadequate district capabilities in planning, monitoring and evaluation of the decentralized public health response and iv) inadequate use of data at all levels for program improvement and policy development. The MakSPH-METS program leveraged on the National efforts to reinforce health sector capabilities to (1) coordinate an effective public health response to the

[1] M.O.H, Health Sector HIV and AIDS Strategic Plan 2018/19-2022/23. 2019
[2] UNAIDS, Uganda Progress Towards 90 90 90 Targets. 2019.
[3] CDC, Ensuring impact and accountability: CDC/DGHA's Country Monitoring and Accountability System (CMAS). 2011.
[4] UNAIDS, Strategic Guidance for Evaluating HIV Prevention Programs. 2009.

HIV epidemic; (2) improve monitoring and evaluation of HIV and TB programs, (3) enhance disease surveillance and 4) strengthen the National Health Management Information System (HMIS). The overall purpose of the METS program was to establish coordinated and effective national and district systems for management of strategic information for the HIV response. Over the 5-year period, MakSPH-METS aimed at achieving the following specific objectives:

1. To support the alignment of USG supported Monitoring, Evaluation and Reporting (MER) system with the national M&E framework resulting into a fully functional one national M&E system.
2. To enhance district-led HIV evidence-based programming through development of 5-year District HIV and AIDS strategic plans and annual work plans
3. To improve understanding of disease burden, incidence, loss to follow-up, integration, linkages and referral services across interventions and facilities to minimize missed opportunities in the comprehensive care and treatment of HIV/AIDS-related illnesses.
4. To support regular updates on MoH and PEPFAR core indicators from a functional HMIS system with effective and timely feedback to all stakeholders.

The above objectives were pursued through four program areas namely: A) Monitoring and Evaluation (M&E), B) District Led Programming (DLP), C) Case-Based Surveillance (CBS) and D) Health Management Information System (HMIS). Below is a brief description of each of the four program areas

**Program Area A: Monitoring and Evaluation (M&E)**

Program area A (M&E) aimed at contributing to the strengthening of the national HIV M&E system through reinforcing the national, district and health facility capabilities in M&E and Quality Improvement for an efficient and effective public health response to the HIV epidemic. The overall program purpose was to promote evidence-based decision-making for an AIDS free generation by supporting the alignment of the USG supported MER systems with the national M&E framework resulting into a fully functional one M&E system. The specific objectives of Program Area A were:

1. To build M&E capacity of DHTs and facilities to effectively plan, manage and report timely, consistent, complete and valid data for HIV programs.
2. To strengthen CQI approaches for the continuum of response including HTS, VMMC PMTCT, ART, HIV care and support in CDC supported districts.
3. To improve data use for planning and programming at national, district and facility levels.
4. To support evidence-based policy development and advocacy for HIV programs at National and district levels by conducting relevant program evaluations.

The planned outcomes for program Area A included**:** (i) improved M&E knowledge among district Biostatisticians and Health Information Assistants (records staff) at district and HSD, respectively; (ii) Increased number of facilities and implementing partners reporting timely, consistent, complete and valid data through Government Reporting System; (iii) Increased number of facilities using HMIS data for evidence-based decision making; (iv) All CDC supported districts with costed M&E plans aligned to the national HIV M&E framework and harmonized indicators; (v) Improved quality of HIV prevention, care and treatment programs and (vi) Increased use of evaluation results to inform policy development and advocacy among Senior Government Officials

**Program Area B: District Led Programming (DLP)**

The overall objective of the DLP component was to enhance the technical capacity of District Health Teams (DHT) to lead the decentralized HIV response through development of 5-year strategic plans and integrated annual work plans. The program worked collaboratively with MoH and Uganda AIDS Commission at national level and with Implementing Partners (IPs) and District Local Governments at subnational level to strengthen structures for planning and data use to facilitate informed decision making. The specific objectives of Program Area B included the following:

1. To enhance planning, coordination, management and informed decision making for the HIV response within CDC supported districts.
2. To enhance data use among District Health Teams (DHT) for program/performance improvement within the district framework.
3. To support the development and operationalization of district-specific 5-year HIV and AIDS strategic plans and annual work plans that clearly articulate a roadmap for the attainment of the 90-90-90 set targets in line with the Uganda Government and PEPFAR priorities.
4. To strengthen capacities for coordination of district-based HIV and AIDS partners and activities.

The outcomes for program Area B include: (i) improved District HIV planning based on the assessment results, (ii) improved competencies in M&E within the district health teams, health sub-districts, and health facilities to use data for planning, (iii) quarterly bulletins on district performance towards attainment of the 90-90-90 targets, (iv) increased number of districts using semi-annual scorecards comparing performance across program areas, (v) reduced duplication of effort and more effective targeting of interventions based on data and (vi) 5-year strategies and annual work plans developed, approved and implemented

**Program Area C: Case Based Surveillance (CBS)**

This component of the program aimed at supporting unique identification and characterization of persons newly diagnosed with HIV or AIDS and tracking them over time and place. CBS aims at providing data on individual persons at risk to better understand the care cascade, and determine events such viral suppression, loss to follow-up and referrals. Under CBS, data from individual cases is used to provide more detailed information on the epidemiology of HIV including district-based estimates of prevalent infection and disease trends. The specific objectives of program Area C were:

1. To establish consensus among stakeholders regarding the required elements for Ugandan cased-based HIV surveillance and develop the technology to implement it.
2. To build capacity of district and facility staff, pilot and evaluate implementation of case-based HIV/AIDS reporting in a selected district.
3. To build the capacity of MoH and districts to analyze and use the data obtained from case-based surveillance.
4. To roll out implementation of case-based HIV/AIDS surveillance to other selected districts

**Area C outcomes:** Through Area C, the program envisioned to pilot and promote the development of new health information technologies, such as finger print scanning" to provide unique identifiers to link and refer HIV infected persons to services in a bid to improve adherence and retention of clients in care and treatment: This would result into (i) Improved planning and prioritization of HV prevention, (ii) Improved understanding of incident measurement and prevalence rate, (iii) Improved monitoring of HIV prevalence trends

### 1.2.5 Program Area D: Health Management Information System (HMIS)

The overall purpose of the Health Management Information Systems (HMIS) component was to support regular reporting and establish a functional HMIS system that would enable stakeholders to monitor the continuum of care, to collect, synthesize, and disseminate high-quality program data, and to engage in dialogue and feedback among stakeholders, building a foundation for increased evidence-based decision-making in support of an AIDS-free generation. The specific objectives of the HMIS program were:

1. To improve patient identification, tracking, service provision and referrals of people with HIV/AIDS along the clinical cascade
2. To increase availability of critical HMIS tools at health facilities to facilitate data collection and reporting.
3. To establish and expand functional electronic HMIS at national, districts and high-volume facilities
4. To improve data quality and use for better planning and decision-making at district and facility levels.

**Area D outcomes:** These include (i) increased proportion of facilities identifying and tracking patients with HIV infection using finger printing technology, (ii) reduced stock-outs of HMIS tools at health facilities, (iii) increased data use for better planning at both district and facility levels through tracking district targets, and (iv) improved data quality and use for decision making at district and facility levels.

## 2.0 EVALUATION GOAL AND OBJECTIVES

### 2.1 Goal of the end of program evaluation

The overall purpose of the evaluation was to establish the extent to which the program achieved its goal and objectives during its 5 years of implementation

### 2.2 Specific objectives

1. To assess the relevance of the program in regard to the set objectives and expected outcomes.
2. To determine the appropriateness of the program design and implementation approach for achieving the expected outcomes
3. To assess the effectiveness of the program in delivery of expected outcomes (i.e. extent to which the targets have been achieved)
4. To examine the efficiency exhibited during implementation of the MakSPH-METS program
5. To assess the sustainability of the program for continuation and replication of the outcomes.
6. To draw recommendations that may inform future programing and/or replication of similar programs

### 2.3 Key evaluation questions

The key evaluation questions included the following: (a) How relevant was the MakSPH-METS program to the Ministry of Health and PEPFAR priorities? (b) To what extent was the program design and implementation approach appropriate for achieving the expected outcomes? (c) How effective was the program in the delivery of expected outcomes (i.e. extent to which the targets where been achieved)? (d) Was the program implemented efficiently? (e) What sustainability mechanisms did the program employ to ensure continuity and/or replication of the outcomes? and (f) What recommendations can be made to inform future programming and/or replication of similar programs?

### 2.4 Stakeholder engagement

The key stakeholders for the EPE included MakSPH-METS, MoH, CDC and Team Initiatives Limited (TIL). MakSPH-METS took lead in the development and/or revision of the protocol, provided technical support in the conduct of the evaluation, and participated in the data analysis and report writing. MoH contributed to the development of the protocol and provided technical guidance in the conduct of the evaluation. CDC reviewed and approved the protocol, as well as the evaluation report. TIL was responsible for implementation of the EPE protocol, including training of the field teams, data collection, data management and analysis and report writing. The other stakeholders including Uganda AIDS Commission (UAC), Central Public Health Laboratory (CPHL), National Tuberculosis Reference Laboratory (NTLR), the PEPFAR Implementing Partners (IPs) and the District Local Governments facilitated the conduct of the EPE.

## 3.0 CONCEPTUAL FRAMEWORK

The evaluation drew on the WHO framework that describes the health systems in terms of six core components: (i) leadership and governance; (ii) supply chain management; (iii) health management information systems; (iv) human resources for health; (v) health financing and (iv) health service delivery (Figure 1)

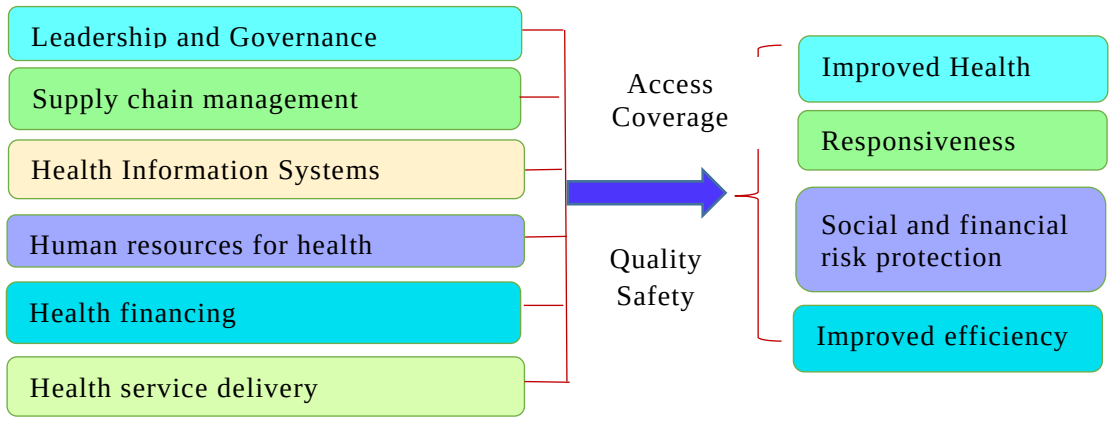


**Figure 1. The WHO Health Systems Strengthening Framework**

Leadership and governance ensure that strategic policy frameworks are in place, plans and budgets are developed, and that key stakeholder engagement, performance management, support supervision, and accountability for results exist. A well-functioning supply chain management system ensures equitable access to medical products, vaccines and technologies of assured quality, safety, efficacy and their cost-effective use. Health information systems (HIS) have four key functions: (i) data generation, (ii) compilation, (iii) analysis and synthesis, and (iv) communication and use. This is essential for health-related decision-making. The ability of a health care system to meet the health needs of its population largely depends on the knowledge, skills, motivation, availability, and deployment of the health workforce responsible delivering health services. Health financing is fundamental to the ability of health systems to maintain and improve human welfare, adequate workforce, medicines and essential commodities and laboratory diagnostics. However, the health financing domain was not considered for this evaluation since the program did not engage in direct financial contributions to the districts. Ensuring availability of health services that meet a minimum quality standard and securing access to them are key functions of a health system

The important attributes in each of the five building blocks of the framework informed the topics and evaluation questions. A drawback to the WHO health systems framework is that it does not account for actions that influence the use of health care services. In addition, the framework does not address the underlying social and economic determinants of health such as gender inequalities, or education and does not deal with the dynamic links and interactions that exist across each building block.

## 4.0 METHODOLOGY

It is important to note that this evaluation took place during the COVID-19 pandemic in which mitigation measures such as social distancing, wearing of face masks, handwashing and sanitizing were observed. Training of the evaluation teams and the data collection and management processes accommodated the need to observe COVID-19 prevention guidelines.

### 4.1 Setting

The EPE was be carried out at National and district levels. At district level, the EPE focused on both the CDC and USAID/DOD-supported districts. Overall, the evaluation covered a total of 60 CDC-supported and 23 non-CDC-supported districts (Figure 2). A list of the districts where the evaluation was done is shown in appendix A.

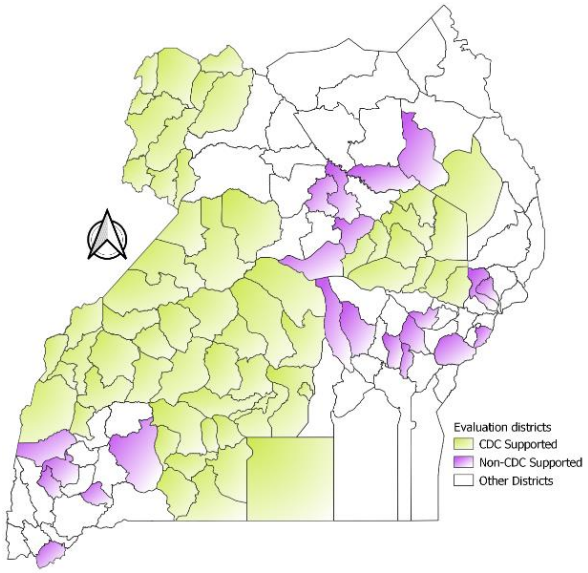


**Figure 2. Map of Uganda showing districts where the EPE was done**

### 4.2 Design

The EPE employed a mixed-methods cross-sectional design involving both quantitative and qualitative approaches of data collection. The evaluation drew from the Organisation of Economic Cooperation and Development's (OECD) and Development Assistance Committee (DAC) criteria that underscore the assessment of relevance, effectiveness, efficiency, sustainability, and impact of programs[5]. The quantitative data collection approaches involved (a) an assessment of the district health system capacity and (b) a review and analysis of secondary data from program documents and National HMIS. The qualitative methods used involved conducting key informant interviews (KIIs) at National and district levels.

### 4.3 Sampling strategy

**Quantitaive component:** Assessment of the district health system capacity covered all the 60 CDC/MakSPH-METS-supported districts. In addition, a review and analysis of secondary data from the program documents and District Health Information Software (DHIS2) was done.

[5] DAC, Better Criteria for Better Evaluation: Revised Evaluation Criteria Definitions and Principles for Use: OECD/DAC Network on Development Evaluation. 2019.

**Qualitative component:** The qualitative evaluation was done at both the National and district levels and targeted key resource persons at both levels. A district level, one third (1/3) of the CDC/MakSPH-METS-supported districts were selected for the qualitative evaluation, in addition to the quantitative assessment. In a similar vein, one third (1/3) of the non-CDC supported districts were selected for the qualitative evaluation only. To allow for regional representation, districts were stratified according to their sub regions, funding agency, Implementing Partner (IP). From each stratum, 1/3 of the districts were systematically selected for the qualitative assessment. A list of the districts within each sub region was used as the sampling frame. The sampling interval was obtained by dividing the total number of districts in the sub region with the number of districts to be assessed (N/n). After obtaining a random start from a table of random numbers, the interval was followed until the required number of districts in each sub region was obtained.

### 4.4 Data collection

Both primary (qualitative and quantitative) and secondary data was collected at the national and district levels. A total of 10 teams, each comprising of 5 experienced data collectors were assembled and trained to collect both quantitative and qualitative data.

#### 4.4.1 Quantitative primary data

The primary quantitaive data was collected using the electronic district health system strengthening progression model tool. The DHSS progression model is a recognized tool for measuring improvements in health systems based on a set of indicators. The model helps to assess the progression such as capacity and competency of a selected domain based on a set of criteria. The model is used to identify the gaps between actual and desired states. Progression was evaluated on a four-point Likert scale with '1' representing the lowest level and '4' representing the highest level of progression

#### 4.4.2 Quantitative secondary data

The secondary data sources for the EPE included the Program proposal, performance monitoring plan (PMP), annual continuation applications, periodic program reports, financial reports, and DHIS2.

#### 4.4.3 Qualitative data

Qualitative data collection methods involved conducting KIIs at National and district level. The KIIs solicited for information on the relevance, effectiveness, efficiency, and sustainability of the MakSPH-METS program, as well as documentation of recommendations for improved programming. The KIs were purposively selected based on their position, knowledge, and experience with the MakSPH-METS program. At the National level, KIs included representatives from relevant MoH departments, particularly the AIDS Control Program (ACP), the Division of Health Information (DHI) and Standards, Governance and Regulation, Compliance, Accreditation, and Patient Protection (SCAPP) department. The other institutions involved in KIIs at National level included the Uganda AIDS Commission, the National TB Reference Laboratory (NTRL), National TB and Leprosy Program (NTLP), Central Public Health Laboratory (CPHL) and Implementing Partners including the Infectious Disease Institute, Baylor college of Medicine, Mildmay Uganda, Uganda Prisons Service (UPS), Strategic Information Technical Support (SITES) project and the MakSPH-METS program staff.

At the district level, KIIs were held with members of the District Health Team (DHT), particularly the District Health Officers (DHOs), HIV focal persons and Biostatisticians. A key informant interview guide was used to administer the KIIs. The KIIs were audio-recorded and additional notes were taken to ensure complete capture of the discussions. KI data collection was an iterative process allowing for new questions to follow-up on emerging issues until saturation was reached. The aspects of the OECD evaluation guidelines are summarized in Table 1 below.

**Table 1. OECD evaluation guidelines**

| Evaluation component | Ontological considerations |
|---|---|
| Relevance of the program in regard to the set objectives and expected outcomes. | • The extent to which the proposed outcomes of the program were consistent with the development priorities at international, national and subnational levels<br>• The extent to which the program addressed the problems that were intended to be solved.<br>• The extent to which the program rhymed with the contextual reality (policy, politics and systems) |
| Appropriateness of program design and implementation approach for achieving the expected outcomes | • Were the program strategies in tandem with the objectives, the policy environment and the national priorities?<br>• Were the program strategies consistent with the existing systems and structures at national and local government levels?<br>• Did the program respond to the national and decentralized priorities? |
| Effectiveness of the program in the delivery of the expected outcomes | • Achievement of the program outputs and outcomes in relation to the objectives and the set targets.<br>• Factors that influenced the achievement or non–achievement of the objectives and outcomes<br>• Challenges experienced and their effect on program delivery |
| Efficiency exhibited in program implementation | • How the resources were utilized and converted into results<br>• How much the program costed against initial budget<br>• The absorption capacity of the program and where much of the funds were used<br>• Financial discipline of following the plans and budgets |
| Sustainability for continuation and replication of outcomes. | • Buy in and ownership from the various stakeholders<br>• Likelihood of the program processes and outcomes to continue after closure.<br>• Processes and mechanisms specifically aligned to sustainability<br>• Presence of other institutions with the capacity to take over the program processes and outcomes |

### 4.5 Data management and analysis

#### 4.5.1 Analysis of quantitative data

**Primary data:** For each of the HSS domain and subdomains assessed, the electronic data collection tool was automated to generate scores with colour codes of dark green for level 4 progression, (surpasses basic expectations), light green for level 3 (meets basic expectations), yellow for level 2 (needs improvement) and red for level 1 progression (needs urgent attention) (Table 2)

**Table 2. Colour coded scoring for the HSS domains and subdomains**

| Progression level | Colour code | Percentage |
|---|---|---|
| **Level 4** | **Dark Green Score (Surpasses basic expectations)** | **>90** |
| **Level 3** | **Light Green Score (Meets basic expectations)** | **70-90** |
| **Level 2** | **Yellow Score (Needs improvement)** | **50-70** |
| **Level 1** | **Red Score (Needs urgent remediation)** | **<50** |

District-specific results are summarized according to each of the HSS domains and sub domains.

**Measures:** Table 3 provides a summary of the measures under each of the HSS domains and subdomains assessed

**Table 3. HSS domains and sub domains assessed**

| No | HSS domain | Subdomain | Data source |
|---|---|---|---|
| **1.** | **A. Leadership and Governance** | A1. DHT organizational capacity | DHT, Documents |
| | | A2. Availability of key policies and guidelines | |
| | | A3. Planning and budgeting for HIV services | |
| | | A4. HIV stakeholder coordination | |
| | | A5. Technical support supervision | |
| | | A6. Continuous Quality Improvement (CQI) | |
| | | A7. Accountability for results | |
| **2.** | **B. Supply chain** | B1. Availability of essential HIV medicines | DHT DHIS2, mTrac, WAOS, RASS |
| | | B2. Availability of essential TB medicines | |
| | | B3. Availability of basic equipment for TB | |
| | | B4. Availability of HIV/TB diagnostic supplies | |
| | | B5. Availability of critical HMIS tools | |
| | | B6. Functional electronic systems for ARV web-based ordering and monitoring (WAOS & RASS) | |
| **3.** | **C. Health Information Systems (HIS)** | C1. Functional e-HMIS for data management and reporting | DHIS2, mTrac, iHRIS |
| | | C2. Reporting of timely HMIS data | |
| | | C3. HMIS data synthesis and use | |
| | | C4. Availability of functional ICT infrastructure | |
| | | C5. Functionality of Uganda DREAMS Tracking System (UDTS) | |
| | | C6. Functionality of the KP/PP Tracker system | |
| **4.** | | D1. Overall district health staffing levels | DHT |

| No | HSS domain | Subdomain | Data source |
|---|---|---|---|
| | **D. Human Resources for Health (HRH)** | D2. HRH capacity for HMIS data management at the district level | |
| | | D3. HRH capacity for HMIS data management at health facility level | |
| **5.** | **E. HIV service delivery** | E1. HTS: Linkage of HIV+ individuals to care | DHIS2, mTrac |
| | | E2. eMTCT: ART for HIV positive pregnant and lactating women | |
| | | E3. SMC: Follow-up of the circumcised clients within 7 days post-surgery | |
| | | E4: Retention on ART | |
| | | E5: ART patients attaining viral load suppression | |
| | | E6: ART for HIV and TB co-infected patients | |

**Secondary data:** Data from program document review and DHIS2 was analyzed at univariate level to generate numbers, frequencies and percentages. Comparisons to the program indicators and targets outlined in the PMP was made to establish the extent to which the targets were achieved or not.

### 4.5.2 Analysis of qualitative data

The key informant interviews were recorded and later transcribed verbatim by very experienced research assistants. Data was analyzed manually using both deductive and inductive approaches. Deductive in the sense that there is an existing framework, and all the key areas of interest are clearly outlined. The inductive analysis examined emerging issues from the interviews beyond the analytical framework but were nevertheless significant to the evaluation. Besides, the analytical considerations covered both manifest and latent content.

Coding included writing memos in form of short phrases, ideas or concepts arising from the data in the margins of the text. These were then organized according to specific categories as provided for in the analytical framework, the evaluation objectives, research questions and emerging issues. Data was presented using matrices with key patterns and typologies in relation to the framework and emerging issues as well as the objectives and research questions. The data was interpreted based on internal consistency, frequency and extensiveness of responses, specificity of responses and trends or concepts that cut across the various discussions. Presentation of data includes verbatim quotes and summaries of emerging issues.

## 4.6 Quality assurance

a) **Hiring and training of assessment teams:** Highly qualified and experienced individuals were hired and trained to collect data at the district level. The hired teams had a good understanding of both the quantitative and qualitative research methods, as well as a deep familiarity with health systems strengthening within the Uganda health care system. The training involved approaches to seeking informed consent and creating good rapport with the respondents, interpretation and completion of variables in the DHSS assessment tool, note-taking, maintaining a non-judgmental approach, listening skills, balancing discussions and picking up on emerging themes for further discussion during qualitative interviews. The training also covered ethical and confidentiality issues to be observed during data collection. The training was jointly facilitated by the consultants and the MakSPH-METS management team.

b) **Supervision of data collection:** During data collection, the field teams were closely supervised by the consultants and the MakSPH technical teams. Data was checked for completeness and accuracy before leaving the field

### 4.7 Ethical considerations

Ethical clearance for the EPE was obtained from Makerere University School of Public Health-Higher Degrees and Research Ethics Committee and the Centers for Disease Control and Prevention Associate Director of Science. Permission to conduct the EPE at the National and district levels was obtained from MoH and the District Health Officers (DHOs), respectively. Documented informed consent was obtained from all the KII respondents. All the EPE team members signed a confidentiality agreement which confirmed their commitment to keep all information confidential.

### 4.8 Dissemination and use of evaluation results.

**Dissemination**: The findings of the evaluation will be disseminated through meetings and publications and conferences. The meetings will involve key stakeholders including MoH, CDC, UNICEF, Global Fund, PEPFAR Implementing Partners and Districts. A comprehensive report of the evaluation has been produced and shared with key stakeholders. In tandem with the PEPFAR Evaluation Standards of Practice (ESoP) requirements, the evaluation will be posted on a publically accessible website within 90 days of clearance.

**Use of the findings:** Users of the evaluation findings include MoH, PEPFAR, CDC, MakSPH-METS, DHTs and health managers. The findings are useful in informing future programing and/or replication of similar programs as well as influencing policy and public health practice. The findings of the evaluation will also be used as an advocacy for resource mobilization to support similar programs.

### 4.9 Evaluator background

Team Initiatives Limited (TIL) is a consultancy firm legally registered in Uganda under the companies Act CAP.110. TIL is a professional organization designed to provide consultancy services in areas of public health, monitoring and evaluation of health programs, HIV/AIDS, Sexual Reproductive Health (SRH), Gender Based Violence (GBV), Adolescents, Youths and Orphans and Vulnerable Children (OVCs) and Health System Strengthening (HSS). The consultancy team members have a diversity of skills, experience and expertise in program evaluations and comprised of : (i) a monitoring and evaluation (M&E) specialist with a doctoral level experience in health policy analysis as the lead consultant: (ii) a medical doctor and public health specialist with both clinical and public health experience in HIV/AIDS programming; (iii) a social worker with doctoral level experience in qualitative research methods; (iv) a sociologist with a wealth of experience in health system strengthening (HSS); (v) a statistician with vast experience and expertise in electronic data collection, management and analysis; and (vi) a financial analyst with a wealth of experience in costing and cost-effective analysis. TIL was responsible for implementation of the EPE protocol, including training of the field teams, data collection, data management and analysis and report writing.

### 4.10 Evaluation cost

The estimated cost for the end of program evaluation was United States Dollars (USD) 146,600 (One hundred forty six thousand, six hundred USD)

## 5.0 RESULTS

Below, we present the findings according to each of the specific objectives of the evaluation

**Objective 1: Relevance of the program**

Evaluation of the relevance of the MakSPH-METS program focused on the extent to which the program objectives and outcomes rhymed with the development priorities at international, national and subnational levels and whether the program operated within the existing policies, frameworks and systems.

At the international level, the evaluation established that the program objectives and strategies were in tandem with the international endorsement of the "Three Ones" concept where a country needs one national HIV strategic plan, one national HIV coordinating authority and one national HIV M&E system[6]. Although widely endorsed, the "Three Ones" concept is not yet fully operational in many countries around the world. In its endeavor to support the alignment of USG M&E system with the national M&E framework, the MakSPH-METS program resonated well with the shared vision of establishing a fully functional one HIV M&E system in Uganda.

The MakSPH-METS program meets the global priorities and donor requirements. The program interventions were in accord with the global 90-90-90 targets to help end the AIDS epidemic and were focused on contributing to the realization of these targets. In addition, the program interventions were in response to the realization of Sustainable Development Goal 3.0[7] of achieving good health and well-being through ensuring healthy lives and promoting well-being for all ages. Furthermore, the program was an integral component of PEPFAR 5-year joint strategy for cooperation between the USG, host governments and other partners towards the blueprint for an AIDS-free generation.

At the national and sub national levels, the program was designed in due consideration of the country's priorities for HIV programming. A review of documents showed that the program was an exact response and fulfillment of the Funding Opportunity Announcement (FOA) by CDC which called for the need to strengthen capabilities of the Ugandan MoH and DHTs in (i) M&E and QI of HIV programs (ii) district- led HIV programming; (iii) HIV CBS and (iv) strengthening the national HMIS. The FOA was part of the PEPFAR overall sustainability plan to transition M&E of HIV programs into the national M&E framework, resulting into a one national M&E system. At the time of the FOA, the country's M&E system faced numerous challenges including but not limited to existence of parallel and uncoordinated reporting systems; multiple paper-based data collection and reporting tools at majority of the health facilities across the country, frequent stock outs of the paper-based tools, insufficient human resource capacity and low data synthesis and use at all levels. The MakSPH-METS program was designed to tackle these challenges through enhancing coordination of an effective national and decentralized response to the epidemic, expanding the use electronic systems for data collection, collation and reporting, alignment of the USG supported systems with the national systems, and improving the quality of HIV services and data, among others.

From the interviews held at the national level, it was evident that program goal was consistent with the National HIV and AIDS strategic plan goal of establishing coordinated and effective national and district systems for management of strategic information for HIV response in

[6] "Three Ones" key principles: Coordination of National Responses to HIV/AIDS: Guiding principles for national authorities and their partners: UNAIDS 2004:

[7] Sustainable Development Goals (SDGs): United Nations, 2015

Uganda. The program was recognized for its contribution and support to the HIV stakeholders at national level. All key informant interviews conducted with officials from MoH, UAC, NTLP, CPHL and NTRL commended the works of the program. They acknowledge that the program has built capacity involving different actors in the HIV services delivery chain and that positive outcomes have been registered over the last 5 years as illustrated below:

> METS has built the capacity of M&E and QI at MoH, districts and health facilities. The program has set up M&E systems at the national levels by coordinating several partners to report through on national HMIS. At the districts, the program built capacity for DHTs and Biostatisticians in M&E and QI. When you see the quality of care assessment done in 2014 and the one done in 2018, you can notice a significant change: we have seen improvement in the quality standards across all the regions. Secondly, we have assessment tools which have digitalized, we have tools developed for technical support supervision which the Ministry and Implementing Partners use, we have different software for data capture and management which enable real-time reporting for making prompt decisions. We thank METS for the innovations (KII with MoH staff).

> Another area where METS has been instrumental is building capacity in governance, leadership, and management for DHTs. Because METS is in Makerere, they tap into the rich expertise to develop modules and provide in-service training for districts to improve their abilities to effectively manage their health services and to me, this was a very good and important adventure because many of these young people we recruit to run district health services are not skilled managers. So, I find the METS capacity building strategy relevant. (KII with MoH staff)

Based on both explicit and implicit evidence, the relevance of the program's contribution is certainly without doubt. In terms of explicit evidence, data from the documents reviewed and the interviews conducted demonstrated that the program was effective in realizing most of its targets and outcomes. In so doing, the program contributed to the beneficiary institutions' needs. Voices from some key informants reflect stakeholder views in support of the program's relevance as illustrated in the quotes below:

> I can say that there were many gaps related to standards, policies, tools and data management but METD helped to address some of these gaps. I can also say that METS led the technical working group on data management, they helped to expand DHIS2, they have printed tools and related materials and they have successfully organized national level QI conferences; (KII with MoH staff).

Without delving into the specific interventions implemented under each of the program's technical areas, it is worth pointing out that the respondents to the evaluation gave credit to the program for the value addition resulting from the different forms of support which facilitated their work. There were consistently reported program benefits that enhanced the provision of HIV services as illustrated by the following quotes:

> The program built our capacity in HMIS. We were trained in both the HMIS tools and DHIS2 and this helps us to assess our performance as a district but also to assess the individual health facilities' performance on monthly basis. This is usually done through performance review meetings with our implementing partners: (KII with DHT member, Mityana)

> I can say that the METS program has been very relevant. Because in today's world, you cannot talk anything without talking about data. The program had been availing us with the appropriated data collection tools which capture the right HIV data that can be reliably used for planning and making decisions for allocating resources: (DHT member, Kiboga).

> The support we got from METS helped our staff who are at the forefront of handling data. When you look at CBS, it is a very important program that help us in assessing some of the health gaps. Then quality improvement training and support we got helped us to achieve quality in service delivery. And then ofcourse the monitoring and evaluation was equally very important: (KII with DHT member, Kabarole)

> HMIS is the core for showing our progress in the indicators and so by training our teams, METS was bridging the gap that we needed to monitor the progress of our health services. They also supported us to develop a strategic plan for HIV and this tool has been guiding our delivery of HIV services: (KII with DHT member, Bukedea)

The MakSPH-METS program has been relevant to the comprehensive IPs, more especially the CDC-supported IPs who acknowledged the invaluable support they received from the program in the implementation of their mandate. The IPs appreciated the program and reported positive changes associated with the technical assistance from the program:

> Over the last five years, a lot has changed. We now have EMR at many health facilities, we have new tools, the MRA's skills in data management have greatly improved and data quality in the National HMIS has greatly improved. All this is attributed to the frequent support and training we received from METS. The program made data more refined, documentation of reports in the facilities has also improved. I should say they have added value to the HIV program: (KII with IP representative, West Nile)

> I recommend METS for their technical support because whenever you need them, they are available to support you. They help how to go about an indicator and how to make the data clear. They have also helped us to customize EMR in Uganda Prisons and we are very happy to work with them: (KII with representative, Uganda Prison Services)

The evaluation noted as an above-site mechanism, the program did not provide direct support to the frontline HIV/AIDS service providers and users. Moreover, the evaluation team did not reach the ultimate beneficiaries of the interventions to explore their perspectives. Nevertheless, in a working arrangement involving other actors, the above site strategy was relevant, logical and cost-efficient. This conclusion is based on the fact that service quality improvements have been realized as a result of the cascaded training, on-site coaching and mentorship by the IPs and DHT members to the health facility-based service providers. Additionally, documentation in terms of data collection, aggregation and reporting has greatly improved at many health facilities:

> I would say that largely, capacity building for the lower level health facility teams has been done. The DHT members whose M&E and QI capacity was built by METS have been supporting the health facilities in the areas of data management and QI. We now see improved data management practices at the health facilities. The quality of HIV services has also improved. (KII with DHT member, Kiboga)

Further evidence for improved HIV service and data quality draws from our review of program reports on the serial quality of care assessments which showed positive trends in service and data quality improvements for SMC, eMTCT and ART programs.

**Objective 2: Appropriateness of the program design and implementation approach**

In this evaluation, appropriateness was considered in respect of the program oversight design and an assessment as to whether the program design and implementation approaches were suitable for achieving the intended objectives and outcomes was done. Below, we present these elements in the perspectives of the respondents.

**The 'above site' design**

The concept of MakSPH-METS as an 'above site' mechanism was conceived after the inception of the program. The program was designed to be "an above site" mechanism to build capacity of national actors, IPs, and districts to be able to adequately respond to their mandates. According to the various stakeholders interviewed, technical assistance provided by the program was inevitable and to a large extent, appropriately addressed the basic health systems challenges among the relevant institutions.

The 'above site' capacity building interventions largely comprised provision of technical support through training, coaching and mentorship, information sharing for increased access to quality data and development of technological innovations for improved health service delivery. Given the program's mandate, the key question is, was the 'above site' concept appropriate? Although it was apparent that the 'above site' design was appropriate for the kind of problems it was meant to address, the implementation took a twist due to the glaring system gaps and weaknesses within the targeted institutions. Whereas the 'above site' role was largely performed, the program undertook more pragmatic steps and appropriate actions that surpassed the 'above site' mandate to make ends meet. It was observed that the 'above site' role would have been more appropriate if other conditions were met. For instance, it was noted that at national level, the targeted beneficiaries could not effectively cascade the capacity building roles to the districts and lower levels because they did not have adequate human resources and finances to do so.

At the central level, MoH and other actors appreciated the support and systems put in place by the program. Yet, MoH has been unable to undertake all the leadership roles for PEPFAR coordination and reporting as expected. As such, the program continued to lead in these functions owing to financial and logistical challenges. For instance, the program continued to support the review and printing of HMIS tools for the whole country. The stakeholders seemed to suggest that the program should have considered a more holistic budget support to MoH cover a range of aspects rather than target specific items in piecemeal. It therefore goes without saying that the 'above site' concept may not work in the context of fragile health systems without additional efforts to fix the systems and provide continuous follow-up support for sustainability. The challenges of the local context are real and eccentric in such a way that they affected the MakSPH-METS efforts to deliver the program appropriately. Most of the health system challenges are insurmountable for a single partner using an "above site" approach. Viewed from this deliberation, it was inevitable for MakSPH-METS to be involved in the details of fixing microsystem challenges instead of concentrating on the 'above site' support.

Appropriateness of the MakSPH-METS approach can also be viewed as challenges that emerged during implementation. There is need to appreciate the fact that the program found rather brittle systems that could not be fixed all at once. Many of the districts for instance, had challenges of equipment and lacked basic logistics for operations and were highly IP dependent in the fulfillment of their mandates. Often, there were concerns that in circumstances where the IPs did not deliver tools printed by MakSPH-METS in the expected time, there were delays in data collection and reporting:

> The major gap I have seen is we find it very difficult to print data collection tools. METS prints the tools but gives them to the IPs to deliver them to the districts. There is always a delay in delivery of the tools which is a major challenge (KII with DHT, Adjumani)

**Perspectives of the Ministry of health**

In broad terms, the contribution of the MakSPH-METS program in the area of strategic information for HIV and TB has been substantial. The MoH top managers maintained that the program has been spot on and has delivered appropriate outputs for MoH:

> They tackled HIV data management in all spectrums. At one time, we engaged them during our review of the HMIS tools. They facilitated the HMIS technical working group. They led the important role to review the HMIS, which was not a joke!! The whole process was entirely supported by them (METS). As I speak now, the review ended, and we have a complete set of HMIS tools. They made enough hard copies and helped to disseminate the tools to partners, districts and health facilities. So, this is one of the core roles that METS played: (KII with MoH Top manager).

There was a consistent view that the program's contribution has been substantial and appropriate in addressing the critical M&E priorities and needs for HIV/AIDS programs. There was a high regard for the program's contributions across the spectrum of respondents most of whom highlighted the technical support, review and printing of HMIS tools, routine reporting and financial support for critical workshops/meetings, performance reviews and conferences held both locally and internationally.

> We have always felt their presence at national-level activities such as national stakeholder meetings and the national annual QI conference which is a very popular conference here in Uganda. They have helped to support and organize the last 5 national QI conferences. This is an area that is clearly in their mandate and they have really supported it. Also, as above site mechanism, they help us (on behalf on MoH) to support and monitor and the comprehensive district-based IPs: (KII with MoH top manager)

Some of the respondents treasured the central role played by the MakSPH-METS program and to some, there was a worry as to what would happen when the program is closed:

> METS serves an important role to the extent that if it closes, MoH may need to re-organize itself to fill the gap that the program has been filling. As a ministry, we will be forced into a corner and we will have to budget for all the activities they have been doing on our behalf: (KII with staff from ACP).

> METS has been supporting us within the context of strengthening our health information systems most of which have now become digital. They have supported training in digital health management information systems as well as supporting the role out of these systems such as Uganda EMR which is used for capturing HIV/AIDS data. They have also supported telementoring and right now, they are supporting us to develop a training curriculum for an ICT capacity improvement project for the health sector. So, the program will be going to the health facilities to train the health workers in ICT related aspects. This will begin with basic ICT skills and transcend to practical ICT skills required in the delivery and reporting of health services: (KII with staff from DHI).

On the other hand, some of the respondents felt that the MakSPH-METS design lacked some important considerations such as the omission of consultation with the MoH to enable precise targeting of the most important priorities. Although government officials understand that the program's design is influenced by donor interests, they argued that deep engagement and consultation with MoH would help to improve the design and benefit the country better. For instance, it was reported that is useless to train MoH staff in the EMR software if the users do not have the appropriate equipment such as computers to use the software. According to some of the respondents, initial consultations with MoH would have enriched the program design and made it more appropriate for the country' priorities. They emphasized that MoH should be consulted to provide input in the planning and budgeting processes for the program.

> In the writing process they did not involve us. It has been a common tradition of the US government, to sit and write, plan and say we have this for these people (Uganda and Ministry of Health), they come and announce that we want to focus on this and that. So you have nothing to do but to follow their plans. I can say that before they set priorities for programs or projects and before they come to announce to us, they should involve us in setting the agenda. Let them tell us that the money they have and what they want to do with it and we guide them such that the priorities they finally set reflect our core priorities as well. Otherwise, what they see as their priority may not be our top priority: (KII with MoH Top manager)

Relatedly, there was a complaint that the program did not disclose their budget to MoH to plan and budget accordingly. Due to this challenge, MoH remained on the receiving end and just accepted whatever the program proposed. From the MoH perspective, it would have been most appropriate for MoH to have an input into the planning and budgeting processes for the program to determine the most critical priorities to focus on.

**Perspectives of the Implementing Partners**

The IPs have considered MakSPH-METS as a savior to their strategic information challenges. The CDC-supported IPs are well suited and have the relevant system structures to conveniently absorb the program support. It has therefore been easy for the IPs to benefit directly from the MakSPH-METS capacity building agenda. They consider the program to be very complementary. The program has supported the IPs to easily report on the PEPFAR indicators and to report timely and quality HIV data to CDC. The program has supported other information use aspects such as dashboards which the IPs are proud about.

> METS used to teach us how to use dashboards in excel, whereby you extract data from DHIS2, analyze it, and pick those interactive dashboards. The METS program built our capacity on that: (KII with IP representative, Central Region).

The program was commended for its technical support to the IPs in the aspects of data quality audits, analysis, addressing queries, and performance review meetings. The IPs acknowledged that the program introduced a software for capturing EMR data and trained them on how to use it. The appropriateness of the program is further evidenced by the pronounced benefits as echoed below:

> Ofcourse with the support of METS, we can now scale up the Ugandan EMR with better versions. We have a 3.0 version from which we can easily extract reports, which our funders need from the system (quarterly, monthly, and weekly). The technical support from METS, which I for one regard as one of the greatest achievements, is working very well for us: (KII with IP representative, Kampala).

However, some IPs reiterated the fact the MakSPH-METS program did not adequately empower the districts to take care of their data management and strategic information needs since the IPs continue to do so with diminutive effort from the districts:

> Sometimes you need to provide follow-up support. Yes, you come and train the districts and build their capacity in various aspects but when you leave, they sit back. For instance, when EMR needs an update to function, the districts call on the IPs yet the Biostatisticians have been trained and have the capacity to manage EMR. When there is any information required from the districts, the IPs are approached first before the districts, yet the Biostatisticians can also provide that information. (KII with IP representative, Kampala)

**Perspectives of the districts**

Most of the districts appreciated the support from MakSPH-METS as appropriate, timely, and beneficial. They envision the program to be a health system strengthening intervention for their districts:

> All the programs under METS are focusing on the WHO building blocks, which to me, is the right way to go. They have fixed many of our gaps in strategic planning, HMIS, data use supply chain, etc. (KII with DHT member, Arua).

> They have been supporting the districts to develop quarterly HIV bulletins and semi-annual score cards. They trained some DHT members in Governance, Leadership and Management. They also conducted am M&E fellowship program for District Biostatisticians and HMIS focal persons. All these programs have helped us to improve in HIV service delivery. (KII with DHT member, Yumbe)

> When you look at the HMIS tools we had, so many changes and improvements have been made. Data capture and entry has improved because of the revised tools. Data use has also improved. In the past, one would not bother to look at the data critically, the facilities would compile the reports and just send to the district, but now one has to explain their figures in case of any discrepancies (KII with DHT member, Mityana).

Some of the district respondents were of the view that the MakSPH-METS program approach of consultation and level of flexibility were appropriate for the DHT mandate of planning, information dissemination and timely evidence-based decision making:

> Putting the district in the lead is a good practice that I liked from METS as well as the kind of support they provided to us. They enabled us to take lead in the development of our HIV strategic plans and annual work plans which we have been using for the past 4 years. (KII with DHT member, Koboko)

In summary, three crucial areas typify the gaps in the appropriateness of the MakSPH-METS program and have been highlighted for future considerations: the need for a holistic and the broader systems approach; substantive involvement of MoH; and providing follow-up support as a key element of capacity building.

It was apparent that there were broader systems challenges that compelled the program to go beyond the 'above site' mandate and engage more in lower level health systems implementation. In the future, the program should consider working with MoH for a more holistic alignment of interventions. For instance, MoH should concentrate on investing in infrastructure, such as procurement of computers and internet services to aid reporting

Much as the MoH and district-level stakeholders appreciated the support, ownership of the initiatives by MakSPH-METS was a big challenge. MoH officials were concerned about their non-involvement in the program design, planning and budgeting and therefore did not envision the future of MakSPH-METS interventions. They did not know the level of financial investment required to keep the program afloat and therefore cannot take over the mandate to the required level. Relatedly, it was observed that MoH and district leaders have not yet assumed leadership of the program that was successfully led by MakSPH-METS. It would have been appropriate for MakSPH-METS to prepare MoH leaders to take over the responsibilities in the event that the program closed. On a rather good note, the program has obtained follow-on the funding of the activities. In the new mechanism, there should be emphasis on enhancing central and local government leaders to take over the roles that have been spearheaded by the program.

Follow-up support is considered key in influencing adherence to standards and practices. Building capacity of IPs and districts through training is not sufficient alone if follow-on support through on-site coaching, mentorship and supervision is not provided. This is a critical area for consideration by the program in the follow-on mechanism.

## Objective 3: Effectiveness of the program

Evaluation of the effectiveness of the program was premised on whether the program was able to achieve the intended objectives, outputs and outcomes. Over the 5 years, the MakSPH-METS program aimed at achieving the following: (a) alignment of the USG supported MER system with the national M&E framework; (b) enhancing district-led HIV/AIDS evidence-based programming; (c) improved understanding of the HIV disease burden and incidence, as well as measuring linkages and retention through implementation of HIV case-based surveillance and (d) strengthening the national HMIS

### (i) Progress towards achieving the program objectives and outputs

### a) Alignment of the USG supported MER system with the national M&E framework

To achieve this objective, the program supported various key activities which include but are not limited to the following:

- Alignment of the PEPFRAR MER indicators to the National (MoH) indicators: This involved providing technical support in the revision, printing and rollout of the National HMIS tools that capture the PEPFAR data requirements. Currently, most of the PEPFAR MER indicators can be obtained from the National HMIS and all partners use the National HMIS.
- Customization of DHIS2 to the revised HMIS tools: The program supported the alignment and integration of the revised HMIS tools into DHIS2.
- Development of tools to capture additional PEPFAR data requirements that are not in the National HMIS: The MakSPH-METS program has been instrumental in the design, development and printing of tools for special programs including KP/PP, DREAMS and OVC. In addition, the program developed online reporting systems (trackers) for the KP, DREAMS and OVC programs through which all partners report.
- Harmonization of data collection and reporting schedules for PEPFAR and MoH: The program supported synchronization of the PEPFAR data collection and reporting schedules with the MoH data collection and reporting schedules. To ensure data quality, joint data cleaning at National, regional and district level is periodically done.

Given the above, it is apparent that the program has been able to undertake critical steps of transitioning the M&E of HIV and TB programs into the national HMIS, resulting into a one national M&E system.

### b) Enhancing district-led HIV/AIDS evidence-based programming

The evaluation established that several strategies were undertaken by the program to strengthen district health system capacity to effectively lead the decentralised HIV response. The key strategies included (i) building capacity of District Health Teams (DHTs) in Governance, Leadership and Management (GLM), as well as in Monitoring and Evaluation (M&E) through short term GLM and M&E fellowship programs; (ii) supporting the development and operationalization of district-specific 5-year HIV and AIDS strategic plans and annual work plans, (iii) strengthening CQI approaches along the continuum of HIV response and (iv) enhancing data use among the DHT for program improvement and evidence-based decision making.

An assessment of the district health system capacity yielded an overall mean percent score of 75.8% (level 3 of progression), which implies that majority of the districts assessed meet the basic expectations. One district (Rakai) surpassed the basic expectations by attaining a mean percent score of 94.4% which is the highest level (level 4) of progression (surpasses basic expectations). The majority (78%) of the districts attained level 3 of progression (meet basic expectations). Only 12 (20%) districts attained level 2 of progression (needs improvement).

None of the districts was at level 1 of progression. Across the domains, leadership and governance registered the highest score of 84.5% (level 3), followed by supply chain 77.3% (level 3), health service delivery 71.3% (level 3), health information systems 65.0% (level 2), and human resources for health registered the lowest scores of 54.5% (level 2) (Table 4). The program interventions may have contributed to the observed high scores in governance and leadership systems, supply chain, health service delivery and HMIS across the districts.

**Table 4. Overall district percent scores across the health system strengthening domains**

| District | | Health System Strengthening Domains | | | | | Overall |
|---|---|---|---|---|---|---|---|
| | | Leadership and Governance | Supply Chain | Health Information Systems (HIS) | Human Resources for Health | Service delivery | |
| 1 | Adjumani | 92.9 | 62.5 | 79.2 | 55.6 | 60.0 | **75.9** |
| 2 | Amuria | 85.7 | 87.5 | 45.8 | 55.6 | 70.0 | **74.1** |
| 3 | Arua | 96.4 | 58.3 | 54.2 | 44.4 | 75.0 | **71.3** |
| 4 | Bukedea | 85.7 | 87.5 | 66.7 | 61.1 | 65.0 | **78.7** |
| 5 | Bukomansimbi | 78.6 | 66.7 | 75.0 | 61.1 | 75.0 | **75.9** |
| 6 | Buliisa | 100.0 | 58.3 | 58.3 | 55.6 | 55.0 | **71.3** |
| 7 | Bundibugyo | 71.4 | 75.0 | 58.3 | 61.1 | 55.0 | **68.5** |
| 8 | Bunyangabu | 85.7 | 75.0 | 66.7 | 61.1 | 80.0 | **78.7** |
| 9 | Butambala | 85.7 | 91.7 | 83.3 | 61.1 | 80.0 | **86.1** |
| 10 | Gomba | 75.0 | 87.5 | 87.5 | 50.0 | 80.0 | **81.5** |
| 11 | Hoima | 100.0 | 83.3 | 70.8 | 61.1 | 80.0 | **85.2** |
| 12 | Kabarole | 89.3 | 75.0 | 70.8 | 66.7 | 70.0 | **79.6** |
| 13 | Kaberamaido | 67.9 | 95.8 | 62.5 | 44.4 | 85.0 | **75.9** |
| 14 | Kagadi | 89.3 | 87.5 | 62.5 | 61.1 | 65.0 | **78.7** |
| 15 | Kakumiro | 96.4 | 87.5 | 54.2 | 50.0 | 75.0 | **78.7** |
| 16 | Kalaki | 53.6 | 75.0 | 50.0 | 50.0 | 65.0 | **62.0** |
| 17 | Kalangala | 67.9 | 83.3 | 70.8 | 61.1 | 70.0 | **75.0** |
| 18 | Kalungu | 82.1 | 62.5 | 62.5 | 61.1 | 75.0 | **73.1** |
| 19 | Kampala | 85.7 | 75.0 | 79.2 | 33.3 | 65.0 | **74.1** |
| 20 | Kamwenge | 100.0 | 83.3 | 83.3 | 38.9 | 85.0 | **85.2** |
| 21 | Kapelebyong | 64.3 | 100.0 | 37.5 | 55.6 | 65.0 | **68.5** |
| 22 | Kasese | 96.4 | 66.7 | 45.8 | 44.4 | 85.0 | **73.1** |
| 23 | Kassanda | 85.7 | 95.8 | 50.0 | 50.0 | 85.0 | **78.7** |
| 24 | Katakwi | 64.3 | 100.0 | 62.5 | 55.6 | 70.0 | **75.0** |
| 25 | Kibaale | 96.4 | 75.0 | 62.5 | 61.1 | 55.0 | **75.9** |
| 26 | Kiboga | 64.3 | 87.5 | 45.8 | 61.1 | 65.0 | **68.5** |
| 27 | Kikuube | 89.3 | 75.0 | 37.5 | 38.9 | 60.0 | **65.7** |
| 28 | Kiryandongo | 85.7 | 54.2 | 58.3 | 61.1 | 45.0 | **65.7** |
| 29 | Kitagwenda | 82.1 | 87.5 | 79.2 | 44.4 | 85.0 | **81.5** |
| 30 | Koboko | 96.4 | 87.5 | 75.0 | 55.6 | 65.0 | **82.4** |
| 31 | Kumi | 85.7 | 66.7 | 58.3 | 44.4 | 65.0 | **69.4** |
| 32 | Kyankwanzi | 57.1 | 83.3 | 58.3 | 61.1 | 85.0 | **72.2** |
| 33 | Kyegegwa | 100.0 | 83.3 | 79.2 | 61.1 | 85.0 | **88.0** |
| 34 | Kyenjojo | 78.6 | 70.8 | 70.8 | 61.1 | 85.0 | **77.8** |
| 35 | Kyotera | 78.6 | 70.8 | 87.5 | 61.1 | 75.0 | **79.6** |
| 36 | Luweero | 89.3 | 83.3 | 70.8 | 61.1 | 75.0 | **81.5** |
| 37 | Lwengo | 78.6 | 70.8 | 87.5 | 61.1 | 85.0 | **81.5** |
| 38 | Lyantonde | 75.0 | 75.0 | 75.0 | 33.3 | 45.0 | **66.7** |
| 39 | Madi-Okollo | 75.0 | 58.3 | 37.5 | 50.0 | 65.0 | **61.1** |

| District | | Health System Strengthening Domains | | | | | Overall |
|---|---|---|---|---|---|---|---|
| | | Leadership and Governance | Supply Chain | Health Information Systems (HIS) | Human Resources for Health | Service delivery | |
| 40 | Maracha | 96.4 | 70.8 | 45.8 | 61.1 | 65.0 | **73.1** |
| 41 | Masaka | 96.4 | 91.7 | 75.0 | 61.1 | 75.0 | **86.1** |
| 42 | Masindi | 96.4 | 75.0 | 70.8 | 61.1 | 75.0 | **81.5** |
| 43 | Mityana | 96.4 | 83.3 | 87.5 | 61.1 | 80.0 | **88.0** |
| 44 | Moyo | 96.4 | 79.2 | 95.8 | 61.1 | 70.0 | **87.0** |
| 45 | Mpigi | 85.7 | 41.7 | 70.8 | 61.1 | 65.0 | **69.4** |
| 46 | Mubende | 78.6 | 54.2 | 70.8 | 61.1 | 75.0 | **72.2** |
| 47 | Nakaseke | 71.4 | 87.5 | 58.3 | 66.7 | 55.0 | **72.2** |
| 48 | Nakasongola | 85.7 | 87.5 | 66.7 | 44.4 | 55.0 | **74.1** |
| 49 | Nebbi | 100.0 | 70.8 | 70.8 | 27.8 | 75.0 | **75.9** |
| 50 | Ngora | 78.6 | 95.8 | 54.2 | 61.1 | 70.0 | **76.9** |
| 51 | Ntoroko | 67.9 | 50.0 | 50.0 | 44.4 | 55.0 | **57.4** |
| 52 | Obongi | 42.9 | 62.5 | 37.5 | 22.2 | 85.0 | **52.8** |
| 53 | Pakwach | 85.7 | 91.7 | 70.8 | 55.6 | 85.0 | **83.3** |
| 54 | Rakai | 100.0 | 100.0 | 100.0 | 66.7 | 70.0 | **94.4** |
| 55 | Sembabule | 96.4 | 70.8 | 75.0 | 61.1 | 70.0 | **80.6** |
| 56 | Serere | 100.0 | 62.5 | 41.7 | 61.1 | 65.0 | **71.3** |
| 57 | Soroti | 82.1 | 87.5 | 45.8 | 61.1 | 70.0 | **74.1** |
| 58 | Wakiso | 100.0 | 83.3 | 50.0 | 50.0 | 90.0 | **80.6** |
| 59 | Yumbe | 100.0 | 70.8 | 79.2 | 44.4 | 75.0 | **80.6** |
| 60 | Zombo | 78.6 | 70.8 | 62.5 | 61.1 | 75.0 | **74.1** |
| **Overall** | | **84.5** | **77.3** | **65.0** | **54.5** | **71.3** | **75.8** |

The overall district performance across the five HSS domains is shown in Figure 3 below

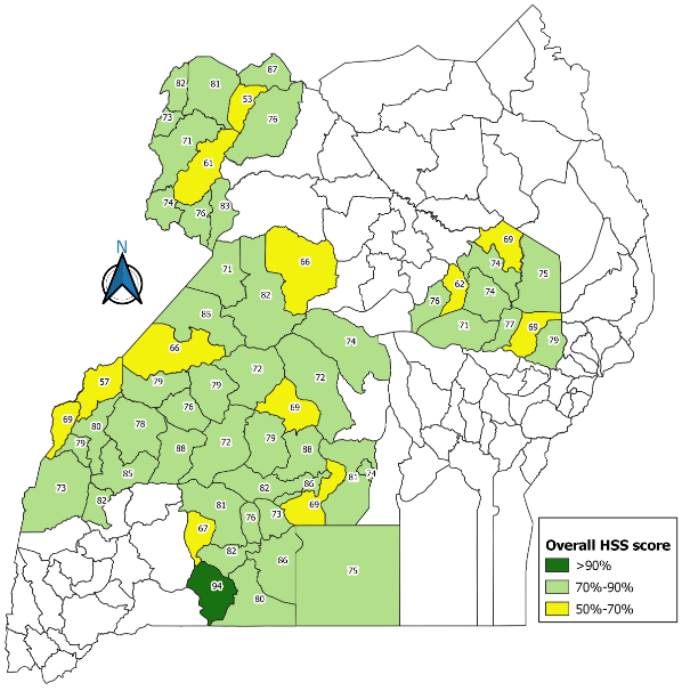


**Figure 3. Map of Uganda showing the overall district HSS scores**

## Analysis of district performance by domain

### Domain A: Leadership and governance

With the exception of stakeholder coordination, the majority of districts attained level 4 of progression in DHT organization capacity (72%), availability of key policies and guidelines (60%), planning and budgeting for HIV services (95%), support supervision (98%), QI (65%) and accountability for results (80%). Only 33% of the districts attained level 4 of progression with respect to stakeholder coordination and this needs to be addressed (Table 5). In many districts, key HIV stakeholders do not regularly attend quarterly coordination meetings, have no contribution in the one health plan and do not submit monthly reports to the district. Key HIV policies and guidelines were missing in many districts. It was also observed that in some districts, the QI committees had not undertaken any QI projects in the past six months, prior to the evaluation.

**Table 5. District performance in leadership and governance**

| No | District | DHT organization capacity | Availability of key policies & guidelines | Planning/ budgeting for HIV services | Stakeholder coordination | Support supervision | Quality Improvement (QI) | Accountability for results |
|---|---|---|---|---|---|---|---|---|
| 1. | Adjumani | 3 | 4 | 4 | 3 | 4 | 4 | 4 |
| 2. | Amuria | 4 | 4 | 4 | 3 | 4 | 4 | 1 |
| 3. | Arua | 4 | 4 | 4 | 3 | 4 | 4 | 4 |
| 4. | Bukedea | 4 | 4 | 4 | 3 | 4 | 4 | 1 |
| 5. | Bukomansimbi | 4 | 4 | 4 | 1 | 4 | 1 | 4 |
| 6. | Buliisa | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 7. | Bundibugyo | 4 | 2 | 4 | 1 | 4 | 1 | 4 |
| 8. | Bunyangabu | 1 | 4 | 4 | 3 | 4 | 4 | 4 |
| 9. | Butambala | 4 | 3 | 4 | 1 | 4 | 4 | 4 |
| 10. | Gomba | 4 | 3 | 4 | 1 | 4 | 1 | 4 |
| 11. | Hoima | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 12. | Kabarole | 4 | 4 | 4 | 4 | 4 | 1 | 4 |
| 13. | Kaberamaido | 3 | 2 | 4 | 1 | 4 | 4 | 1 |
| 14. | Kagadi | 4 | 4 | 4 | 1 | 4 | 4 | 4 |
| 15. | Kakumiro | 4 | 3 | 4 | 4 | 4 | 4 | 4 |
| 16. | Kalaki | 1 | 1 | 4 | 3 | 4 | 1 | 1 |
| 17. | Kalangala | 4 | 4 | 4 | 1 | 4 | 1 | 1 |
| 18. | Kalungu | 4 | 4 | 4 | 2 | 4 | 4 | 1 |
| 19. | Kampala | 4 | 4 | 4 | 1 | 4 | 3 | 4 |
| 20. | Kamwenge | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 21. | Kapelebyong | 1 | 1 | 4 | 3 | 4 | 1 | 4 |
| 22. | Kasese | 4 | 4 | 4 | 3 | 4 | 4 | 4 |
| 23. | Kassanda | 4 | 1 | 4 | 3 | 4 | 4 | 4 |
| 24. | Katakwi | 3 | 1 | 4 | 1 | 4 | 4 | 1 |
| 25. | Kibaale | 4 | 4 | 4 | 3 | 4 | 4 | 4 |
| 26. | Kiboga | 4 | 1 | 4 | 3 | 4 | 1 | 1 |
| 27. | Kikuube | 1 | 4 | 4 | 4 | 4 | 4 | 4 |
| 28. | Kiryandongo | 4 | 4 | 4 | 3 | 1 | 4 | 4 |
| 29. | Kitagwenda | 1 | 3 | 4 | 3 | 4 | 4 | 4 |
| 30. | Koboko | 4 | 4 | 4 | 3 | 4 | 4 | 4 |
| 31. | Kumi | 4 | 4 | 4 | 3 | 4 | 1 | 4 |
| 32. | Kyankwanzi | 1 | 1 | 1 | 4 | 4 | 1 | 4 |
| 33. | Kyegegwa | 4 | 4 | 4 | 4 | 4 | 4 | 4 |

| No | District | DHT organization capacity | Availability of key policies & guidelines | Planning/ budgeting for HIV services | Stakeholder coordination | Support supervision | Quality Improvement (QI) | Accountability for results |
|---|---|---|---|---|---|---|---|---|
| 34. | Kyenjojo | 1 | 4 | 4 | 4 | 4 | 1 | 4 |
| 35. | Kyotera | 4 | 3 | 4 | 2 | 4 | 1 | 4 |
| 36. | Luwero | 3 | 4 | 4 | 2 | 4 | 4 | 4 |
| 37. | Lwengo | 4 | 4 | 4 | 1 | 4 | 1 | 4 |
| 38. | Lyantonde | 3 | 3 | 4 | 4 | 4 | 1 | 2 |
| 39. | Madi-Okollo | 1 | 1 | 4 | 3 | 4 | 4 | 4 |
| 40. | Maracha | 4 | 4 | 4 | 3 | 4 | 4 | 4 |
| 41. | Masaka | 4 | 4 | 4 | 4 | 4 | 4 | 3 |
| 42. | Masindi | 4 | 4 | 4 | 4 | 4 | 4 | 3 |
| 43. | Mityana | 4 | 3 | 4 | 4 | 4 | 4 | 4 |
| 44. | Moyo | 4 | 4 | 4 | 3 | 4 | 4 | 4 |
| 45. | Mpigi | 4 | 3 | 4 | 1 | 4 | 4 | 4 |
| 46. | Mubende | 4 | 2 | 4 | 3 | 4 | 1 | 4 |
| 47. | Nakaseke | 4 | 2 | 1 | 1 | 4 | 4 | 4 |
| 48. | Nakasongola | 4 | 3 | 4 | 1 | 4 | 4 | 4 |
| 49. | Nebbi | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 50. | Ngora | 4 | 4 | 4 | 1 | 4 | 1 | 4 |
| 51. | Ntoroko | 1 | 3 | 4 | 2 | 4 | 1 | 4 |
| 52. | Obongi | 1 | 1 | 1 | 1 | 4 | 1 | 3 |
| 53. | Pakwach | 4 | 4 | 4 | 3 | 4 | 1 | 4 |
| 54. | Rakai | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 55. | Sembabule | 4 | 3 | 4 | 4 | 4 | 4 | 4 |
| 56. | Serere | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 57. | Soroti | 1 | 3 | 4 | 3 | 4 | 4 | 4 |
| 58. | Wakiso | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 59. | Yumbe | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 60. | Zombo | 1 | 4 | 4 | 4 | 4 | 1 | 4 |
| | **Overall** | **3** | **3** | **4** | **3** | **4** | **3** | **4** |

## Domain B: Supply chain

Essential TB medicines were found lacking in most districts. In more than a third of the districts, ART health facilities did not have access to the Web-based ARV Ordering System (WAOS) for ARV ordering. On the other hand, the essential HIV medicines and diagnostic supplies and the critical HIV HMIS tools were available in most (≥85%) of the districts (Table 6).

**Table 6. District performance in supply chain**

| No | District | Availability of essential HIV medicines | Availability of essential TB medicines | Availability of HIV/TB diagnostic supplies | Availability of critical HIV HMIS Tools | Electronic systems for ARV web-based ordering |
|---|---|---|---|---|---|---|
| 1. | Adjumani | 2 | 3 | 4 | 4 | 1 |
| 2. | Amuria | 4 | 4 | 4 | 4 | 4 |
| 3. | Arua | 4 | 3 | 4 | 1 | 1 |
| 4. | Bukedea | 4 | 4 | 4 | 4 | 4 |
| 5. | Bukomansimbi | 3 | 3 | 1 | 4 | 1 |
| 6. | Buliisa | 3 | 3 | 3 | 3 | 1 |
| 7. | Bundibugyo | 4 | 4 | 4 | 4 | 1 |

| No | District | Availability of essential HIV medicines | Availability of essential TB medicines | Availability of HIV/TB diagnostic supplies | Availability of critical HIV HMIS Tools | Electronic systems for ARV web-based ordering |
|---|---|---|---|---|---|---|
| 8. | Bunyangabu | 4 | 1 | 4 | 4 | 4 |
| 9. | Butambala | 4 | 4 | 4 | 3 | 3 |
| 10. | Gomba | 3 | 3 | 3 | 4 | 4 |
| 11. | Hoima | 4 | 4 | 4 | 4 | 3 |
| 12. | Kabarole | 4 | 1 | 4 | 4 | 4 |
| 13. | Kaberamaido | 4 | 4 | 4 | 4 | 4 |
| 14. | Kagadi | 4 | 4 | 4 | 4 | 4 |
| 15. | Kakumiro | 4 | 4 | 4 | 4 | 4 |
| 16. | Kalaki | 4 | 1 | 4 | 4 | 4 |
| 17. | Kalangala | 4 | 3 | 1 | 4 | 4 |
| 18. | Kalungu | 3 | 1 | 3 | 3 | 1 |
| 19. | Kampala | 4 | 1 | 1 | 4 | 4 |
| 20. | Kamwenge | 4 | 3 | 4 | 4 | 4 |
| 21. | Kapelebyong | 4 | 4 | 4 | 4 | 4 |
| 22. | Kasese | 3 | 1 | 4 | 3 | 4 |
| 23. | Kassanda | 3 | 4 | 4 | 4 | 4 |
| 24. | Katakwi | 4 | 4 | 4 | 4 | 4 |
| 25. | Kibaale | 4 | 4 | 4 | 4 | 1 |
| 26. | Kiboga | 4 | 4 | 4 | 4 | 4 |
| 27. | Kikuube | 4 | 4 | 4 | 4 | 1 |
| 28. | Kiryandongo | 2 | 1 | 1 | 4 | 4 |
| 29. | Kitagwenda | 4 | 4 | 4 | 4 | 4 |
| 30. | Koboko | 4 | 4 | 4 | 4 | 4 |
| 31. | Kumi | 4 | 2 | 4 | 4 | 1 |
| 32. | Kyankwanzi | 3 | 4 | 4 | 4 | 4 |
| 33. | Kyegegwa | 4 | 4 | 4 | 4 | 3 |
| 34. | Kyenjojo | 4 | 4 | 3 | 4 | 1 |
| 35. | Kyotera | 1 | 3 | 2 | 4 | 3 |
| 36. | Luwero | 4 | 4 | 4 | 3 | 4 |
| 37. | Lwengo | 4 | 1 | 3 | 4 | 1 |
| 38. | Lyantonde | 4 | 1 | 4 | 4 | 4 |
| 39. | Madi-Okollo | 1 | 3 | 4 | 4 | 1 |
| 40. | Maracha | 4 | 4 | 3 | 4 | 1 |
| 41. | Masaka | 3 | 4 | 4 | 3 | 4 |
| 42. | Masindi | 3 | 2 | 4 | 4 | 1 |
| 43. | Mityana | 4 | 4 | 4 | 4 | 3 |
| 44. | Moyo | 4 | 3 | 4 | 3 | 4 |
| 45. | Mpigi | 1 | 1 | 1 | 1 | 3 |
| 46. | Mubende | 1 | 1 | 3 | 4 | 3 |
| 47. | Nakaseke | 4 | 4 | 4 | 4 | 4 |
| 48. | Nakasongola | 4 | 4 | 4 | 4 | 4 |
| 49. | Nebbi | 4 | 4 | 4 | 3 | 1 |
| 50. | Ngora | 4 | 4 | 4 | 3 | 4 |
| 51. | Ntoroko | 1 | 3 | 2 | 4 | 1 |
| 52. | Obongi | 3 | 2 | 4 | 4 | 1 |
| 53. | Pakwach | 4 | 3 | 4 | 4 | 3 |
| 54. | Rakai | 4 | 4 | 4 | 4 | 4 |
| 55. | Sembabule | 4 | 3 | 1 | 4 | 1 |
| 56. | Serere | 4 | 1 | 1 | 4 | 4 |

| No | District | Availability of essential HIV medicines | Availability of essential TB medicines | Availability of HIV/TB diagnostic supplies | Availability of critical HIV HMIS Tools | Electronic systems for ARV web-based ordering |
|---|---|---|---|---|---|---|
| 57. | Soroti | 4 | 4 | 4 | 4 | 1 |
| 58. | Wakiso | 3 | 4 | 4 | 4 | 4 |
| 59. | Yumbe | 4 | 4 | 2 | 3 | 1 |
| 60. | Zombo | 4 | 1 | 4 | 1 | 3 |
| | **Overall** | **4** | **3** | **3** | **4** | **3** |

## Domain C: Health Management Information Systems (HMIS)

Although the majority (60%) of districts had functional ICT infrastructure to support HIV data management and reporting, HMIS data synthesis and use was observed in only 22% of the districts assessed and this needs to be addressed. The absence of aggregated periodic reports based on key indicators, quarterly HIV bulletins, semi-annual score cards and annual profiles in many districts explains the poor performance in the HMIS data synthesis and use sub domain. Interviews with the program staff revealed that MakSPH-METS empowered the IPs and districts to take lead in the development of quarterly HIV bulletins, semi-annual score cards and annual profiles but this responsibility was not easily taken up. Functional electronic HMIS for data management and reporting including the use of mTrac, EMR and the weekly Option B+ dashboard were observed in 43% of the districts. Most (83%) of the districts submitted timely (monthly and quarterly) HMIS reports and this is commendable (Table 7).

**Table 7. District performance in Health Management Information Systems (HMIS)**

| No | District | Functional eHMIS for data management and reporting | Reporting of timely HMIS data | HMIS data synthesis and use | Functional ICT infrastructure at the district |
|---|---|---|---|---|---|
| 1. | Adjumani | 1 | 4 | 3 | 3 |
| 2. | Amuria | 3 | 4 | 1 | 1 |
| 3. | Arua | 1 | 4 | 1 | 4 |
| 4. | Bukedea | 3 | 4 | 1 | 4 |
| 5. | Bukomansimbi | 3 | 4 | 1 | 2 |
| 6. | Buliisa | 1 | 4 | 1 | 4 |
| 7. | Bundibugyo | 1 | 4 | 1 | 4 |
| 8. | Bunyangabu | 4 | 4 | 1 | 3 |
| 9. | Butambala | 4 | 4 | 4 | 4 |
| 10. | Gomba | 4 | 4 | 1 | 4 |
| 11. | Hoima | 4 | 4 | 1 | 4 |
| 12. | Kabarole | 1 | 4 | 4 | 4 |
| 13. | Kaberamaido | 2 | 4 | 1 | 4 |
| 14. | Kagadi | 4 | 4 | 1 | 2 |
| 15. | Kakumiro | 3 | 4 | 1 | 1 |
| 16. | Kalaki | 1 | 4 | 1 | 4 |
| 17. | Kalangala | 4 | 4 | 1 | 4 |
| 18. | Kalungu | 3 | 4 | 1 | 3 |
| 19. | Kampala | 3 | 3 | 4 | 4 |
| 20. | Kamwenge | 4 | 4 | 4 | 4 |
| 21. | Kapelebyong | 3 | 4 | 1 | 1 |
| 22. | Kasese | 1 | 4 | 1 | 1 |
| 23. | Kassanda | 4 | 4 | 1 | 1 |

| No | District | Functional eHMIS for data management and reporting | Reporting of timely HMIS data | HMIS data synthesis and use | Functional ICT infrastructure at the district |
|---|---|---|---|---|---|
| 24. | Katakwi | 4 | 4 | 1 | 2 |
| 25. | Kibaale | 3 | 4 | 1 | 4 |
| 26. | Kiboga | 4 | 4 | 1 | 2 |
| 27. | Kikuube | 1 | 1 | 1 | 2 |
| 28. | Kiryandongo | 1 | 4 | 1 | 4 |
| 29. | Kitagwenda | 4 | 4 | 3 | 4 |
| 30. | Koboko | 4 | 4 | 1 | 4 |
| 31. | Kumi | 4 | 4 | 2 | 1 |
| 32. | Kyankwanzi | 1 | 4 | 4 | 1 |
| 33. | Kyegegwa | 1 | 4 | 4 | 2 |
| 34. | Kyenjojo | 4 | 4 | 1 | 4 |
| 35. | Kyotera | 4 | 4 | 1 | 4 |
| 36. | Luwero | 4 | 4 | 1 | 4 |
| 37. | Lwengo | 4 | 4 | 1 | 4 |
| 38. | Lyantonde | 4 | 1 | 1 | 4 |
| 39. | Madi-Okollo | 1 | 4 | 1 | 1 |
| 40. | Maracha | 1 | 4 | 1 | 3 |
| 41. | Masaka | 4 | 4 | 3 | 4 |
| 42. | Masindi | 4 | 3 | 1 | 4 |
| 43. | Mityana | 4 | 4 | 1 | 4 |
| 44. | Moyo | 3 | 4 | 4 | 4 |
| 45. | Mpigi | 1 | 4 | 4 | 4 |
| 46. | Mubende | 3 | 4 | 1 | 1 |
| 47. | Nakaseke | 1 | 4 | 1 | 4 |
| 48. | Nakasongola | 3 | 4 | 1 | 4 |
| 49. | Nebbi | 1 | 4 | 4 | 4 |
| 50. | Ngora | 4 | 2 | 2 | 1 |
| 51. | Ntoroko | 4 | 1 | 1 | 2 |
| 52. | Obongi | 3 | 4 | 1 | 1 |
| 53. | Pakwach | 4 | 1 | 4 | 4 |
| 54. | Rakai | 4 | 4 | 4 | 4 |
| 55. | Sembabule | 1 | 4 | 1 | 4 |
| 56. | Serere | 1 | 1 | 1 | 3 |
| 57. | Soroti | 1 | 1 | 1 | 4 |
| 58. | Wakiso | 1 | 1 | 4 | 1 |
| 59. | Yumbe | 3 | 4 | 4 | 4 |
| 60. | Zombo | 4 | 4 | 1 | 4 |
| | **Overall** | **3** | **4** | **2** | **3** |

## Domain D: Human resources capacity

Overall, the health staffing levels across most of the districts were good; 68% of the districts attained level 3 while 8% of the districts attained level 4 of progression. In most (≥80%) of the districts and health facilities, the human resource capacity for HMIS data management was high (level 4 of progression) and this is commendable (Table 8).

## Table 8. District performance in human resources capacity

| No | District | Overall district health staffing level | Human resource capacity for HMIS data management at district level | Human resource capacity for HMIS data management at facility level |
|---|---|---|---|---|
| 1. | Adjumani | 4 | 4 | 2 |
| 2. | Amuria | 2 | 4 | 4 |
| 3. | Arua | 3 | 1 | 4 |
| 4. | Bukedea | 3 | 4 | 4 |
| 5. | Bukomansimbi | 3 | 4 | 4 |
| 6. | Buliisa | 2 | 4 | 4 |
| 7. | Bundibugyo | 3 | 4 | 4 |
| 8. | Bunyangabu | 3 | 4 | 4 |
| 9. | Butambala | 3 | 4 | 4 |
| 10. | Gomba | 3 | 4 | 2 |
| 11. | Hoima | 3 | 4 | 4 |
| 12. | Kabarole | 4 | 4 | 4 |
| 13. | Kaberamaido | 2 | 2 | 4 |
| 14. | Kagadi | 3 | 4 | 4 |
| 15. | Kakumiro | 1 | 4 | 4 |
| 16. | Kalaki | 3 | 4 | 2 |
| 17. | Kalangala | 3 | 4 | 4 |
| 18. | Kalungu | 3 | 4 | 4 |
| 19. | Kampala | 1 | 4 | 1 |
| 20. | Kamwenge | 2 | 4 | 1 |
| 21. | Kapelebyong | 2 | 4 | 4 |
| 22. | Kasese | 3 | 1 | 4 |
| 23. | Kassanda | 1 | 4 | 4 |
| 24. | Katakwi | 2 | 4 | 4 |
| 25. | Kibaale | 3 | 4 | 4 |
| 26. | Kiboga | 3 | 4 | 4 |
| 27. | Kikuube | 2 | 1 | 4 |
| 28. | Kiryandongo | 3 | 4 | 4 |
| 29. | Kitagwenda | 3 | 1 | 4 |
| 30. | Koboko | 2 | 4 | 4 |
| 31. | Kumi | 3 | 1 | 4 |
| 32. | Kyankwanzi | 3 | 4 | 4 |
| 33. | Kyegegwa | 3 | 4 | 4 |
| 34. | Kyenjojo | 3 | 4 | 4 |
| 35. | Kyotera | 3 | 4 | 4 |
| 36. | Luwero | 3 | 4 | 4 |
| 37. | Lwengo | 3 | 4 | 4 |
| 38. | Lyantonde | 3 | 1 | 2 |
| 39. | Madi-Okollo | 1 | 4 | 4 |
| 40. | Maracha | 3 | 4 | 4 |
| 41. | Masaka | 3 | 4 | 4 |
| 42. | Masindi | 3 | 4 | 4 |
| 43. | Mityana | 3 | 4 | 4 |
| 44. | Moyo | 3 | 4 | 4 |
| 45. | Mpigi | 3 | 4 | 4 |
| 46. | Mubende | 3 | 4 | 4 |
| 47. | Nakaseke | 4 | 4 | 4 |
| 48. | Nakasongola | 3 | 1 | 4 |

| No | District | Overall district health staffing level | Human resource capacity for HMIS data management at district level | Human resource capacity for HMIS data management at facility level |
|---|---|---|---|---|
| 49. | Nebbi | 3 | 1 | 1 |
| 50. | Ngora | 3 | 4 | 4 |
| 51. | Ntoroko | 3 | 1 | 4 |
| 52. | Obongi | 2 | 1 | 1 |
| 53. | Pakwach | 2 | 4 | 4 |
| 54. | Rakai | 4 | 4 | 4 |
| 55. | Sembabule | 3 | 4 | 4 |
| 56. | Serere | 3 | 4 | 4 |
| 57. | Soroti | 3 | 4 | 4 |
| 58. | Wakiso | 4 | 1 | 4 |
| 59. | Yumbe | 3 | 4 | 1 |
| 60. | Zombo | 3 | 4 | 4 |
| | **Overall** | **3** | **3** | **4** |

## Domain E: District performance in HIV services delivery

The HIV services assessed included linkage of HIV positive individuals to care and treatment, HIV positive pregnant and lactating women who receive ART to reduce mother to child transmission (MTCT) of HIV, retention on ART, viral load suppression, and ART treatment among HIV positive new and relapsed TB cases. Linkage of HIV positive individuals to care and treatment was high in most (67%) of the districts. Similarly, the proportion of HIV positive pregnant and lactating women who receive ART to reduce mother to child MTCT of HIV was high in most (72%) of the districts. In some districts, it was observed that male circumcision was not happening because the districts did not have targets for the COP period. Otherwise, follow-up of circumcised males within 7 days post-surgery was high in most of the districts where circumcision was taking place. With respect to retention on ART, viral load suppression and ART treatment among HIV/TB co-infected patients, most of the districts attained level 3 (42%) (meet basic expectations) and level 4 (40%) (surpass expectations) of progression. However, it is important to note that 9 (15%) districts attained level 1 of progression with respect to retention on ART, viral load suppression and ART treatment among HIV/TB co-infected and these need to be supported (Table 9)

**Table 9. District performance in HIV service delivery**

| No | District | Linkage of HIV positive individuals to care & treatment | ART for pregnant & lactating women to prevent MTCT | Follow-up of circumcised males within 7 days post-surgery | ART patients who are retained in care | ART patients attaining VL suppression in the past 6 months | HIV-positive TB cases on ART during TB treatment. |
|---|---|---|---|---|---|---|---|
| 1. | Adjumani | 3 | 3 | 1 | 4 | 3 | 4 |
| 2. | Amuria | 2 | 3 | 4 | 4 | 3 | 4 |
| 3. | Arua | 3 | 4 | 4 | 3 | 3 | 4 |
| 4. | Bukedea | 3 | 4 | 1 | 4 | 3 | 4 |
| 5. | Bukomansimbi | 3 | 4 | 4 | 3 | 3 | 3 |
| 6. | Buliisa | 4 | 3 | 1 | 3 | 3 | 1 |
| 7. | Bundibugyo | 4 | 4 | 1 | 3 | 3 | 4 |
| 8. | Bunyangabu | 4 | 4 | 4 | 4 | 4 | 3 |
| 9. | Butambala | 4 | 4 | 4 | 2 | 3 | 4 |
| 10. | Gomba | 4 | 4 | 4 | 2 | 3 | 4 |

| No | District | Linkage of HIV positive individuals to care & treatment | ART for pregnant & lactating women to prevent MTCT | Follow-up of circumcised males within 7 days post-surgery | ART patients who are retained in care | ART patients attaining VL suppression in the past 6 months | HIV-positive TB cases on ART during TB treatment. |
|---|---|---|---|---|---|---|---|
| 11. | Hoima | 3 | 4 | 4 | 3 | 4 | 4 |
| 12. | Kabarole | 3 | 4 | 2 | 3 | 4 | 4 |
| 13. | Kaberamaido | 4 | 4 | 4 | 4 | 2 | 4 |
| 14. | Kagadi | 4 | 1 | 3 | 3 | 3 | 4 |
| 15. | Kakumiro | 3 | 4 | 4 | 3 | 4 | 3 |
| 16. | Kalaki | 4 | 3 | 1 | 3 | 3 | 4 |
| 17. | Kalangala | 3 | 4 | 3 | 3 | 3 | 2 |
| 18. | Kalungu | 4 | 4 | 3 | 2 | 3 | 4 |
| 19. | Kampala | 3 | 3 | 3 | 2 | 4 | 4 |
| 20. | Kamwenge | 4 | 4 | 4 | 4 | 3 | 4 |
| 21. | Kapelebyong | 4 | 4 | 1 | 4 | 2 | 4 |
| 22. | Kasese | 4 | 4 | 4 | 4 | 3 | 4 |
| 23. | Kassanda | 4 | 4 | 4 | 3 | 3 | 4 |
| 24. | Katakwi | 4 | 4 | 4 | 4 | 3 | 1 |
| 25. | Kibaale | 3 | 2 | 4 | 1 | 3 | 4 |
| 26. | Kiboga | 3 | 1 | 4 | 4 | 3 | 4 |
| 27. | Kikuube | 3 | 3 | 4 | 4 | 1 | 3 |
| 28. | Kiryandongo | 2 | 4 | 1 | 2 | 3 | 1 |
| 29. | Kitagwenda | 4 | 4 | 4 | 4 | 4 | 4 |
| 30. | Koboko | 4 | 3 | 1 | 3 | 3 | 4 |
| 31. | Kumi | 4 | 4 | 1 | 2 | 3 | 4 |
| 32. | Kyankwanzi | 4 | 4 | 4 | 4 | 3 | 4 |
| 33. | Kyegegwa | 4 | 4 | 4 | 3 | 4 | 4 |
| 34. | Kyenjojo | 4 | 4 | 4 | 4 | 3 | 4 |
| 35. | Kyotera | 4 | 4 | 3 | 2 | 4 | 4 |
| 36. | Luwero | 3 | 4 | 4 | 3 | 3 | 4 |
| 37. | Lwengo | 4 | 4 | 4 | 4 | 3 | 4 |
| 38. | Lyantonde | 3 | 2 | 2 | 2 | 4 | 1 |
| 39. | Madi-Okollo | 4 | 4 | 1 | 3 | 3 | 4 |
| 40. | Maracha | 4 | 4 | 1 | 3 | 3 | 4 |
| 41. | Masaka | 4 | 4 | 3 | 3 | 4 | 3 |
| 42. | Masindi | 4 | 3 | 3 | 3 | 4 | 4 |
| 43. | Mityana | 4 | 3 | 4 | 4 | 3 | 4 |
| 44. | Moyo | 4 | 4 | 1 | 3 | 3 | 4 |
| 45. | Mpigi | 4 | 4 | 2 | 2 | 4 | 2 |
| 46. | Mubende | 4 | 4 | 3 | 3 | 3 | 3 |
| 47. | Nakaseke | 3 | 3 | 1 | 3 | 3 | 3 |
| 48. | Nakasongola | 4 | 4 | 1 | 3 | 1 | 3 |
| 49. | Nebbi | 4 | 3 | 4 | 4 | 3 | 3 |
| 50. | Ngora | 4 | 4 | 1 | 3 | 3 | 4 |
| 51. | Ntoroko | 4 | 4 | 1 | 4 | 3 | 4 |
| 52. | Obongi | 4 | 4 | 4 | 4 | 3 | 4 |
| 53. | Pakwach | 4 | 4 | 4 | 4 | 3 | 4 |
| 54. | Rakai | 4 | 4 | 2 | 4 | 4 | 3 |
| 55. | Sembabule | 4 | 3 | 3 | 3 | 3 | 4 |
| 56. | Serere | 2 | 3 | 4 | 2 | 3 | 4 |
| 57. | Soroti | 3 | 4 | 4 | 3 | 3 | 2 |
| 58. | Wakiso | 4 | 4 | 3 | 4 | 4 | 3 |

| No | District | Linkage of HIV positive individuals to care & treatment | ART for pregnant & lactating women to prevent MTCT | Follow-up of circumcised males within 7 days post-surgery | ART patients who are retained in care | ART patients attaining VL suppression in the past 6 months | HIV-positive TB cases on ART during TB treatment. |
|---|---|---|---|---|---|---|---|
| 59. | Yumbe | 4 | 4 | 1 | 4 | 3 | 4 |
| 60. | Zombo | 3 | 4 | 4 | 4 | 3 | 3 |
| | **Overall** | 4 | 4 | 3 | 3 | 3 | 3 |

**c) HIV case-based surveillance**

The MakSPH-METS program piloted HIV case-based surveillance CBS in two districts of Kabarole and Bunyangabu. HIV CBS was aimed at supporting unique identification and characterization of persons newly diagnosed with HIV or AIDS and tracking them over time and place. HIV CBS helps to better understand the care cascade and define events such viral suppression, retention and referrals. Further, CBS helps to identify where new HIV cases are coming from (epidemic hotspots) and to identify and describe sub populations at high risk of infection. The involved establishment of the use of unique identifiers (UID) (such as biometrics and national identification numbers) and the integration of UID into Electronic Medical Records (EMR). Within the districts, HIV CBS was piloted at high volume sites which are responsible for over 80% of the patients on ART in the districts. These sites were interlinked through a central database to facilitate data exchange between the sites. This infrastructure helps to identify duplicate clients (within and across facilities), fosters retention through minimization of loss to follow-up, and supports tracking of clients along the care cascade. Later on, the HIV CBS infrastructure was expanded to an additional 6 districts. By end of September 2020, a total of 500 sites (against a target of 300 sites) were implementing HIV CBS. At these sites, over 30,000 ART clients are uniquely identified.

The other key component under the HIV CBS program is HIV recency testing, which is implemented in collaboration with UCSF. Recency testing helps to monitor trends in the prevalence of "recent" infections among all newly diagnosed HIV positive individuals. This is particularly important for identifying geographic locations associated with recent infections to inform prioritization of prevention interventions. Recent infection surveillance aims to accelerate epidemic control by facilitating the identification of clusters (people and places) with recent on-going transmission and targeted prevention and treatment interventions to stop further transmission. A review of the program documents showed that by September 2020, all the targeted sites across the 8 regions had been activated to provide recency testing. At nearly all (99%) the activated sites, EMR had been upgraded to accommodate recency testing.

The HIV CBS program has also been instrumental in providing viral loading monitoring support, sample transport and tracking through the hubs and GeneXpert training to UNHLS, CPHL and NTRL. In addition, the program has been supporting MoH to strengthen M&E for Differentiated Service Delivery Models (DSDM) through development of standards, training, and mentorship, as well as monitoring treatment outcomes across the various DSDMs.

**d) Strengthening HMIS**

A review of the program documents showed that the overall purpose of the HMIS component of the MakSPH-METS program is to support regular HMIS reporting through establishing a functional HMIS which enables stakeholders to collect, synthesize, and disseminate high-quality program data for increased evidence-based decision-making in support of an AIDS-free generation. It was observed that whereas some of the HMIS activities were implemented in the CDC-supported districts, there were other activities such as HMIS automation and upgrades

for UgandaEMR and printing and distribution of HMIS tools cover all the 135 districts of the country.

As earlier highlighted, the HMIS program strived to (i) improve patient identification, tracking, service provision and referrals of persons with HIV along the clinical cascade; (ii) increase availability of critical HMIS tools at health facilities to facilitate data collection and reporting; (iii) establish and expand functional electronic HMIS at national, districts and high volume facilities and (iv) improve data quality and use for better planning and decision-making at district and facility levels. These objectives were achieved through rollout of UgandaEMR, quantifying printing and distribution of HMIS tools, and development of trackers and dashboards to support real-time data capture, reporting and visualization in support of decision making. Currently, the EMR is used in over 1000 public health facilities that provide ART. Critical HIV tools have been printed and distributed to all districts and health facilities in the country. The trackers/dashboards developed by the HMIS program include Viral Load, EID, Option B+, Real-time ARV Stock Status Monitoring System (RASS), VMMC, Uganda DREAMS Tracking System (UDTS), KP/PrEP tracker and PEPFAR HIV/TB Surge dashboard. These are currently used by all key stakeholders to capture, report and visualize data for the various HIV and TB programs.

**(ii) Progress towards achieving the program outcome targets**

In order to measure the progress made by the program towards achieving the intended outcomes, data from the program documents and district health system capacity assessment were triangulated and comparisons to the program targets outlined in the PMP was made. The findings for each of the four program areas are summarised in Table 10 below.

It should be noted that during its first year of implementation, the program targeted 15 districts and later scaled up to an additional 33 districts in the subsequent year. Due to the unprecedented increase in the number of administrative units in the country, an additional 17 districts were created, thereby increasing the program coverage to a total of 65 CDC-supported districts, overstretching the program. These newly created districts face innumerable health system constraints that affect their capacity to absorb and respond to the external technical support. This evaluation covered 60 CDC-supported districts which had at least one year of exposure to the program. This increase in the coverage over time could explain the underperformance in some of the key indicators outlined in Table 10. The evaluation team also noted that the program was overambitious and set the targets too high (at 100%) for all the key performance indicators. The projector coordinator for HIV CBS cited limited internet at the facilities to enable data exchange as a major reason for non-achievement of some of the HIV CBS targets. Nonetheless, significant improvements in most of the program outcomes were observed across the four program areas.

**Table 10. Progress towards achieving the key program outcome targets**

| No | Key Performance Indicators | Value (%) | | |
|---|---|---|---|---|
| | | Target (2020) | Baseline (2015) | Endline (2020) |
| **Monitoring and Evaluation** | | | | |
| 1. | % of districts with trained biostatisticians and HMIS focal persons in M&E and data management | 100 | 20 | 87 |
| 2. | % of health facilities reporting timely and completed data through National HMIS (DHIS2) | | | |
| | Monthly HMIS (105) report | 100 | 40 | 67 |
| | Quarterly HMIS (106A) report | | | 87 |

| No | Key Performance Indicators | Value (%) | | |
|---|---|---|---|---|
| | | Target (2020) | Baseline (2015) | Endline (2020) |
| 3. | % of districts using HMIS data for planning and budgeting for HIV services | 100 | 50 | 100 |
| 4. | % of districts with costed M&E plans aligned to the HIV strategic plans | 100 | 25 | 75 |
| 5. | % of districts with functional Quality Improvement (QI) committees in place | 100 | 35 | 93 |
| 6. | % of districts with QI committees that have undertaken at least one QI project in the last 6 months | 100 | 35 | 73 |
| 7. | % of districts with ≥90% of HIV-positive individuals linked to care and treatment | 100 | 32 | 67 |
| 8. | % of districts with ≥90% of HIV positive pregnant & lactating receiving ART to reduce MTCT | 100 | 38 | 80 |
| 9. | % of districts with CoP19 VMMC targets where ≥90% of males circumcised are followed up at least once within 7 days post-circumcision | 100 | 40 | 64 |
| 10. | % of districts with ≥90% of ART patients retained in HIV care | 100 | 40 | 70 |
| 11. | % of districts with ≥90% of ART patients achieving viral load suppression | 100 | 32 | 63 |
| 12. | % of districts with ≥90% of HIV positive new and relapsed TB patients received ART during TB treatment | 100 | 28 | 69 |
| **District Led Programing** | | | | |
| 1. | % of districts with DHT members trained in Governance, Leadership and Management | 100 | 20 | 88 |
| 2. | % of districts with 5-year HIV and AIDS Strategic Plan for 2015/16-2019/20 | 100 | 25 | 90 |
| 3. | % of districts with reviewed annual HIV and AIDS work plans | 100 | 60 | 87 |
| 4. | % of districts that hold quarterly performance review meetings | 100 | 60 | 100 |
| 5. | % of districts which conduct quarterly support supervision to the lower levels | 100 | 50 | 100 |
| 6. | % of districts that hold quarterly HIV/AIDS coordination meetings | 100 | 60 | 85 |
| 7. | % of districts which develop and display quarterly HIV bulletins | 100 | 30 | 65 |
| 8. | % of districts that develop and use semi-annual score cards for comparing performance across programs | 100 | 30 | 60 |
| 9. | % of districts with annual profiles on health and HIV programming | 100 | 40 | 67 |
| 10. | % of districts with evidence of data use for planning and target setting | 100 | 60 | 100 |
| 11. | % of CDC districts implementing the Uganda DREAMS program | 100 | 00 | 91 |
| 12. | % of CDC districts implementing the Key Population (KP) program | 100 | 00 | 90 |
| **HIV Case-Based Surveillance** | | | | |
| 1. | % of the targeted health facilities implementing HIV Case-Based Surveillance | 100 | 25 | 100 |

| No | Key Performance Indicators | Value (%) | | |
|---|---|---|---|---|
| | | Target (2020) | Baseline (2015) | Endline (2020) |
| 2. | % of the targeted facilities reporting surveillance data in a timely, complete and accurate manner | 100 | 00 | 25 |
| 3. | % of targeted health facilities that are able to track cases and referrals within the district | 100 | 00 | 25 |
| 4. | % of targeted facilities using HIV CBS data in programming (cohort analysis on patient outcomes) | 100 | 00 | 25 |
| 5. | % of targeted districts using HIV CBS data in programming (Cohort analysis on patient outcomes) | 100 | 00 | 25 |
| 6. | % of the targeted health facilities which are linked through the fingure print technology | 100 | 00 | 25 |
| 7. | % of the targeted health facilities which are using EMR for data gathering, management and reporting | 100 | 30 | 100 |
| 8. | % of targeted health facilities implementing HIV recency testing | 100 | 00 | 100 |
| **Health Management Information System** | | | | |
| 1. | % of districts with functional ICT infrastructure for health data processing and reporting | 100 | 60 | 97 |
| 2. | % of districts with reliable internet connectivity to facilitate HMIS reporting | 100 | 50 | 70 |
| 3. | % of districts with adequate space and storage for safe custody of ICT equipment | 100 | 40 | 73 |
| 4. | % of districts with adequate stocks of all critical HMIS tools (level 3-4 of progression) | 100 | 20 | 63 |
| 5. | % of districts with ≥90% of ART facilities using WAOS for ARV ordering and monitoring | 100 | 40 | 68 |
| 6. | % of districts with ≥90% of ART facilities using RASS for ARV stock status monitoring | 100 | 30 | 65 |
| 7. | % of districts with ≥90% of health facilities report through DHIS2 | 100 | 00 | 78 |
| 8. | % of districts with ≥90% of health facilities submit weekly mTrac reports | 100 | 50 | 85 |
| 9. | % of districts with ≥90% of health facilities report weekly Option B+ data | 100 | 30 | 76 |
| 10. | % of CDC districts using the Uganda DREAMS Tracker for reporting (denominator=11) | 100 | 00 | 82 |
| 11. | % of CDC districts using the KP Tracker for reporting | 100 | 00 | 82 |
| 12. | % of districts with ≥90% of ART facilities had stocks of the following ARV regimens | | | |
| | TDF/3TC/DTG | 100 | 60 | 85 |
| | TDF/3TC/EFV | 100 | 60 | 78 |
| | ABC/3TC/LPV | 100 | 40 | 63 |
| 13. | % of districts with ≥90% of HC III facilities and above had stocks of TB medicines | | | |
| | RHZE blister | 100 | 40 | 77 |
| | RH blisters | 100 | 40 | 70 |
| | INH blisters | 100 | 20 | 55 |
| 14. | % of districts with ≥90% of HC III facilities and above had stocks of HIV diagnostics | | | |
| | Determine HIV screening test kits | 100 | 60 | 80 |
| | Stat pack | 100 | 50 | 70 |
| | SD-Bioline HIV test | 100 | 20 | 73 |

| No | Key Performance Indicators | Value (%) | | |
|---|---|---|---|---|
| | | Target (2020) | Baseline (2015) | Endline (2020) |
| | ZN reagent for AAFB | 100 | 40 | 78 |

**Objective 4: Efficiency exhibited by the program**

Efficiency is one of the three (3) E's that form part of value-for-money analysis. The 3 E's, which are highly interrelated concepts are Economy, Efficiency and Effectiveness. In carrying out an efficiency review for MakSPH-METS, focus was placed on the adequacy of the key program systems, procedures, controls and practices that support efficiency such as costing systems and systems for benchmarking performance. The review also included comparison of program performance against targets. The key considerations during assessment of the program efficiency included the following: (a) How the program resources were utilized and converted into results; (b) program organization structures and efficiency in decision making; (c) program cost against the initial budget and the absorption capacity; (d) program expenditure; where much of the program funds were used and (e) observed good practices and identified areas/gaps for improvement

**a) Utilization of program resources**

Our analysis on the utilization of program resources and how the resources were converted into results was informed by observations from interviews held with the program and finance managers, supplemented by extensive document review. The key documents reviewed included (i) Notice of Awards (NOAs) from the Centers for Disease Control and Prevention (CDC) for the five years of program implementation; (ii) Program audit reports for four years (2015-2019); (iii) Annual progress reports for 2015-2019 and (iv) Management accounts for the period October 2019 to August 2020.

The evaluation noted that the resources allocated for program activities were utilized for the intended purposes: all the audit reports did not indicate any instances of ineligible expenditure or misallocation of resources. It was observed that the program undertook an inventory count to ascertain the existence and usability of all program assets. The exercise ended well, and a report showing a well-managed inventory exists. This shows that the program assets were not misappropriated and were being put to good use. It was also noted that the donor funds as well as the gratuity funds were banked on interest bearing accounts which earned some income for the program. This was in compliance with CDC requirements. The program retained $250 of the interest earned every year on CDC funds. The interest earned during the program period totaled to $28,880.

**b) Organization structures and related costs**

It was observed that during the program tenure, there was a clear organization structure that facilitated effective management of the program resources and efficient decision making. The Dean of MakSPH was the in-country Principal Investigator (PIs) whose key role was to provide overall technical oversight and maintaining regular communication with key partners including MoH, CDC and UCSF. The program had two Co-PIs from UCSF, a sub recipient of the grant. The provision of technical leadership and guidance to the project staff was invested in the Program Manager, who was in-charge of the overall management of the program, including planning, budgeting and monitoring of the program activities. The Program Manager was assisted by the Deputy Program Manager in the coordination and management of program activities. This organization structure had clear reporting lines and responsibilities which facilitated quick decision making and eliminated time lags for ensuring timely delivery of services. It was reported that this management structure was responsible for developing annual work plans which corresponded to the program budget for each year. The developed work plans were detailed to ensure that outputs were aligned to the funds expended.

**c) Program cost against the initial budget**

The evaluation noted that there were no budget overruns for the period reviewed. Whereas there were redirections of funds within the different budget lines, the required authorizations were sought. Overall, the program expenditure was below the budgeted amount and this is an indication of good financial discipline (Table 11).

**Table 11: Program budget versus actual analysis (in USD)**

| Year | 2016 | 2017 | 2018 | 2019 | Total |
|---|---|---|---|---|---|
| **Budget** | 6,977,329 | 7,465,241 | 8,209,038 | 10,864,008 | 33,515,616 |
| **Actual** | 5,576,516 | 7,113,475 | 7,874,776 | 9,027,895 | 29,592,662 |
| **Variance** | 1,400,813 | 351,766 | 334,262 | 1,836,113 | 3,922,954 |

Table 11 above shows that the variance was favourable since the expenditure was below the budgeted amount throughout the four years of implementation (2016-2019). Figure 4 below shows a graphical representation of the program budget versus the actual over the four audited years.

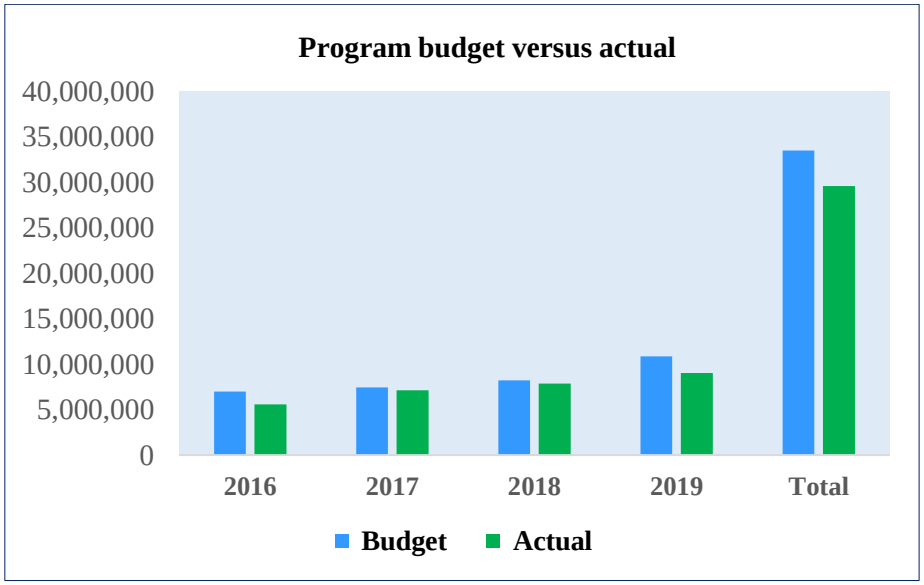


**Figure 4. Program budget versus actual analysis**

Relatedly, the program expenditure during the five years was within its means and below the drawn down amounts (Table 12).

**Table 12: Program income versus expenditure (in USD)**

| Year | 2016 | 2017 | 2018 | 2019 | 2020 (unaudited) | Total |
|---|---|---|---|---|---|---|
| Income | 5,602,549 | 6,815,156 | 7,840,774 | 8,935,378 | 6,867,464 | 36,061,321 |
| Expenditure | 5,576,516 | 7,113,475 | 7,874,776 | 9,027,895 | 6,297,943 | 35,890,605 |
| Surplus/(deficit) | 26,033 | (298,319) | (34,002) | (92,517) | 569,521 | 170,716 |

Figure 5 below indicates that over 95% of all funds drawn down were absorbed by the program.

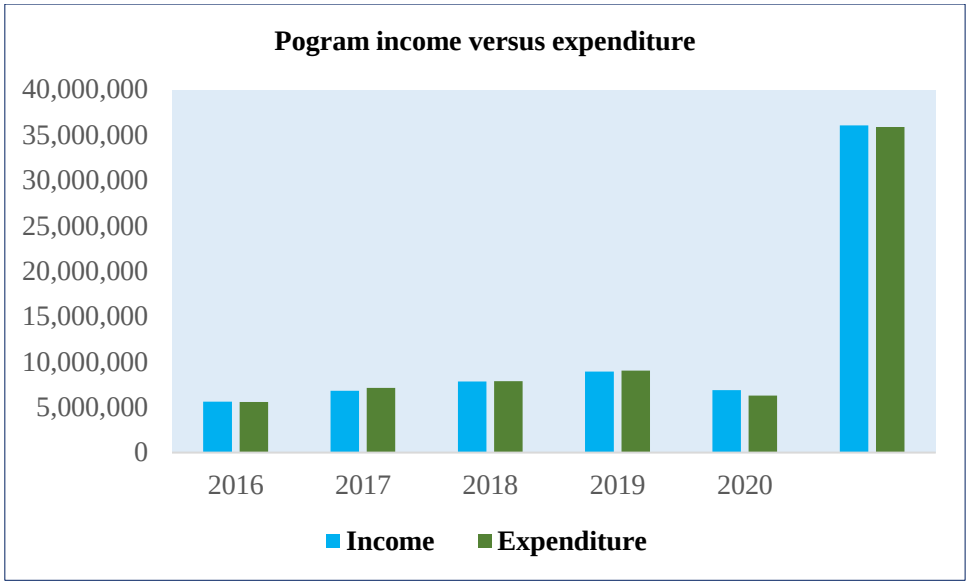


**Figure 5. Program income versus expenditure over the years**

### d) Program expenditure: where much of the program funds were used

The program costs analysis indicates that a significant proportion of program costs (61%) were related to the program core areas. This implies that 39% of the expenditure was related to administration costs.

**Table 13: Program expenditure analysis (in USD)**

| Description | 2016 | 2017 | 2018 | 2019 | 2020 (unaudited) | Total | % |
|---|---|---|---|---|---|---|---|
| **Special funds** | - | 895,315 | - | - | | 895,315 | 2% |
| **Salaries & wages** | 805,972 | 1,509,806 | 1,637,986 | 2,282,114 | 1,866,259 | 8,102,137 | 23% |
| **Fringe benefits** | 122,122 | 225,953 | 361,153 | 461,127 | 405,552 | 1,575,907 | 4% |
| **Equipment** | 188,337 | - | - | - | - | 188,337 | 1% |
| **Supplies** | 164,477 | 33,136 | 106,734 | 194,868 | 39,172 | 538,387 | 2% |
| **Travel** | 149,050 | 24,280 | 68,156 | 122,815 | 3,943 | 368,244 | 1% |
| **Other** | 3,502,142 | 4,424,985 | 4,938,872 | 5,234,456 | 3,625,637 | 21,726,092 | 61% |
| **Contractual** | 644,412 | | 758,120 | 717,574 | 357,382 | 2,477,488 | 7% |
| **Total Costs** | **5,576,512** | **7,113,475** | **7,871,021** | **9,012,954** | **6,297,943** | **35,871,905** | **100%** |

Expenditure on salaries and wages accounted for only 23% of the program costs and this is commendable (Figure 6)

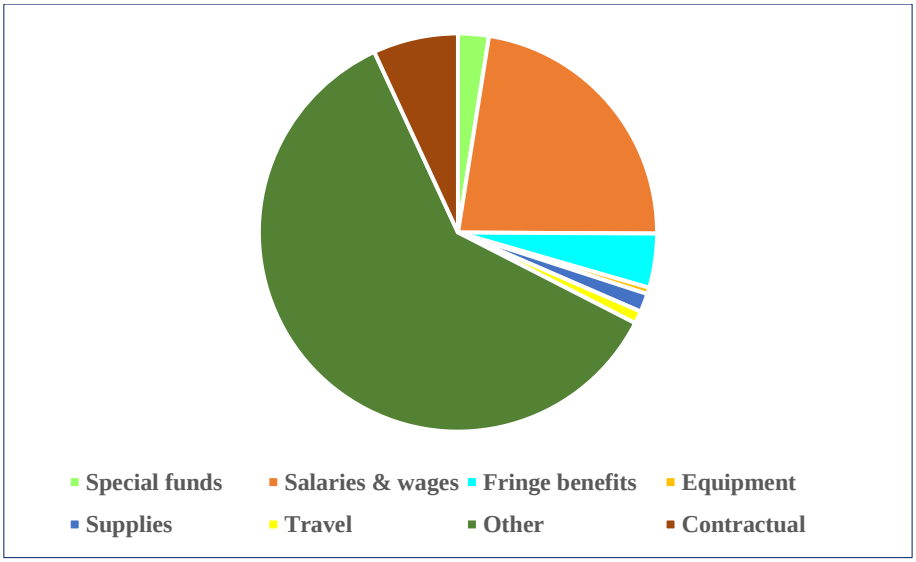


**Figure 6. Program expenditure analysis**

### e) Observed good practices and identified areas/gaps for improvement

#### Good practices

The evaluation observed some commendable financial practices undertaken by the program. They include the following:

- The program had a system in place for recording and tracking staff time utilization. All staff completed monthly time sheets to account for the time utilization. This was a good practice for ensuring that staff spent the required time on program activities given that staff costs represented a significant portion of the program costs at 23%
- The Finance Management Unit at MakSPH which also manages the program funds has an internal audit function which is in-charge of all internal audit activities.
- The program undertook insurance cover for its assets to minimize asset losses. This is a good practice since insurance minimizes the cost of replacement of assets in case of eventualities such as theft, fire, etc.
- The program maintained vehicle logbooks for all vehicles to curtail non-official use of motor vehicles.
- Collaborative efforts for ensuring efficient use of resources were exploited. The evaluation noted that on several occasions, there were efforts to utilize the partner or public health infrastructure such as training facilities for program-led trainings. Cost-sharing of budgets for training activities with the partners was also done
- Automation of data collection: Data collection and management was one of the core activities under the program. To ensure timely data processing and sharing of information, as well as reducing the number of days the teams would spend in the field, the program automated the data collection tools and developed applications for increased usability and other advantages of computerised functions.

#### Identified inefficiencies and recommendations for improvement

- In the first three years of the program, the auditors raised an issue regarding tax treatment of consultants that could expose the program to penalties and interest due to the inconsistency in the rates used while remitting taxes to URA. In case any penalties and interest are imposed, payment of such amounts would lead to wastage of the program resources, since such costs were not budgeted for and the funder would not envisage using program funds to meet such costs: There is need for the program to decide on the mode of

contracts for provision of professional services. In circumstances where positions of some consultants are deemed integral to the operations of the program, such consultants should be engaged as short-term employees to avoid related tax exposures. It is also important that the program considers seeking advice of legal counsel or tax consultants to appropriately address such tax issues.

- The evaluation noted that there were significant amounts relating to unliquidated funds of above 20% of total expenditure, particularly in 2016 and 2019. This could imply that the program could have delayed payments to suppliers: The program should review the payment cycle with a view of avoiding very high amounts of un-liquidated obligations especially where any reductions in un-liquidated amounts can result into better bargaining power with suppliers as regards prices and other terms.

- There was a case of a long outstanding working and cash advance of USD 4,650 to MU-JHU Care Limited that remained unaccounted for over one year. Such funds could have been used for an alternative activity that could earn the program some interest: The program should ensure that there is a mechanism to deal with partners who delay to provide the necessary accountabilities. There should be a well stipulated follow-up process and prescribed punitive measures including imposing surcharges on partners that do not abide by the program accountability guidelines.

- In 2017/2018, contracts for four (4) staff were not renewed supposedly due to cut in funding. However, analysis of funding/income did not show a reduction in funding. In 2018, an additional 12 new staff were recruited. It was is well known that recruitment of new staff comes with associated costs for job adverts, conducting interviews, training and the learning curve effect, among others: Staff retention, particularly those performing well should be retained to reduce related recruitment costs

- The program has not carried out any internal efficiency review during the entire implementation period. This limited the assessment of efficiency as part of end of project evaluation since the evaluation team did not obtain any related report for benchmarking this evaluation: The program should carry out in-house annual efficiency reviews to be able to determine whether the targets are being achieved or not in time for prompt corrective actions

**Objective 5: Sustainability of the program**

Based on the MakSPH-METS mandate of strengthening health systems for monitoring and evaluation, quality improvement, district-led programming, case-based surveillance and health management information systems for HIV and TB programs at National, district and health facility levels, the following key sustainability considerations are discussed below.

**a) Working within the existing structures and frameworks**

The program functioned to strengthen health systems within the MoH framework, as well as the decentralized district health care system. A review of the program documents indicated that the program operated within the existing national, district and health facility structures. In addition, all project activities were aligned to existing national and PEPFAR policies, guidelines and frameworks. The program heavily leveraged on the existing health information systems, human resources, supply chain and service delivery mechanisms to deliver its mandate. This was aimed at securing sustainability of the project outcomes while promoting ownership at the various levels.

At the National level, the program provided technical and financial support to MoH in the design, development, printing and dissemination of several policies, standards, guidelines and tools. In addition, the program has been instrumental in designing, developing and adapting electronic health information systems that are currently being used by all stakeholders for data gathering and reporting. For example, the program supported the expansion and customization of the existing digital DHIS2 to be able to capture and collate the MoH and PEPFAR reporting requirements. Currently, there is an opinion that the printing of HMIS tools is not sustainable, hence the drive towards intensifying utilization of electronic tools and systems. Although transitioning from the traditional paper-based data capture systems to electronic platforms is expected to attract significant investment costs, the move will be cost-effective in the long run. Therefore, the program's investment in digital health information systems is a step in the right direction. In these endeavors, the program closely with the relevant MoH departments including the AIDS Control Program, Division of Health Information and SCAPP, as well as other relevant institutions including UAC, CPHL and NTRL, among others.

At the subnational level, the program worked with the IPs and DHTs through enhancing their planning and monitoring and evaluation capacity to be able to effectively plan and monitor the implementation of decentralized HIV response. The capacity built at the district and lower levels is described in the subsequent sections.

Despite appreciation of the contributions made by the program at the various levels, it was apparent that implementation within the MoH framework was not well assimilated at the higher echelons of MoH management. The consensus among respondents was that the relationship could have been better accomplished. The principal contention appeared rooted in the perception that there was inadequate involvement of the MoH technical staff in the programmatic design of support interventions and specifics of the budget allocations. Importantly, MoH technical staff were confident that the program outcomes achieved have the potential to extend into the foreseeable future. In contrast, respondents at the district levels revealed concern in the ability of the MoH to ensure the delivery of quality HIV and TB programming without technical partnership from support organisations, particularly the MaKSPH-METS program. This dichotomy in appreciation of the interventions by the program at MoH and districts levels is an indication of the motivation, or lack thereof to sustain the achieved outcomes. This concern was most evident in the provision of HMIS tools. The role was mainly undertaken by the MakSPH-METS program with limited financial involvement

from MoH. In addition, funding of some key activities such as stakeholder meetings at the regional and district levels is often funded by IPs, which provides more evidence of the funding capacity gaps at MoH and further questions the continuity of such key interventions without partner support.

**b) Capacity building**

The MakSPH-METS program functioned to develop human resources and infrastructure capacity for IPs, districts and health facilities to support improvements in planning, monitoring, evaluation, quality and reporting of HIV and TB services. The programmatic approach as an above site mechanism, was designed to contribute towards sustainability by leveraging existing MoH and district structures. At the onset, there were significant constraints in human resources capacity in terms of numbers and skills within the district health sector to support a decentralised HIV response. Interest in district-led programming was considered a viable sustainability strategy to enable grassroot strengthening of HIV and TB service delivery. The approach was motivated by the rationale that the country is incapable of achieving an AIDS-free generation without a strong decentralised response at district level. In this regard, the need for improving district local government's capabilities in effective planning, quality improvement and monitoring and evaluation of HIV services was deemed critical for advancing ownership and ensuring sustainability of HIV programmatic outcomes.

In this vein, the program played a critical role in uplifting district-led HIV programming capacity through short-term fellowship trainings in GLM and M&E for DHT members and other several one-week trainings in QI, data management, analysis, reporting and use, to mention but a few. Competencies in HIV planning, M&E and QI at the district level were palpable during the capacity assessment across majority of the districts. It was also apparent that elements such as data extraction, cleaning, analysis and reporting had been institutionalized and were less dependent on the direct technical support from the program as illustrated by the following quote.

> "When it comes to improved reporting of health information, this activity is likely to continue because the Biostatisticians were trained in data extraction, cleaning, analysis and reporting of HMIS data. The program trained districts in several aspects including quality improvement, data use, development of annual work plans, etc and the skills acquired are likely to continue to be applied" KII with DHT member.

In its capacity building strategy, the program adopted a cascading approach which was deemed cost saving. The assumption was that the trained DHT members would cascade the training to the lower level health facility staff. True to the design, interviews with key respondents indicated that the program cascaded the training, mentorship and supervision duties to the DHT members who in turn, were involved in training, mentoring and supervising health workers at lower level facilities. This critical mass of trained health sector personnel is sustainable in itself. However, assurance is dependent upon the districts to be able to retain them, in addition to receiving ongoing support and resourcing. Targeted external support may be required to maintain and further improve the sustainable provision of quality HIV and TB services at district level. Further, concerns were raised about the sustainability of resource intensive activities such as development of strategic plans, quarterly bulletins and semi-annual score cards that would require a workshop setting which districts cannot afford to support. The other activities whose sustainability was questionable include QI trainings, DQAs, stakeholder meetings and HMIS tools printing and distribution, among others. For specific areas such as use of the UgandaEMR system, CBS and recency testing activities, the sustainability potential is of great concern since the ability of these platforms to function is heavily dependent on the technical support of the program.

In general, outcomes under the three programmatic areas of the program appear to have secured reasonable sustainability potential save for the HIV CBS program which was piloted in a few districts. The infrastructure meant to fully support HIV CBS seemed to be incomplete. Further, respondents within the ACP appear to indicate that the policy environment in support of HIV CBS was not complete. This predicament is by no means indicative of lack of interest from MoH but rather a reflection of the weak sustainability potential for HIV CBS.

It was also observed that some of the special programs meant to contribute towards prevention of HIV transmission such as the KP/PrEP and DREAMS programs appear not to be accommodated within the National HMIS. MakSPH-METS played a critical role in designing, developing, printing and dissemination of tools for the two programs but these were never integrated into the National HMIS. The lack of institutionalization of these programs puts their sustainability potential at risk. The prevailing school of thought is that unless this is streamlined, the KP and DREAMS interventions are perceived as IP projects and thus, devoid of ownership from MoH which naturally affects their sustainability potential.

There is one notion of concern that without sufficient funding, the potential of sustainability remains weak. The legacy of the MakSPH-METS program is the ability to enhance human resource and infrastructure capacity for the districts. However, the existing domestic funding is incapable of supporting long term sustainability of the human resources and infrastructure capacity at districts.

**c) Partnerships**

During its five years of implementation, the MakSPH-METS program established meaningful collaborations with various institutions, at international, national, sub national levels and community level. At the international level, the program partnered with UCSF and HEALTHQUAL International (HQI). Whereas UCSF provided technical expertise more especially in the design and implementation of HIS, HQI worked collaboratively with MakSPH-METS to spearhead Regional QI learning. At the national level, the program collaborates with various key partners involved in supporting the national HIV and TB response including the MoH, UAC, CPHL, NTRL, PEPFAR partners and UN agencies such as WHO and UNICEF, among others. At the sub national level, the program closely worked with the comprehensive IPs and the District Local Governments. At the community level, the program worked with some civil society organizations (CSOs) and health facilities in the implementation of community-based programs such OVC, DREAMS and KP/PP.

According to several respondents, the strategy of forging partnerships in the program design, development and implementation paid off since it resulted in cost-efficiencies and cost effectiveness towards achievement of the set outputs and outcomes. As earlier highlighted, funding for some of the program activities was shared among the partners and the activities jointly implemented. The program strategy to empower and cascade some responsibilities to the IPs and the district the local governments was cost-saving. Accordingly, some of these activities were integrated into the respective IP and district work plans and will continue to exist beyond MakSPH-METS.

**Objective 6: Recommendations for future programming**

As the METs program comes to an end, the evaluation makes recommendations which are guided by the key findings under each of the evaluation objectives, as well as the program implementation of the four thematic areas around which the interventions were built.

- **The "above-site" design:** Although the "above site" design is considered appropriate for the challenges it was meant to address, it was apparent that there were broader health system systems challenges which compelled the program to go beyond the 'above site' mandate and engage in lower level health systems implementation. In the future, the program should consider a more holistic and system-wide approach to tackle key challenges at the various health system levels. This will require close collaboration between the program, MoH, IPs and the District Local Governments.

- **Substantial involvement of key stakeholders.** Much as the program takes credit from the national and district-level stakeholders, there was concern among the national and district-level stakeholders about their non-involvement in the program design, planning and budgeting and therefore did not envision the future of the program interventions. For instance, it was reported that the level of financial investment required to keep the program interventions afloat was not known, and neither were the national and district health managers prepared to take over the responsibilities of the program. It would therefore be appropriate for the program to involve the key national and district-level stakeholders in the program design, planning and budgeting for purposes of fostering ownership and continuity.

- **Follow-on support as a key capacity building element:** Follow-on support is considered key in enhancing adherence to standards and practices. Building capacity of the IPs and districts through training is not sufficient alone if no follow-on support through on-site coaching, mentorship and supervision is provided. Thus, the program needs to develop a follow-on schedule as an integral part of its capacity building strategy.

- **Accurate targeting:** Although the program registered substantial outputs and outcomes, the evaluation noted that over time, coverage and scope of the interventions expanded significantly, overstretching the program. Besides, the program targets were set too high for all the key performance indicators. The increase in coverage and scope and the high targets could explain the underperformance in some in some key indicators. There is therefore need for precise targeting during planning for the follow-on program

- **Support beyond HIV services:** It was noted that the program technical support largely focused on health systems for HIV services with diminutive, if any, support to other non-HIV related HIV services. In line with the PEPFAR Global Health Initiatives which underscores support for other services such as Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) services, the program should consider extending its technical support to cover these essential health services.

- **Internal program efficiency reviews:** The evaluation noted that the program does not carry out internal periodic efficiency reviews. There is need to conduct in-house annual efficiency reviews to be able to determine whether the targets are being achieved or not in time for prompt corrective actions

- **Sustainability for specific programs:** Whereas outcomes under the three programmatic areas (M&E, DLP and HMIS) appear to have secured reasonable sustainability potential, the evaluation noted that the infrastructure and policy environment in support of HIV CBS appears incomplete. In addition, the KP and DREAMS programs are not integrated within the National HMIS and are perceived as IP projects, putting their sustainability potential at risk. There is need for the program and partners to advocate for the institutionalization of these special program within the national framework.

# 6.0 APPENDIX A:

## 6.1 List of districts involved in the evaluation

| No | District | No | District |
|---|---|---|---|
| **CDC supported districts** | | | |
| 1. | Adjumani | 47 | Nakaseke |
| 2. | Amuria | 48 | Nakasongola |
| 3. | Arua | 49 | Nebbi |
| 4. | Bukedea | 50 | Ngora |
| 5. | Bukomansimbi | 51 | Ntoroko |
| 6. | Buliisa | 52 | Obongi |
| 7. | Bundibugyo | 53 | Pakwach |
| 8. | Bunyangabu | 54 | Rakai |
| 9. | Butambala | 55 | Sembabule |
| 10. | Gomba | 56 | Serere |
| 11. | Hoima | 57 | Soroti |
| 12. | Kabarole | 58 | Wakiso |
| 13. | Kaberamaido | 59 | Yumbe |
| 14. | Kagadi | 60 | Zombo |
| 15. | Kakumiro | **Non-CDC supported districts** | |
| 16. | Kalangala | 1 | Abim |
| 17. | Kiryandongo | 2 | Amolatar |
| 18. | Kamwenge | 3 | Bugweri |
| 19. | Katakwi | 4 | Bulambuli |
| 20. | Kyegegwa | 5 | Bushenyi |
| 21. | Kitagwenda | 6 | Dokolo |
| 22. | Kapelebyong | 7 | Iganga |
| 23. | Kyenjojo | 8 | Kabale |
| 24. | Kasese | 9 | Kamuli |
| 25. | Kalaki | 10 | Kapchorwa |
| 26. | Kampala | 11 | Kayunga |
| 27. | Kibaale | 12 | Kibuku |
| 28. | Kyotera | 13 | Kiruhura |
| 29. | Koboko | 14 | Kole |
| 30. | Kumi | 15 | Lira |
| 31. | Luwero | 16 | Mitooma |
| 32. | Kiboga | 17 | Namisindwa |
| 33. | Kassanda | 18 | Namutumba |
| 34. | Kalungu | 19 | Napak |
| 35. | Kyankwanzi | 20 | Otuke |
| 36. | Lwengo | 21 | Rubirizi |
| 37. | Lyantonde | 22 | Rwampara |
| 38. | Kikuube | 23 | Tororo |
| 39. | Madi-Okollo | | |
| 40. | Maracha | | |
| 41. | Masaka | | |
| 42. | Masindi | | |
| 43. | Mityana | | |
| 44. | Moyo | | |
| 45. | Mpigi | | |
| 46. | Mubende | | |