NATIONAL AIDS SPENDING ASSESSMENT

2019/20-2020/21

NATIONAL AIDS SPENDING ASSESSMENT (NASA)

REPORT

2019/20 - 2020/21

Uganda AIDS Commission

Plot 1 – 3 Salim Bey Road,

NtindaP.O Box 10779, Kampala, Uganda

Phone: + 256 414 288065

Email: uac@uac.go.ugWebsite: www.uac.go.ug

Table of Contents

FOREWORD

ACKNOWLEDGEMENTS

Uganda AIDS Commission (UAC) in collaboration with Makerere University School of Public Health undertook the second National AIDS Spending Assessment (NASA) study which covered the financial years 2019/2020 and 2020/2021. We extend our appreciation to all our stakeholders for making it happen. My special thanks go to the Global Fund through the Oxford Policy Management (OPM), USAID through Uganda Health System Strengthening Activity (USAID-UHSS) and UNAIDS for providing the much-needed financial support, technical assistance, and quality assurance for this study.

UAC is greatly indebted to UNAIDS, the members of the NASA Technical Working Group (TWG), who provided invaluable input at various stages of NASA implementation; Joshua Karume, the international consultant and Professor Elizabeth Ekirapa, the national consultant, who provided technical assistance and contributed immensely to the success of this study.

We would also like to acknowledge the NASA Core team for their commitment, perseverance, and teamwork needed to birth this document. Specific appreciation goes to Jotham Mubangizi for his oversight role as a representative of UNAIDS and the team of investigators from Makerere University School of Public Health headed by the Dean of School of Public Health, Prof. Rhoda Wanyenze as well as Dr. Ddamulira John Bosco, the Co-team lead for NASA. In addition, we appreciate the coordination and supervisory team from UAC led by Dr Vincent Bagambe and Dr Sarah Khanakwa.

Finally, our gratitude goes to various stakeholders for their willingness to provide data that was used for the NASA estimation process. We acknowledge specifically UNAIDS, the AIDS Development Partners (ADPs); PEPFAR and Global fund representatives, NGOs/CSOs/FBOs/International Foundations; districts and health facilities (including private hospitals); and Ministries, Departments, and Agencies that provided information and participated at the NASA Validation Workshops. We look forward to using the findings of this study to inform and guide the mobilization, allocation, and use of resources for the National response towards HIV as we continue striving to end the epidemic by 2030.

LIST OF ACRONYMS

AGYW	Adolescent Girls and Young Women
ADPs	AIDS Development Partners
AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-Retroviral Therapy
ARV	Anti-Retroviral
ASC	AIDS Spending Categories
BP	Beneficiary Population
CBO	Community Based Organization
CDC	Centers for Diseases Control and Prevention
CSO	Civil Society Organization
DHO	District Health officer
DCT	Data consolidation Tool
FAP	Financing Agents & purchaser
FEMS	Financial Flow and Expenditure Management System
FS	Financing Sources
FSW	Female sex workers
GF	Global Fund
GoU	Government of Uganda
HCT	HIV Counselling and Testing
HR	Human Resource
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
IP	Inpatient Department
JAR	Joint Annual Report
KP	Key Populations
MDA	Ministries, Departments and Agencies
M & E	Monitoring and Evaluation
MSM	Men who have Sex with Men
NASA	National AIDS Spending Assessment
NCD	Non-Communicable Disease
NSP	National Strategic Plan
OOPP	Out-of-Pocket Payment

OPERATIONAL DEFINITIONS

Financing entities (FE). Refers to economic units providing the resources to the schemes (used by the agents). They include public entities, domestic private entities, and international entities (bilateral, multilateral, and for-profit).

Financing revenues (REV). These are mechanisms used to provide resources to financing schemes. They include Transfers from government domestic revenue, Transfers distributed by the government from foreign origin, social insurance contributions, Compulsory prepayment (compulsory private insurance premiums), and Voluntary prepayment (voluntary private insurance premiums).

Financing Schemes. These are modalities that reflect the main types of financing arrangements through which people obtain health services. They include direct payments by households for services and goods through out-of-pocket payment schemes and third-party financing arrangements such as Government schemes and compulsory contributory health care schemes, Voluntary payment schemes, and External schemes.

External schemes (non-resident). This comprises financial arrangements involving institutional units (or managed by institutional units) that are resident abroad, but who collect, pool resources and purchase health care goods and services on behalf of residents, without transiting their funds through a resident scheme.

Voluntary Payment Schemes. This category includes all domestic pre-paid healthcare financing schemes under which access to health services is at the discretion of private actors. They include voluntary health insurance, not-for-profit organization financing schemes, and Enterprise financing schemes.

Financing agents & purchasers (FAP). These are economic units that operate the schemes. They collect revenue, pool financial resources, pay for the service provision, and take programmatic decisions (allocation and purchase modalities). They include organizations/agencies within the public sector, private sector, and international purchasing organizations (Country offices of bilateral and multilateral organizations managing external resources).

Production factors (PF). These are inputs/resources (labor, capital, natural resources, "know-how," and entrepreneurial resources) used for the production of Aids Spending Categories.

AIDS spending categories (ASC). These are HIV-related interventions and activities (Prevention, HIV testing, and counseling, HIV care and treatment, social protection, and economic support, social enablers, Program enablers and systems strengthening, Development synergies, and HIV research).

Service delivery modality (SDM). This variable indicates the modality of the service provided (facility-based and home and community-based service delivery modalities.

EXECUTIVE SUMMARY

Despite the considerable challenges that Uganda's economy has encountered in recent years due to internal and external factors, the Government, development partners, non-profit organisations, and private healthcare providers have continued to prioritise the fight against the Human Immunodeficiency virus (HIV). Their continued commitment is demonstrated by the substantial financial resources that the Government and development partners have allocated, as well as the efforts of non-profit organisations and private healthcare providers, to deliver essential HIV services in accordance with the National Strategic Plan (NSP). Uganda has made significant progress in reducing the HIV prevalence and incidence, achieving 90-94-94 performance against the UNAIDS 95-95-95 targets. The country's goal is to eliminate the HIV epidemic by 2030.

Tracking HIV and AIDS expenditure produces estimates of the flow of resources into a country's health system. To answer policy questions around financial sustainability, it is vital to understand and explain the financial flows; to demonstrate how the funds are disbursed to different economic agents and the channels used to access financing; to determine the level of expenditure incurred in each programme area and the targeted beneficiary populations; and to measure the potential financing gap

Key findings

The results offer a substantial amount of data that will aid in planning, mobilizing, and allocating resources, and identifying areas for potential efficiency improvements

The National Aids Spending Assessment findings show that HIV funding increased slightly over the study period, from UGX 1.924 trillion (USD 517.6 million) in 2019/2020 to UGX 1,933 trillion (USD 538.9) in 2020/21, with a nominal increase of 0.4% (in UGX). The main sources of HIV funding in Uganda have been international financing entities, which provided 82% of the funding in 2019/22 and 80% of the funding in 2020/21, reflecting an annual increase of 1% in United States dollar terms.

The Uganda government was the second largest source of HIV funding, providing 13% of the total spending in each year, its contribution rose by 3% in nominal terms to reach UGX 256,5 billion (USD 71.5 million) in 2020/2021. The out-of-pocket payments from households made up around 6% of the total HIV spending in each year (which accounted for 17% of total ART spending). Contributions from other private businesses, mainly insurance companies, were very low, or under-reported due to their poor response rate.

The financial agents/purchasers are entities that pool and allocate financial resources to service delivery and take programmatic decisions (allocation and purchase modalities) The bulk of the HIV funding was managed by international financing agents, despite the slight decrease observed from 70% in 2019/20 to 67% in 2020/21. The proportion of funds administered by the public agents rose from 23% in 2019/20 to 26% in 2020/21. The Ministry of Health was the largest public financing agent and purchaser of HIV and AIDS interventions.

The highest proportion of HIV and AIDS spending was on care and treatment. In 2019/2020 an equivalent of USD 303 million (59%) was spent on care and treatment, and this increased to USD 323 million (60%) reflecting an annual growth rate of 7%. The other areas that received substantial funding included program enablers and health systems strengthening, prevention and HIV testing. The expenditure on program enablers and health systems strengthening was USD 91.9 million (18%) in 2019/2020 and USD 97.8 million in 2020/2021 (18%) reflecting an increase of 6% in

nominal terms. Although the reduction in new cases of HIV has stagnated in the country only USD 65.9 million (13%) and USD 66 million were spent on prevention in 2019/2020 and 2020/2021 respectively, reflecting an increase of only 1%. The spending on HIV testing reduced from USD 28 million in 2019/2020 to USD 16.6 million in 2020/2021 reflecting a decrease of 41% in nominal terms. Despite being the lowest funded categories, development synergies and HIV-related research saw the highest growth in spending. The expenditure on development synergies increased by more than four times, from USD 1.9 million in 2019/2020 to USD 7.9 million in 2020/2021, while the expenditure on HIV-related research rose by 67%, from USD 5.2 million to USD 8.7 million.

The people living with HIV and AIDS (PLHIV) received the highest HIV expenditure, 60%, followed by the non-targeted populations (22%), vulnerable (12%) and the general population (7%). Despite having higher HIV prevalence and being more susceptible to infection, the key populations were allocated the least amount of HIV and AIDS funding, with less than 1% of the total expenditure in both years. The recurrent expenditure category accounted for the largest share of the spending by production factors, with medical products and supplies being the main cost driver with 45% of the total HIV expenditure in 2019/2020 and 43% in 2020/21, followed by personnel cost with 16% in each year. Capital investments were small, at 1% and 2% respectively.

The main recommendations are:

The MoH and its implementing partners should ensure that the high-impact prevention interventions, especially in the high-burden districts, such as condom use, AGYW, VMMC, EMTCT, and PrEP, are adequately funded and fully implemented and monitored while ensuring that the funding is responsive to the needs and priorities of the key populations, which account for 26% of the new infections (HIV Country estimates, 2022). The Government and partners should also ensure that the Anti-Homosexuality Act (AHA) does not adversely affect access and quality of services for key populations.

The Government should institute a multisectoral fund for funding development synergies, social enablers, social protection, and economic support, which are largely funded by international partners, and yet they address the structural barriers and drivers of the epidemic.

Partners should increase the funding for Community system strengthening, (civil society institutional and NGO development, Community worker education, training and support, Resource mobilisation for community-based organisations, and Recruitment and retention of volunteers) which play a crucial role in promoting the behavioral and structural factors that support the prevention and treatment of HIV and AIDS.

The Government and its partners should implement the resource mobilization strategy for HIV and AIDS and diversify the sources of funding, especially increasing domestic sources through government bonds, innovative taxes, domestic enterprises, health insurance, and public budget (mainstreamed funds).

The NASA teams should develop and apply appropriate methods for estimating the public sector's shared expenditure on various activities within the different AIDS Spending Categories, especially when delivering integrated HIV services in primary healthcare services, for more accurate estimations of the Government expenditure on HIV/AIDS. The Government should also enhance its capacity and mechanisms for monitoring and reporting its financial contribution to the HIV response while streamlining national tools used to collect expenditure information.

1. INTRODUCTION AND BACKGROUND

Uganda has achieved tremendous success in addressing the HIV/AIDS epidemic and is now joining the rest of the world in stepping up efforts to end the epidemic by 2030. The country has achieved a 90-94-94 performance against the UNAIDS 95-95-95 targets. Uganda AIDS Commission (UAC) has over the past decade worked with partners to identify alternative mechanisms for financing the HIV response. HIV financing in the country is currently provided by a range of partners including the Government of Uganda, domestic private entities, households as well as multilateral and bilateral partners. Although the Government has committed to increasing its financing for HIV AIDS over the years, its contribution stagnated at around 13% of the total funding mobilized for the HIV response but increased by 7% in nominal terms between 2019/20 and 2020/21. The financing of HIV services in Uganda has therefore remained largely dependent on donors. Sustainable financing of the HIV response therefore remains critical for the successful attainment of the national HIV targets.

HIV and AIDS resource tracking is an important tool for effective planning, budgeting, policymaking, and evaluation of the HIV response in the country. Resource tracking systems help to quantify the resources available for the response, how they are spent, and who benefits. Financial tracking and mapping therefore provide vital information to inform prioritization, targeting, and resource mobilization for HIV in the country. Uganda has been conducting the National AIDS Spending Assessment (NASA) to enable the mapping and tracking of HIV spending in the country. Uganda AIDS Commission in collaboration with partners has undertaken several rounds of NASA for the financial years 2008/09, 2009/10, 2014/15, 2015/16, 2016/17, 2017/18, and 2018/2019. This round of NASA covers the financial years 2019/2020 and 2020/2021.

1.1. SOCIOECONOMIC CONTEXT, HIV SITUATION, AND NATIONAL RESPONSE IN UGANDA

In Uganda, the socioeconomic and health indicators reveal a low-income country with a GDP per capita of approximately US$1,088 in 2022/23 and a population of 45.7 million, experiencing a 3.0% annual growth rate[1]. Although the economy showed growth in previous years, the COVID-19 pandemic impacted economic activity, resulting in a growth rate of 4.7% in FY 2022. Poverty and inequality remain significant challenges, with a poverty headcount ratio of 21.4% in 2016/17 and a Gini coefficient of 0.40[2]. Health indicators show improvements, with declining mortality rates over time, although challenges persist, such as infant and maternal mortality .

Regarding HIV in Uganda, the national prevalence has decreased from 18% in the 1980s to 5.1% in 2023, although prevalence remains higher among females. The epidemic is generalized and heterogeneous, driven by risky sexual behavior. Key populations, such as Female Sex Workers (FSW) and men who have sex with men, are disproportionately affected. Despite progress, challenges remain, including stagnant new infection rates and disparities in achieving HIV targets among specific population groups[3].

[1] https://www.ubos.org/wp-content/uploads/publications/07_2023KEI_129th_Issue_Q3_2022-23_-%28Jan-Mar%29-1.pdf
[2] https://www.worldbank.org/en/country/uganda/overview#1
[3] Doshi RH, Apodaca K, Ogwal M et al Estimating the size of key populations in Kampala, Uganda. JMIR Public health and surveillance

The National HIV response is guided by the National HIV/AIDS Strategic Plan 2020/21 – 2024/24, focusing on evidence-based interventions to reduce new infections and improve care. Efforts are made to achieve the 95-95-95 targets, with significant progress noted in treatment access and viral suppression. Donor funding has historically been essential, but there is a push for increased domestic funding. NASA provides valuable insights into HIV expenditure, aiding in resource allocation and policy planning[4].

The rationale for the AIDS Spending Assessment stems from the need to ensure efficient resource allocation, monitor progress, and address challenges in HIV prevention and treatment. By tracking expenditure, Uganda aims to prioritize interventions, increase transparency, and optimize the impact of HIV/AIDS programs. Additionally, innovative service delivery models are being implemented to enhance access and benefits for different population groups, underscoring the importance of monitoring HIV expenditure.

1.2. OBJECTIVES OF THE NASA IN UGANDA

The primary objective of this project was to apply the NASA methodology for the collection, collation, and analysis of HIV expenditure data in Uganda for the financial years 2019/20 and 2020/21.

Specific objectives were:

1. To generate data on HIV/AIDS resources in Uganda for the financial years 2019/2020 and 2020/2021.
2. To update the HIV/AIDS database of financing sources, financing agents, and service providers as part of the National AIDS Documentation and Information (NADIC) activities.
3. To strengthen in-country capacity to undertake regular and targeted NASA (institutionalization) to inform planning and resource allocation.
4. To conduct selected additional data analysis of HIV/AIDS spending such as:
   estimates of domestic spending on HRH in Uganda as well as estimates of the OOPE based on the results of the OOPE survey conducted in 2020 in Uganda.

This assessment sought to provide answers to the following questions:

- What are the funding flows for HIV in Uganda highlighting who pays and pools funds for HIV and what funding schemes are used?
- Who purchases HIV services and what schemes are used for payment?
- What is the service delivery landscape for HIV services, detailing the HIV services available, the providers of the services, the modes of delivery, and the beneficiaries of the services?
- What are the key cost drivers, the production factors, of the HIV spending in Pakistan?

Additionally, NASA answers the following:

- What have been the trends in HIV expenditure in Uganda over the past 13 years: 2008/09 to 2020/21?
- Were adequate resources allocated to achieve the NSP targets for the year (2020/21), compared to the estimated resources needed? Were financing gaps (or surpluses) experienced for any interventions?
- What was spent on key interventions to reach one person? Have technical or allocative efficiencies been achieved?

[4] Uganda Aids Commission Annual Joint Aids Review report 2023

2. METHODOLOGY AND SCOPE

2.1. SCOPE OF THE NASA

This NASA covered 2 financial years: 2019/2020, and 2020/2021, and included funding from public, external, and private sources for HIV, as well as out-of-pocket payment (OOP) estimates from the previous OOPE survey conducted in 2020. Expenditure data were collected at national and sub-national (district) levels, but findings are presented at the national level and primarily in United States dollars (USD), to allow for international dissemination and comparability. The NASA 2020 methodology was applied, and the expenditure was analyzed in line with all the NASA vectors according to the NASA 2021 framework, as indicated below (refer to the definitions section for an explanation of these terms):

Financing vectors: Financing entities (FE); Financing revenues (REV); Financing schemes (SCH); Financing agents & purchasers (FAP).

Provision vectors: Providers of services (PS); and Production factors (PF).

Use / consumption vectors: AIDS spending categories (ASC); Beneficiary segments of the population (BP); and Service delivery modality (SDM).

2.2. SAMPLING

The database of all the stakeholders involved in HIV as Financing Entities, Financing Agents/purchasers, and/or providers of HIV services, was developed by MakSPH with assistance from UAC. The sampling frame included development partners, Government ministries, NGOs (International and local), CSOs, the private sector organizations (Business and health insurance companies- medical aid schemes). About 80 % of the HIV funds in Uganda are provided by about 20% of the entities, therefore we focused our attention on the major funders who provide 80% of the funds, which included the public, private, and international funders and the major agents of funds in Uganda. Similarly, we focused on the major service providers whom these funders fund. The service providers were sampled using purposive sampling by strata to ensure that the different levels and sizes of providers were represented and that approximately 85% of all the HIV expenditure in the country was captured. This selection was done by MakSPH in collaboration with the UAC and NASA Steering Committee guided by the Uganda AIDS Commission e-mapping tool.

2.3. DATA COLLECTION

The data collection comprised a desk review and face-to-face and online data collection.

Desk review.

A desk review of key policy documents, programme documentation, and review of expenditure analysis previously done in the country was undertaken. This allowed us to collect performance indicators for key interventions to enable the efficiency analysis (using the unit of expenditure as a comparator) to be undertaken. Previous NASA reports were also reviewed, and their data was consolidated with this assessment data, to permit trend analysis.

Face to face and online data collection.

Most of the NASA data was captured through face-to-face interviews. External funds and public grants provided for the HIV response in Uganda were collected through a top-down approach which tracks sources of funds from donor expenditure reports, and government budgets. Information collected through the interviews was entered into the Financial Flow and Expenditure Management System (FEMS) by the responsible officers. However, the large datasets like the PEPFAR expenditure report and the Global fund data were exported directly into the Data Consolidation Tool (DCT), since the data formats were already aligned.

Expenditures from Government institutions including ministries, departments, agencies, and local governments were captured using the bottom-up approach through expenditures from service providers' expenditure records. This information was entered by research assistants into the Financial Flow and Expenditure Management System (FEMS). For each of these institutions/organizations/departments, the accounting officers, directors, programme managers, finance directors, and finance officers were involved in selecting the information that was entered into the tool. Where expenditure data were missing, the NASA team (including MakSPH, UAC, and consultants) discussed with the core team the best approach to estimate them using conventional costing methods.

The FEMS tool which had been developed for the NASA data collection was employed during this phase of the data collection. The main benefits noted were the online repository of the funding information collected as well as the automated generation of the DCT. While the main challenges faced were related to the inability of most Financing Entities, Agents, and Providers of Service to provide and enter the required data into the FEMS tool using the NASA format despite the training provided. This was further compounded by the short time within which they were required to provide the required data and to enter it. Lastly, the FEMS tool had not been updated to enable it to import information from large financial data sets such as those used by the Global Fund and PEPFAR. Eventually, both the FEMS tool and the traditional NASA data collection tools were employed. However, it is expected that these challenges will be mitigated as the country team and HIV AIDS implementers and funders continue to gain experience in conducting and using NASA outputs.

Data for the out-of-pocket household payment.

In 2020, comprehensive data on out-of-pocket payments related to HIV/AIDS was meticulously collected through a household survey. Subsequently, this NASA conducted computations and extrapolations based on the survey results. These projections factored in adjustments for inflation and fluctuations in the dollar exchange rate over the specified two-year period. For further insights into the methodology employed for estimating out-of-pocket payments (OOPP), refer to the appendix section.

2.4. DATA CAPTURING AND PROCESSING

The collected data were entered into the Data Consolidation Tool (DCT). During data processing, the transactions were triangulated by cross-checking multiple sources of data to avoid double counting, and full transactions comprising the nine NASA vectors were recreated. The team captured all data into the DCTs which were eventually imported into the NASA Resource Tracking Tool (RTT). The Global Fund and PEPFAR data included all expenditures from their PRs/IPs, so when additional data were collected from one of the sub-recipients, they were excluded from the analysis to avoid

double counting. Interviewees were asked to report and share only the funds they received from sources other than the Global Fund and PEPFAR.

2.5. QUALITY CONTROL

The quality control process for the National AIDS Spending Assessment (NASA) involved several steps to ensure the accuracy and consistency of the data collected. Consultants provided guidance and mentorship to the NASA team, focusing on data collection, processing, and entry. Classification verification was conducted to review spending inputs according to specified categories, cross-checking against established guidelines, and rectifying any misclassifications. Data mapping validation ensured the accuracy of mapping from various sources to appropriate categories, addressing any deviations or errors. Standard classification compliance was reviewed against recognized standards, with recommendations provided for alignment and improvement. Regular checks were performed on data capture to troubleshoot inconsistencies, and data validation was conducted through stakeholder meetings, external peer review, and expert assessment to address any omissions or errors. The draft report underwent scrutiny from stakeholders and external reviewers before submission of the final report, ensuring the quality and accuracy of analysis in compliance with global standards.

2.6. DATA ANALYSIS, VALIDATION AND REPORT WRITING

The international consultant undertook the analysis with RTT and in Excel, while building the capacity of MakSPH and UAC, and prepared a slide deck of the findings, to be presented at the validation meeting. The imported data were consolidated by the Resource Tracking Tool (RTT), which also identified coding or data errors that were eventually corrected. The RTT allows the user to enter, validate, map, and classify the spending data according to the NASA framework, and to generate tables, charts, and graphs to present the results of NASA. The RTT was also essential in aggregating and analyzing the data and in creating financing flow diagrams. It also generated the full dataset in Excel spreadsheets that were used to create graphical displays and tables.

2.7. OVERVIEW OF DATA AND QUALITY OF SOURCES

Data were collected from the Ugandan Government institutions, international organisations, and private sectors. The bulk of public HIV and AIDS financing comprised the following:

- Total direct Ugandan Government expenditure on HIV and AIDS (obtained through primary data collection and verified from information management systems of the Ministry of Finance, Planning and Economic Development). Data covered the Joint Clinical Research Centre, the Ministry of Health (AIDS Control Programme and Global Fund co-financing), the National Medical Store, the Uganda AIDS Commission, and the Uganda Virus Research Institute.
- Estimated costs of HIV and AIDS-related health systems strengthening and Ministry of Health human resources at the health facility level.
- HIV expenditures by differentMinistry, Department & Agencie (MDAs)were based on budgeted figures and not actual expenditures. A total of 160 Ugandan Government ministries and parastatals that had HIV and AIDS mainstreaming were considered, and all HIV and AIDS-specific allocations were included in public HIV and AIDS spending.

International development partners included the Embassy of Ireland, the Global Fund, PEPFAR, United Nations agencies, and other donors (bilateral organizations, international nongovernmental organizations, and foundations). The private sector included mainly the household out-of-pocket expenditure from a survey conducted in 2020 and little from private non-profit organizations (mainly health insurance companies).

The assessment relied on primary expenditure data and some secondary data sources. When data were unavailable, some estimates were used (see details in the assumption and estimation section). The table below shows the quality control indicators for evaluating the NASA data quality. For each of the two years, most of the data came from verified primary sources, i.e. 92% in 2019/20, and 20% in 2020/21. The OOPP estimates based on the previous OOPE survey conducted in 2020 and the estimate of the government's contribution to human resources for HIV and health system strengthening, both constituted 7% of the data in 2019/20 and 8% in 2020/21.

Table 1 Overview of the data quality

Overall type of NASA data	2020	2021
Based on budgets	1%	1%
Expense reports	92%	90%
Based on estimation	7%	8%

2.8. ASSUMPTIONS AND ESTIMATIONS

The following key assumptions were made.

I. All PEPFAR-funded provider data were assumed to be captured in the data provided by the PEPFAR country office and therefore any PEPFAR funding data obtained from providers were excluded.

II. All Global Fund recipients' data were assumed to be captured in the data provided by the Global Fund country office therefore any Global Fund data obtained from providers was excluded.

III. All HIV/AIDS activities implemented by the MDAS that were not facility/ community-based HIV/AIDS service providers were considered as workplace interventions.

IV. Any commodity (such as ARV medications, condoms, test kits, etc.) that departed from the medical store for distribution was assumed to have been consumed by the beneficiaries.

V. For standardization only, the Bank of Uganda annual average exchange rate shown in Table 2 below was applied to all currency conversions since all figures are presented in US dollar.

Table 2 Annual average exchange rates for the financial years 2019/20 – 2020/21

Currency	2019/2020 (UGX)	2020/2021 (UGX)	
1 USD	3718	3587	

https://bou.or.ug/bouwebsite/ExchangeRates/

Out-of-Pocket Payment for HIV.

The estimation of Out-of-Pocket (OOP) payments for HIV/AIDS spending assessment is a crucial component of understanding the financial burden borne by individuals and households affected by HIV/AIDS. The research team used secondary data from the Out-of-pocket household survey conducted in 2020 while considering adjustments for inflation and the dollar exchange rate for the years 2019/20 and 2020/21 (more details are provided in the appendix

pg50).

Estimation of the human resource (HR) costs and utility costs incurred by the Government of Uganda

Estimation of the HR costs and utility costs incurred by the Government of Uganda was based on a cost analysis conducted to compute an estimation of GOU's spending on human resources for health, utilities, overheads (PHC non-wage), building and equipment, and furniture attributed to HIV/AIDS service provision (Muheki, 2019). The estimates of the human resources were updated to reflect the human resource numbers and salary scales for 2020. The time spent to provide HIV/AIDS services per cadre was based on a recent Time Driven Activity Based Costing (TDABC) on HIV that was conducted in Uganda in 2020/2021. The 2019 estimated costs for overheads and utilities were used, however an adjustment was made to cater for inflation (more details are provided in the appendix pg 50).

2.9. LIMITATIONS OF THE STUDY

I. Generally, HIV and AIDS hidden costs for integrated programs from all sectors were hard to estimate. For instance, the spending for human rights activities that were specifically HIV-related could not be extricated from general human rights activities. As a result, NASA might have some underestimation of the overall HIV spending in the country.

II. The expenditure data of some organizations were not broken down into production factors or specific target populations. Hence production factors were considered as recurrent costs that were not disaggregated. However, only 10% of the production factors were categorised as such in each year which indicates that this was not a major problem.

III. We were not able to split the voluntary prepayment revenues into individuals/households or employers because the major insurance companies are also service providers, and they were not able to disaggregate contributions from companies/employers from individuals/ out-of-pocket payments made to the insurance companies. Additionally, some of the insurance companies did not provide the relevant financial data for the study period hence the data collected may have underestimated the expenditure.

IV. Financial information from a few institutions was not included. Some organizations provided funding for several activities that also included some HIV/AIDS interventions. However, they were not able to provide details or estimates of the money spent on HIV services by the financing agents and providers of service. Similarly, some organizations were unable to provide adequate detail for complete transactions that are required in NASA.

V. Expenditures on HIV/AIDS by different Ministry, Department & Agencies (MDA) were based on budgeted figures and not actual expenditures, this may have led to over or under-estimation of some HIV/expenditures.

VI. It was not possible to capture some of the MDA's contributions to the specific ASCs, since in most cases details of the expenditure were not readily available.

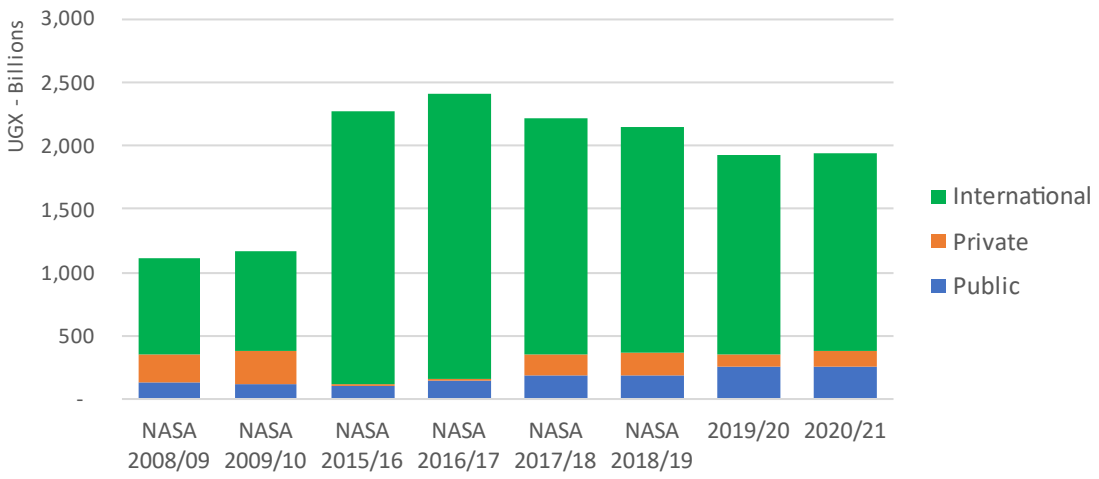
VII. The data collection period was limited hence a few organizations did not have adequate time to collate and transmit the programme and financial data required for NASA. However, the majority (90% +) of data were collected because of the large financing entities including GoU, PEPFAR, Global Fund, private insurances, and estimates of MOH shared HR and utilities costs as well as OOP estimates.

3. KEY FINDINGS

3.1. TRENDS IN HIV SPENDING BY FINANCING ENTITIES (2008/2009 - 2020/21)

The findings of the NASAs done in Uganda between 2008/2009 and 2020/21 indicate that despite the observed fluctuations in funding, overall, there has been an increase in HIV funding in nominal terms from UGX 1.109 trillion (USD 586.6 million) to UGX 1.933 trillion (USD 538.9 million) in the financial year 2020/2. Note that these figures are nominal and not adjusted for inflation. The difference in total funding (based on the Shilling values) reflects a 74% increase over the twelve years.

Figure 1: Expenditure on HIV/AIDS in Uganda (UGX billions, 2008/2009- 2020/2021)



Please note that NASA did not make an effort to estimate the OOPP (Out-of-Pocket Payments) during the years 2015/16-2016/17. Consequently, the representation of private entities during those years is minimal. Additionally, there is no data available for the period between 2010/11 and 2014/15.

From Figure 1 it is apparent that although the country initially received an increase in external funding in the early 2000's the trajectory has now changed and a gradual decline in funding is now being observed. Between 2018/2019 and 2019/ 2020 there was a 10% decline in funding. The funding in 2018/2019 was UGX 2.145 trillion (USD 574.2 million) whereas it was UGX 1.924 trillion (USD 517.6 million) in 2019/2020. This was followed by a negligible increase of 0.4% to UGX 1.933 trillion (USD 538.9) in the financial year 2020/21, bearing in mind that the UGX strengthened against the USD in 2020/21 and although external aid increased in USD terms, they reduced slightly in UGX terms. The initial increases in HIV/AIDS funding were largely attributed to the need to control the HIV epidemic that was ravaging low-income countries in the early years of the epidemic. However, since then many countries have strengthened their efforts towards controlling HIV AIDS leading to reductions in the incidence of HIV/AIDS. Furthermore, changes such as the recent COVID-19 pandemic and other competing priorities such as the rise in non-communicable diseases have also contributed to changes in funding allocations for HIV/AIDS.

3.2. TOTAL EXPENDITURE ON HIV BY FINANCING ENTITIES (2019/20- 2020/21)

Figure 2 and Table 3 display the total expenditure on HIV/AIDS by funding entities in 2019/2020 and 2020/2021. The main financing entities for HIV and AIDS in Uganda over the years have been external sources accounting for 82% and 80% of the funding, with UGX 1,571 trillion (USD 422.4 million) in 2019/2020 and UGX 1.555 trillion in 2020/2021 (USD 433.5 million). Due to the strengthening of the UGX against the USD in 2020/21, the international financing entities contributed a greater amount in 2020/21 in USD terms, but these converted to a smaller UGX amount (Table 1). The public entities were the second major funding source at 12.9% (UGX248.7 billion / USD 66.8 million) and 13.3% (UGX 256,6 billion / USD 71.5 million) in 2019/2020 and 2020/21, increasing slightly in nominal and proportional terms, mainly due to slight increases in the MoH direct expenditure on HIV, expenditure by the MDAs as well as the estimated MOH shared costs which were inflated over the years. Domestic private entities (including OOP payments) only contributed 5.5% (UGX 105.2 billion / USD 28.3 million) of the funding in 2019/2020 and 6.3 % (UGX 121.6 billion / USD 33.9 million) of the funding in 2020/2021.

Figure 2 : Total expenditure on HIV/AIDS by financing entities in Uganda (USDm, 2019/20 - 2020/21)

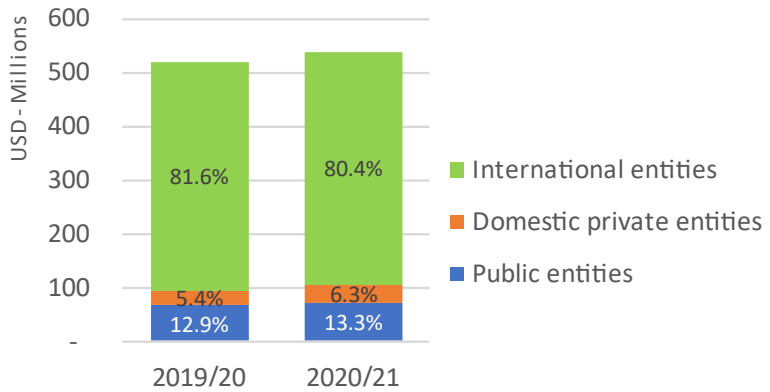


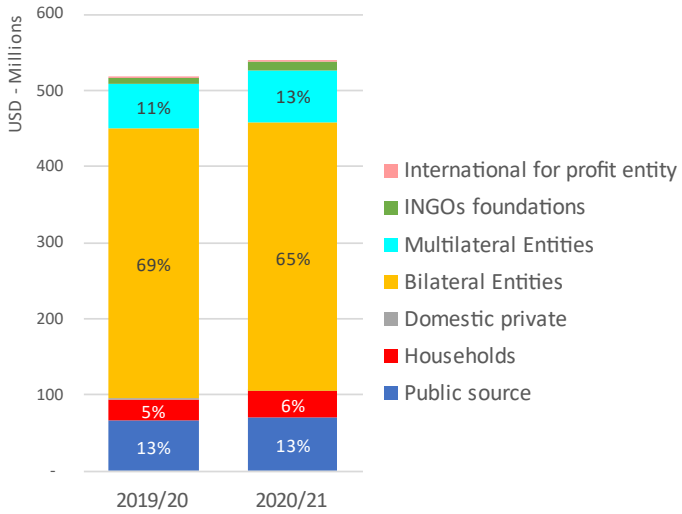
Table 3: Total expenditure on HIV/AIDS by financing entities in Uganda (USD, 2019/20 - 2020/21)

FINANCING ENTITIES (USD)	YEAR OF ASSESSEMENT		% SHARE	
	2019/20	2020/21	2019/20	2020/21
Public Entities	66,882,094	71,527,757	12.9%	13.3%
Domestic Private Entitites	28,304,172	33,909,887	5.5%	6.3%
International Entities	422,423,989	433,482,483	82%	80%
TOTAL	517,610,255	538,920,126	100%	100%

Figure *3* illustrates a declining trend in Ugandan Shilling terms for international financing entities. However, when assessed in US Dollar terms, there is a marginal increase of approximately 2.6%. Despite this, international financing entities remain the primary source of funding for HIV/AIDS initiatives. However, it is also important to note that public funding has also been increasing over the years. In 2018/2019, the Government of Uganda committed to increasing HIV/AIDS funding by UGX 50 billion every year. The Ministries and Agencies are also required to allocate 1% of their budgeted funding to HIV/AIDS-related activities. However, the contribution by the Government tends to appear small because it is overshadowed by the huge contributions by the US Government. If Uganda is to graduate from dependence on external support, the government needs to continue increasing its allocation towards HIV/AIDS. In addition, innovative means of generating resources from the public and private sectors must be explored.

As shown in Figure 3 , the majority of HIV spending (over 60%) was from the bilateral financing entities (primarily from the United States Government via the PEPFAR funding), followed by the public and multilateral financing entities (the latter primarily the Global Fund). The lowest funding came from international NGOs and foundations and international for-profit entities.

Figure 3 : Total expenditure on HIV/AIDS by financing entities in Uganda (USDm, 2019/20 - 2020/2021)



Public Financing Entities

Figure 3 shows that public sources accounted for 13% of the total HIV expenditure in both 2019/2020 and 2020/2021, with UGX 248.6 billion (USD 66.8 million) and UGX 256.566 billion (USD 71.5 million) respectively. This indicates a 36% rise from 2018/2019 to 2019/2020, followed by a 6.9% increase in UGX terms from 2019/2020 to 2020/2021, this translates to a more substantial increase in US Dollar terms owing to a reduced exchange rate. The growth in the GoU HIV spending demonstrates the GoU's commitment to addressing the challenges and achieving the Fast-Track to HIV Epidemic Control, which targets a 75% reduction in new infections and a 50% decrease in AIDS-related deaths by 2025.

Table 4 : GOU spending on HIV (USD, 2019/20 - 2020/21)

GoU spending on HIV	2019/20	2020/21	2019%	2020%
MOH Estimates (HR & utilities)	9,635,284	10,262,048	14%	14%
MDAs (Based on budgets)	5,781,485	7,607,523	9%	11%
MOH direct HIV total	51,465,325	53,658,185	77%	75%
Total GoU HIV spending (USD)	**66,882,094**	**71,527,757**	100%	100%
Total GoU HIV spending (UGX)	**21,497,000,000**	**27,288,580,000**		
% of MOH direct spending of the total HIV spending	10%	12%		

Table 4 shows that the total MOH direct expenditures on HIV accounted for three-quarters of government spending on HIV and increased by only 4% (in USD terms) from 2019/20 to 2020/21, from USD 51.4 million to USD 53.6 million. However, the MOH estimates (human resources and utilities) and the MDAs (based on budgets) combined accounted for the remaining share of the GoU HIV spending, with 23% and 25% in 2019/20, and 2020/21, respectively. The total MOH direct expenditure on HIV also reflects the MOH's priorities and strategies in the HIV response, such as scaling

up HIV testing and treatment, eliminating mother-to-child transmission (eMTCT), strengthening the health system, and integrating HIV with other health services.

Table 5: Total expenditure on HIV/AIDS by financing entities in Uganda (USD, 2019/2020 - 2020/2021)

Financing Entities for HIV services (USD)	2019/20	2020/21	2019%	2020%
Public Entities	66,882,094	71,527,757	12.9%	13.3%
Domestic Private Entitites	28,304,172	33,909,887	5.5%	6.3%
Government of Ireland	2,138,896	404,686	0.4%	0.1%
Government of Sweden	2,354,631	3,439,291	0.5%	0.6%
Government of USA	351,618,674	348,501,252	67.9%	64.7%
The Global Fund	52,523,965	64,160,307	10.1%	11.9%
UN agencies	4,853,596.60	4,373,335.06	0.9%	0.8%
International NGOs and foundations	8,637,530	11,714,381	1.7%	2.2%
International for profit Pharma	296,697	889,231	0.1%	0.2%
Grand Total	517,610,255	538,920,126	100%	100%

External Financing Entities of HIV

The main source of funding from external financing entities were the bilateral entities, but their contribution has been declining for three consecutive years. They provided UGX 1,404 trillion (USD 375.7 million) in 2018/2019, however, this decreased by 5% in 2019/20 to USD 356.4 million, and by 1% in 2020/2021 to USD 351.4 million in 2020/2021. However, the percentage share of the bilateral financing entities' contribution varied over the past three years. It was 65% of the external financing entities in 2018/2019, 84% in 2019/2020, and 81% in 2020/2021. Despite the 1% decline in the United States Government's contribution to HIV, it remained the largest donor of bilateral funds with contributions amounting to UGX 1.361 trillion (USD 364.3) 97% in 2018/2019, USD 351.6 million (83%) in 2019/2020, and UGX 1.260 trillion (USD 348.5 million) 81% in 2020/2021. The decline has been attributed to several factors including changes in the US Government priorities, and the need to increase funding for other priorities such as the Covid-19 pandemic in 2022.

Multilateral funding has shown significant variations over the years. It amounted to USD 81.8 million in 2018/2019 but dropped by 30% to USD 57.3 million in 2019/2020. It then rose by 16% to USD 68.5 million in 2020/2021. The Global Fund was the main source of multilateral funding and driving these fluctuations, providing USD 71.6 million (87%), USD 52.5 million (12.5%), and USD 64.1 million (15%) of the total in 2018/2019, 2019/2020, and 2020/2021 respectively. The funding from international non-governmental organizations and foundations remained relatively stable (with a 6% rise), while the funding from international for-profit entities, predominantly pharmaceutical companies, increased from a small base of USD 296 thousand in 2019/2020 to USD 889 thousand in 2020/2021.

Domestic private entities spending.

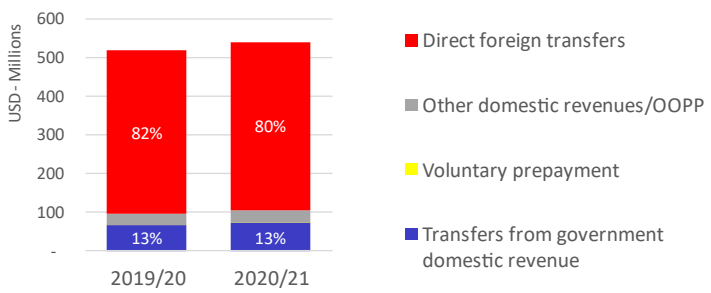
The analysis reveals that the domestic corporation sector which only accounted for small proportions (less than 2%) of the 'domestic private spending' experienced a significant decline in its nominal value from 678,853 USD in 2019/20 to 186,269 USD in 2020/21. It is important to note that the response rate from the business sector was notably low, furthermore, not all medical insurance expenditures were captured. Consequently, there might have been an underestimation of the private for-profit sector's contribution. However, despite this, it remains a sector that could be

explored further for additional financial support to the HIV response. However, the household (OOPP), on the other hand, accounted for a very large proportion of the domestic private sector in both fiscal years, and its share increased further from 97.61% in 2019/20 to 99.45% in 2020/21 and its nominal value increased from USD 27.6 million in 2019/20 to USD 33.7 million in 2020/21, which was an increase of about 18%. However, the OOPP made up only 5% and 6% of the total HIV spending (Fig.3).

3.1. REVENUES OF HIV FINANCING SCHEMES IN UGANDA

Figure 4 displays the revenue of financing schemes in Uganda. The main revenues of HIV financing in Uganda are the direct foreign transfers from international partners, and transfers from government revenue. The direct foreign transfers amounted to USD 422.4 million in 2019/2020 (82%) and USD 433.4 million (80%) in 2020/2021. The transfers from Government revenue amounted to USD 66.8 million (13%) in 2019/2020 and USD 71.5 million (13%) in 2020/2021. Out-of-pocket payments (OOP) and other domestic revenues contributed 5% of transfers (USD 28.3 million) in 2019/2020 and 6% (33.9 million) in 2020/2021. Voluntary prepayment was very minimal, less than 0.1% of the total spending.

Figure 4 : Revenues of financing schemes (USDm, 2019/20 – 2020/21)



3.2. FINANCING SCHEMES FOR HIV FUNDING

The financing scheme are modalities that reflect the main types of financing arrangements through which people obtain health services..Table 6 indicates that the resident foreign agencies schemes constituted the largest share, comprising 69% in 2019/20 and 66% in 2020/21. Government schemes accounted for only 23% in 2019/20 and increased to 26% in 2020/21. This implies that the Government of Uganda (GoU) schemes are a limited but significant modality in ensuring access to HIV services for the population. Voluntary insurance schemes represented negligible percentages in both years, while Not-for-profit organization schemes remained stable at 2% across both years.
Household out-of-pocket payments accounted for 5% in 2019/20 and increased slightly to 6% in 2020/21. Overall, the financing landscape in Uganda saw fluctuations across different schemes, with resident foreign agencies schemes remaining a dominant modality, while other sectors experienced relatively minor changes in their contributions.

Table 6 Financing schemes for HIV funding (USD, 2019/20 – 2020/21)

Financing Schemes in Uganda (USD)	2019/20	2020/21	2019%	2020%
Government schemes	118,534,116	137,886,398	23%	26%
Voluntary insurance schemes	323,730	186,269	0%	0%
Not-for-profit organisation schemes	11,719,082	11,539,480	2%	2%
Resident foreign agencies schemes	359,408,008	355,584,362	69%	66%
Household out-of-pocket payment	27,625,319	33,723,618	5%	6%
Grand Total	**517,610,255**	**538,920,126**	100%	100%

3.3. FINANCING AGENTS/PURCHASERS OF HIV SERVICES IN UGANDA

Financial agents/purchasers are entities that pool and allocate financial resources to finance service delivery programmes and make programmatic decisions. The bulk of the HIV funding was managed by international financing agents and purchasers, despite the slight decrease observed from USD 363.8 million (70%) in 2019/20 to USD 362.4 million (67%) in 2020/21. The proportion of funds administered by the public agents and purchasers rose from 23% (USD 118.5 million) of the funding in 2019/2020 to 26% (USD 137.8 million) in 2020/2021. The private financing agents and purchasers obtained only 7% of the funding in both years (USD 35.2 million in 2019/2020 and USD 38.6 million in 2020/2021). The low share of funds managed by the public financing agents and purchasers implies that the country has restricted control over the management and utilization of HIV funds, and this may impact the prioritization and alignment of funding to the priority activities in the HIV National Strategic Plan.

Figure 5: Financing agents and purchasers for HIV funding (USDm, 2019/20 – 2020/21)

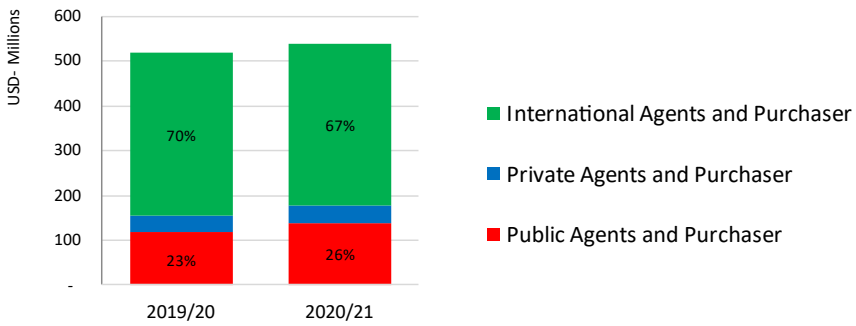


Table 7 below shows the public financing agents and purchasers. The Ministry of Health was the largest public financing agent and purchaser, and it received USD 111.2 million in 2019/ 2020 (94%) and USD 128.2 million (93%) in 2020/2021. The MDAs managed 4% in both years while UAC managed 2% in 2019/2020 and 3% in 2020/202.

Table 7 : Public Financing Agents (USD, 2019/20 – 2020/21)

Public entities FAP (USD)	2019/20	2020/21	2020%	2021%
Ministry of Health	111,166,614	128,216,303	94%	93%
MDAs	4,546,507	6,028,979	4%	4%
UAC	2,756,475	3,514,137	2%	3%
Total	118,469,596	137,759,419	100%	100%

3.4. AIDS SPENDING CATEGORIES (ASC)

NASA uses the term "AIDS spending categories" to define all HIV-related interventions and activities in the HIV and AIDS response. AIDS spending categories include prevention, care and treatment, and other health and non-health services related to HIV and AIDS.

This section first presents the broader programme areas and then detailed HIV spending per intervention in Uganda for the two years under assessment.

HIV care and treatment was the largest programme area in terms of HIV spending in Uganda. In 2019/2020 an equivalent of USD 303 million (59%) was spent on care and treatment and this increased to USD 323 million (60%) reflecting an annual growth rate of 7%. Uganda has around 1.3 million people living with HIV and 94% of them are on treatment, thus the Country spends a considerable amount of money on care and treatment. The other areas that received substantial funding included program enablers and health systems strengthening, prevention, and HIV testing. The expenditure on program enablers and health systems strengthening was USD 91.9 million (18%) in 2019/2020 and USD 97.8 million in 2020/2021 (18%) reflecting an increase of 6%. Although the reduction in new cases of HIV has stagnated in the country only USD 65.9 million (13%) and USD 66 million (12%) were spent on prevention in 2019/2020 and 2020/2021 respectively, reflecting an increase of only 1%. The spending on HIV testing reduced from USD 28 million in 2019/2020 to USD 16.6 million in 2020/2021 reflecting a decrease of 41% in nominal terms. The development synergies, social enablers, and HIV-related research all received 1% or less of the total spending. It is however important to note that HIV funding for research was underestimated since some research institutions did not submit their financial data.

Figure 6 : HIV spending by program area (USDm, 2019/20 – 2020/21)

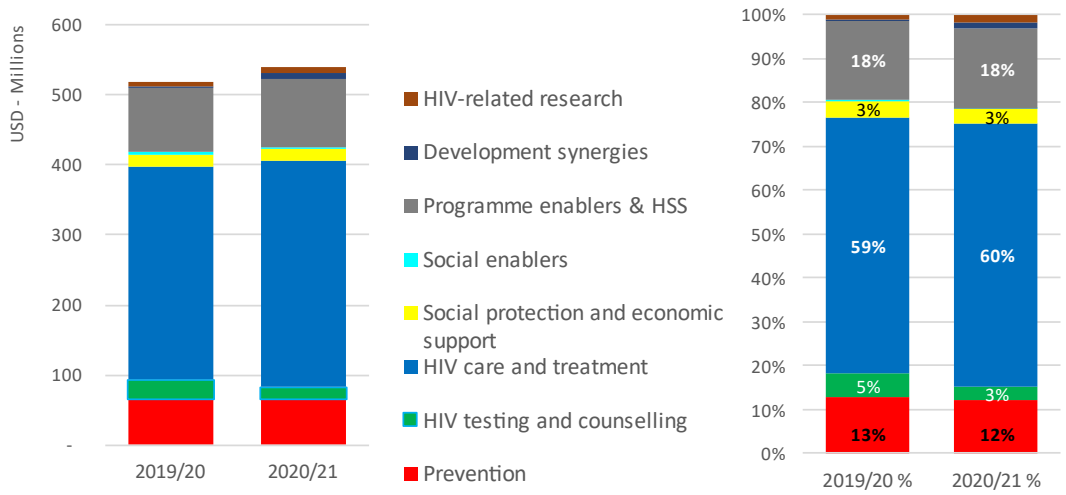
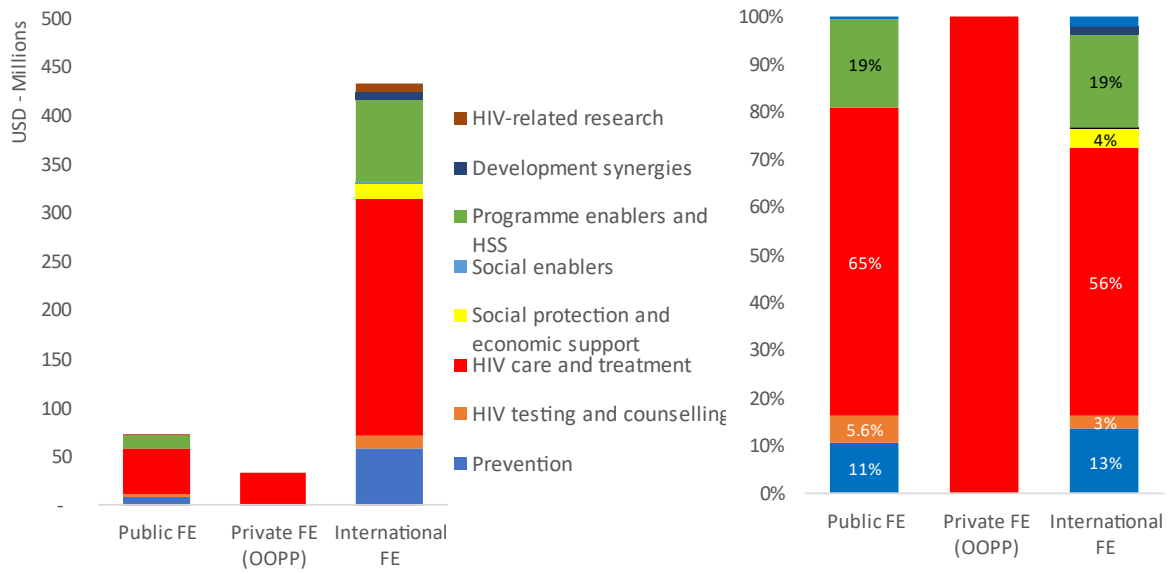


Table 8 : HIV spending by program area (USDm, 2019/20 – 2020/21)

HIV Programme Area (USD)	2019/20	2020/21	2019/20 %	2020/21 %
Prevention	65,966,871	66,017,541	13%	12%
HIV testing and counselling	28,040,898	16,675,524	5%	3%
HIV care and treatment	303,168,280	323,163,238	59%	60%
Social protection and economic	17,993,574	16,951,873	3%	3%
Social enablers	3,170,559	1,570,019	0.6%	0.3%
Programme enablers & HSS	91,992,590	97,816,328	18%	18%
Development synergies	1,926,387	7,987,604	0.4%	1.5%
HIV-related research	5,351,096	8,737,999	1.0%	1.6%
Total	**517,610,255**	**538,920,126**	**100%**	**100%**

Figure 7 shows the spending per programme area by different financing entities. A small amount of funding from private financing entities was spent on care and treatment. It was also the main spending category, representing 65% of the funding by public financing entities and 56% of the funding by international financing entities. Program enablers and health systems strengthening was the next category that attracted considerable funding from both public financing entities (19%) and international financing entities (19%). Spending on prevention comprised 11% of the funding from public financing entities and 14% of the funding from international financing entities, while HIV testing and counseling made up 5.6% of the funding from private financing entities and 2.6% of the funding from international entities. The other interventions, such as social enablers, development synergies, and social protection, were the least funded in terms of HIV spending and were exclusively funded by international financing entities.

Figure 7 : HIV program area funding by financing entities (USDm, 2020/21)



3.4.1 Prevention Activities

Figure 8 shows the spending on prevention interventions in Uganda and the percentage share for the fiscal years 2019/20 and 2020/21. The prevention interventions are divided into two categories: Five Pillars of Prevention and other Prevention activities. The Five Pillars of Prevention include condom promotion and distribution, AGYW, services for KP, VMMC, and PrEP. The other Prevention category includes interventions such as SBCC, PMTCT, community

mobilization, programmatic activities for vulnerable populations, prevention for children and youth, and prevention of HIV transmission aimed at PLWHIV, etc.

The analysis indicates that the total spending on prevention interventions increased slightly from USD 65.9 million in 2019/20 to USD 66 million in 2020/21. However, the percentage share of the Five Pillars of Prevention decreased from 87% in 2019/20 to 80% in 2020/21, while the percentage share of the other Prevention activities increased from 13% in 2019/20 to 20% in 2020/21. This suggests that there was a shift in the allocation of funds from the Five Pillars of Prevention to the other prevention interventions. The significant decrease in the funding allocated to the five pillars of prevention can be attributed to the reduction in expenditure on VMCC, which was likely impacted by the COVID-19 pandemic.

Figure 8: Spending on HIV Prevention (USDm, 2019/20-2020/21)

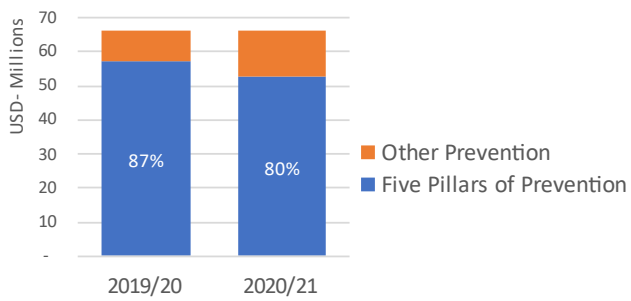


Table 9 shows that the funding for PrEP increased significantly from USD 1.8 million in 2019/20 to USD 9.3 million in 2020/2021. Funding for AGYW also increased by 14% between 2019/20 and 2020/21. A noteworthy point is that although the KP is a high-risk targeted group, only 1% of the prevention funding was allocated to each of them over the two years and yet according to the JAR report the HIV prevalence is high among key populations such as FSW (31%), people who inject drugs and men who have sex with men (12%). Similarly, eMTCT is one of the five high-impact prevention interventions highlighted in the NSP but received a small portion (1% in both years). A possible explanation may be the fact that with the high ART coverage in Uganda, most women are already on ART and those costs would have been captured under ART. Funding for condoms, vulnerable populations, and Social Behavioral Change Communication (SBCC) and workplace programs increased slightly over the two years. Funding for condoms increased from 7.8 million to 8.3 million USD. This funding was able to support the procurement and distribution of 138 million male condoms in 2019/2020 and 181,574,979 male condoms in 2020/2021[5][6]. However, this was below the estimated need in both years, in 2020/2021 only 68% of the need was met. The inability to meet the need for condoms coupled with the sub-optimal condom use during high-risk sex is likely to underscore gains that could be obtained from consistent condom use[7]. The HIV investment case indicated that if consistent condom use were scaled up to 80%, it could independently avert up to 140,000 new infections in five years, amounting to 10% of new infections in the five-year period[9].

[5] Uganda Aids Commission. Joint annual report 2019/2020
[6] Uganda Aids commission . Joint annual report 2020/2021.
[7] Uganda Aids Commission. HIV Aids Investment Framework 2020- 2030.

Table 9: Expenditure on the different HIV prevention interventions (USDm, 2019/20-2020/21)

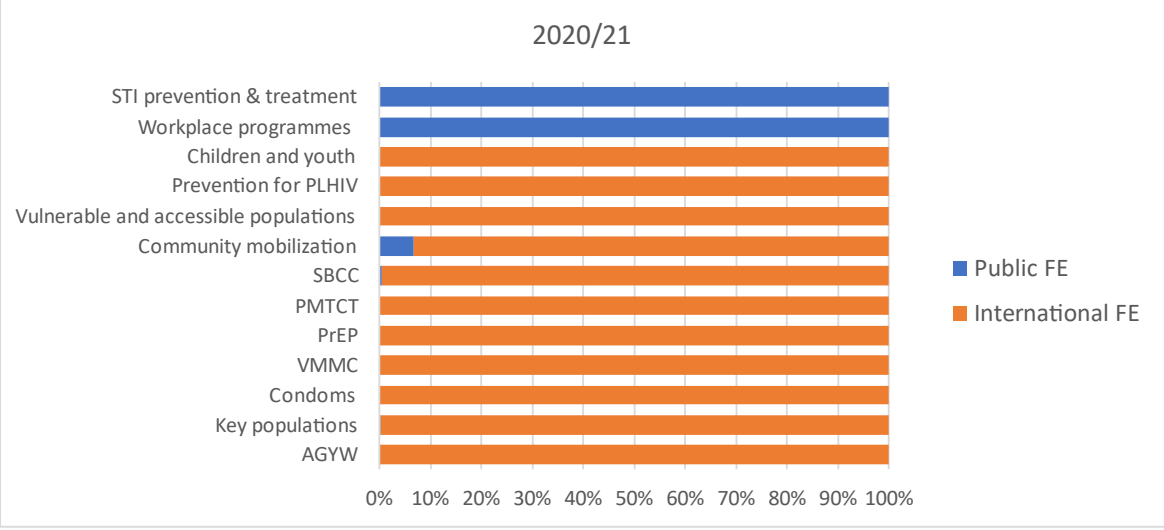
HIV Prevention	2019/20	2020/21	2019/20	2020/21
AGYW	18,243,492	20,723,372	28%	31%
Key populations	481,251	1,631,897	1%	2%
Condoms	7,801,643	8,395,926	12%	13%
VMMC	28,778,599	12,551,747	44%	19%
PreP	1,831,819	9,333,647	3%	14%
PMTCT	721,928	884,844	1%	1%
SBCC	148,995	1,049,151	0%	2%
Community mobilization	41,353	625,193	0%	1%
Vulnerable pop	1,277,015	694,620	2%	1%
Children and youth	700	2,128,526	0%	3%
Prevention for PLHIV	6,010	378,020	0%	1%
Workplace programmes	5,810,347	7,614,772	9%	12%
Prevention activities n.d	-	5,827	0%	0%
STI prevention & treatment	823,720	-	1%	0%
Total	**65,966,871**	**66,017,541**	**100%**	**100%**

The expenditures shown in Table 9 indicate that the distribution of funds for interventions among vulnerable populations and key populations should be reconsidered, as these groups received less than 5% of the funding despite being the most at-risk and vulnerable groups. Interventions such as PMTCT also got very low funding in both years.

Figure 9 depicts the prevention activities by financing entities. To provide the prevention package services, Uganda relies heavily on international partners. The analysis indicates that many of the prevention activities are funded by international financing entities, accounting for 91% of the prevention funding. The Government mainly funds STI prevention, community mobilisation, and workplace programs. Key prevention activities such as PrEP, PMTCT, and VMMC did not receive any direct funding from the Government.

The Government of Uganda (GoU) recognizes the importance of ensuring the long-term sustainability of the HIV response and has committed to mobilizing more domestic resources for HIV. Some of the initiatives include the AIDS Trust Fund, the private-sector-led One Dollar Initiative. The GoU also plans to implement the National Health Insurance Scheme, which will cover the health care costs for the formal and informal sector workers, including HIV treatment.

Figure 9 : HIV prevention by financing entity (%, 2019/20-2020/21)



3.4.2 HIV testing and counselling activities

Uganda has been targeting key populations and priority populations for HIV testing and counselling (HTC) using multiple approaches that include assisted partner notification, index client testing, HIV self-testing, and provider-initiated testing. The analysis shows that HTC spending in Uganda dropped by 41% from 2019/20 to 2020/21, from USD 28 million to USD 16.7 million. This suggests that the HTC services in Uganda experienced a considerable decline in funding and resources, with PEPFAR as the main funding entity, reducing its funding on HTC by 66% in 2020/21. This could have been as a result of the change in policy from Universal testing to targeted testing, but it could also have been compounded by the Covid-19 pandemic which reduced outreach activities that are often held to promote HTC, especially among the general population. However, if this reduction is due to a decline in funding for HTC, this could have implications for the access and quality of HTC services, hence limiting people's access to either treatment or prevention interventions.

Figure 11 shows that in 2019/20, the majority of the total HTC spending, 60%, was dedicated to HCT for the general population, followed by 31% allocated to HCT not disaggregated (n.d) by type of beneficiaries. However, in 2020/21, there was a significant shift in spending patterns. While the percentage spent on HCT for the general population decreased to 55%, there was a notable increase in funding for HCT targeting key populations, rising from 4% to 18%. Similarly, funding directed towards HCT for vulnerable populations experienced a notable rise from 1% to 9%, with a particular emphasis on AGYW. Conversely, spending on HCT n.d decreased from 31% to 12% during the same period. It's also worth noting that there was a slight increase in funds allocated to early infant diagnosis (EID) of HIV, rising from 4% to 7%. Additionally, spending on HCT for inmates was recorded in 2019/20 only and accounted for 1% of the total expenditure in that year.

The analysis was somehow limited by the lack of disaggregated data on HTC spending by beneficiary groups, hence 31% of HCT spending was not disaggregated (n.d) in 2019/20 and 12% in 2020/21.

Figure 10 : Expenditure on HIV testing and counseling (USDm, 2019/20-2020/21)

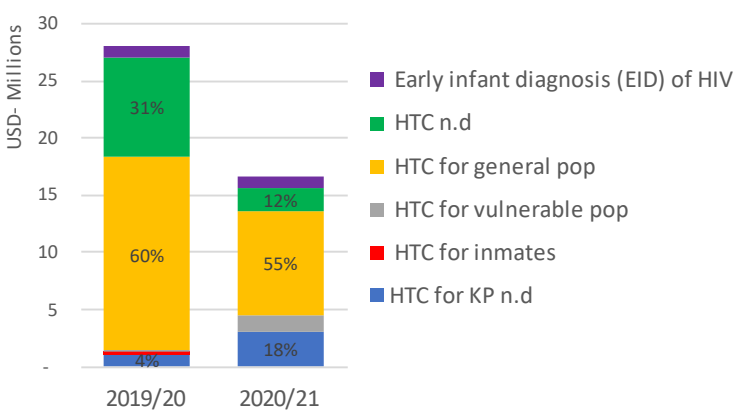


Figure 11 : Expenditure on HIV testing and counselling by financing entity (USDm, 2019/20-2020/21)

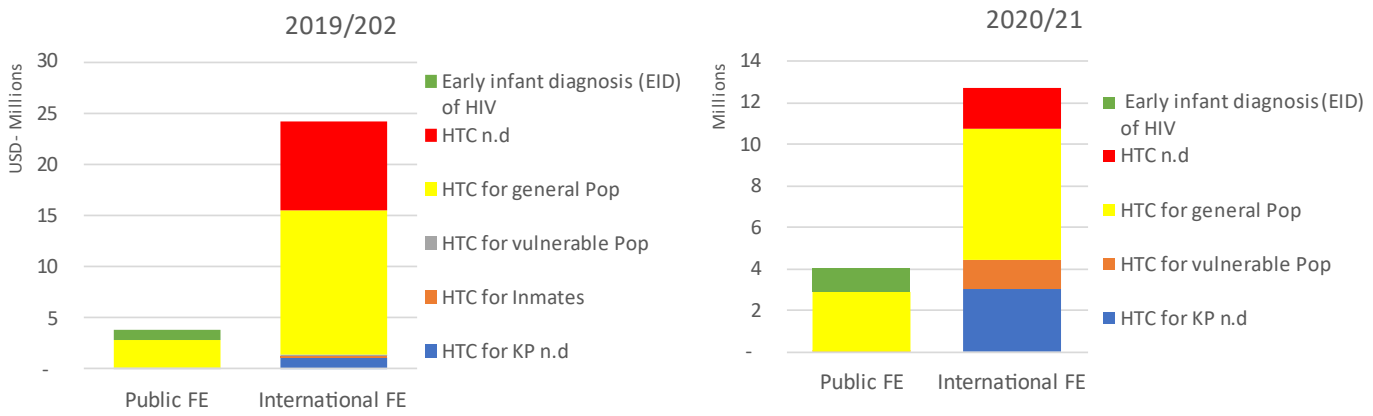


Figure 11 show that public HTC financing went mostly to general populations and EID, while the declining international financing changed focus from HTC not disaggregated to HTC for KP and vulnerable populations.

3.4.3 HIV Treatment and Care Activities

The analysis reveals some trends and patterns in HIV care and treatment spending in Uganda over the two years of assessment. These include an increase in the total HIV care and treatment spending, a decrease in expenditure under the ART category, and an increase in the specific ART-related laboratory monitoring category.

Figure 14 shows that the total HIV care and treatment spending increased by 7% from 2019/20 to 2020/21, from USD 303 million to USD 323 million. This indicates that the HIV care and treatment services in Uganda faced a moderate increase in funding and resources, which could improve the access and quality of the HIV care and treatment services, as well as the outcomes and impact of the HIV care and treatment services. Indeed, the country was able to meet its target of 90% of people who knew their HIV status being on treatment in 2019/2020 with 84% of people who knew their status on treatment (90 target translated into 81% being on treatment). In 2020/2021 according to estimates based on population data, there was a remarkable improvement with 92% of people who knew their status on treatment, falling just short of the 95% target.

ART expenditure independently represented 43% of the total HIV spending in 2019/20 and 37% in 2020/21,, accounting for 74% of expenditure on care and treatment in 2019/20 and reducing to 62% in 2020/2021. Although the spending on ART decreased by 10% in nominal terms, it did not affect the continuity and quality of ART services as indicated above, and the number of people on ART increased by 5% from 1.241 million in 2019/20 to 1.303 million in 2020/21. Another possible explanation for the decrease in funding could be attributed to the fact that during a funding cycle, more drugs were sometimes purchased in one year and used in another year if the prices were favorable. Overall, while the reduction in ART spending may initially appear concerning, the concurrent increase in ART coverage and maintenance of service quality suggests that the healthcare system in Uganda has managed to achieve greater efficiency in delivering essential HIV treatment services to its population, the efficiency section (pg59) will provide more details.

Figure 12 shows that the specific ART-related laboratory monitoring category accounted for the second largest share of HIV care and treatment spending in both years, with 18% in 2019/20 and 27% in 2020/21, reflecting an increase of 63% from USD 53.5 million to USD 87.3 million. This increased expenditure on laboratory monitoring contributed

to improved monitoring of patients on ART and the achievement of the third 90 target. In 2020 the Country achieved 75% of people on treatment being virally suppressed, thus achieving its 90 target which translated into 73% being virally suppressed). In 2021, Uganda did not meet its 95 target of 95 % of people who are on HIV being viral suppressed, however, the improvement was still notable with 84% of people on treatment being virally suppressed.

The care and treatment services not disaggregated accounted for the third largest share of the HIV care and treatment spending in both years, with 8% in 2019/20 and 10% in 2020/21. This category was recorded from PEPFAR and GF datasets for the care and treatment above site activities that could not be attributed to ART and thus were labeled as not disaggregated.

Lastly, the other three categories of HIV care and treatment services, namely adherence and retention on ART, co-infections and Opportunistic Infections treatment (OI), and psychological treatment and support service, received small proportions of the care and treatment expenditure. We have noted that the adherence activities did not receive a specific label in the PEPFAR expenditures data and hence were lumped under C&T nd. Nevertheless, this indicates that more funding should be directed to these aspects of care.

Figure 12: Expenditure on care and treatment (USDm, 2019/20-2020/21)

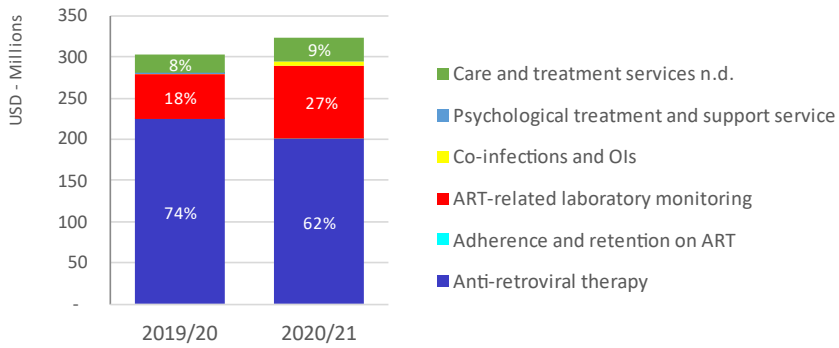
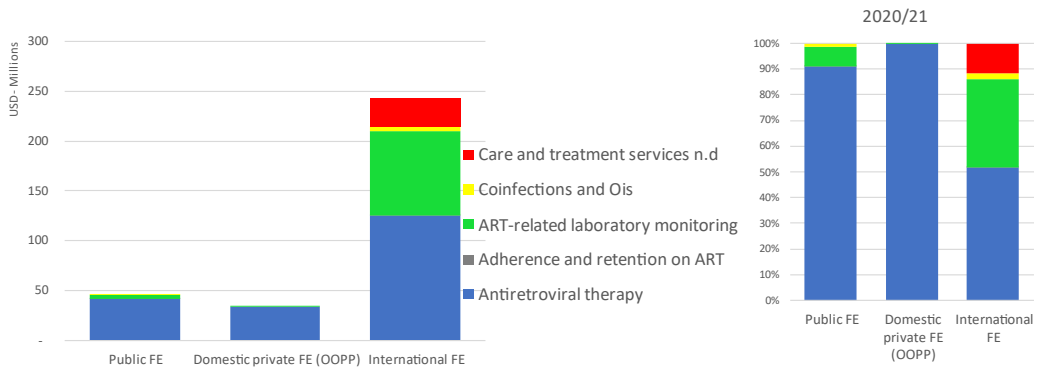


Figure 13 shows the funding of different HIV care and treatment services by financing entities, in the fiscal year 2020/21. PEPFAR was the largest donor for HIV care and treatment in Uganda, with expenditure of USD193 million in 2019/20 and USD194 million in 2020/21. ART received a total of USD 122 million in funding from all three entities. International financing entities were the primary contributors, spending 62% of their care and treatment funds on ART, which accounted for 52% of total ART spending. Public financing entities spent the majority of their care and treatment funds on ART (91%), representing 21% of total ART spending. Domestic private financing entities, however, made relatively smaller contributions to care and treatment, focusing solely on funding ART services. Other care and treatment activities, including adherence and retention on ART, ART-related laboratory monitoring, and treatment of opportunistic infections, also received varying levels of funding, predominantly from international financing entities.

Figure 13 : Expenditure on care and treatment by funding entity (2020/21, USDm)



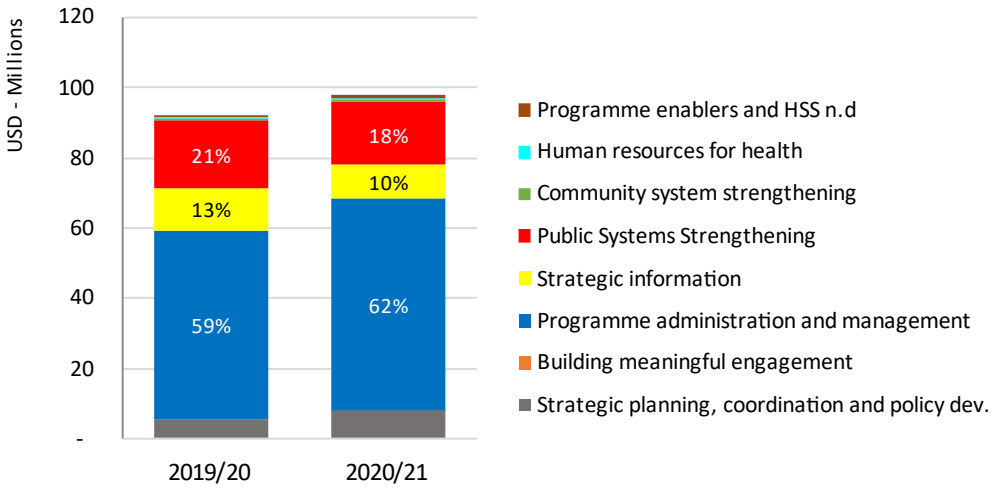
Note: Most of the care and treatment expenditures were collected from primary data, while the estimated cost of MOH shared costs in delivering treatment services accounted for only 9% of the total spending on care and treatment in 2019/20 and 10% in 2020/21. In addition, the estimated OOP payments were attributed to ART costs for patients, and these are included in the domestic private spending in Figure 14.

3.4.4 Programme Enablers and Systems Strengthening Spending

Figure 14 shows the spending of different activities under programme enablers and systems strengthening (PESS). The analysis reveals some interesting trends and variations in spending and prioritization over the years. The most noticeable trend is the increase in total spending from USD 91.9 million in 2019/20 to USD 97.8 million in 2020/21 (a 6% increase between the two years).

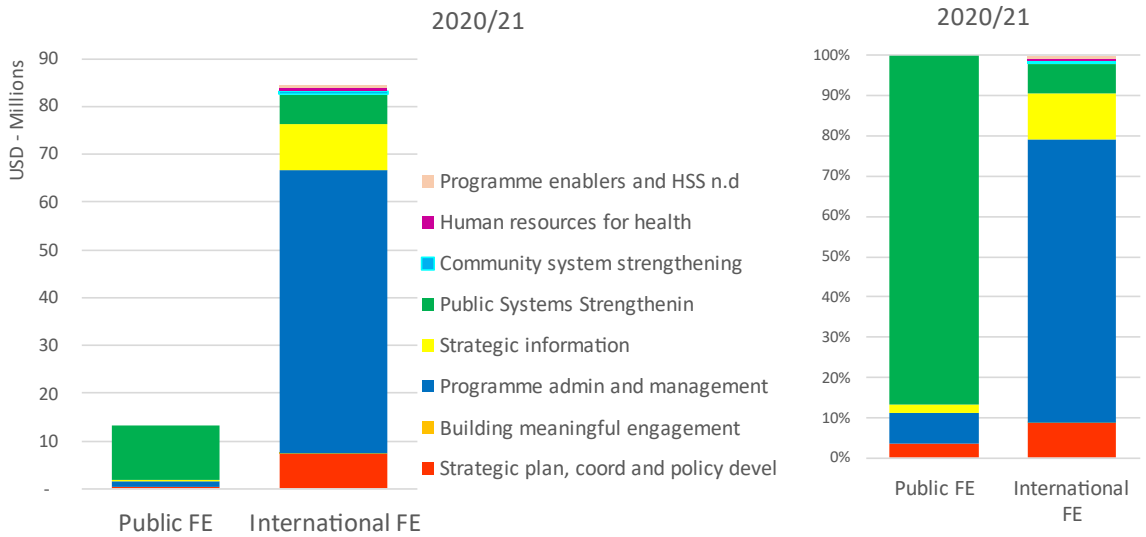
The largest component in terms of PESS spending share was programme administration and management which accounted for more than 59% of the total PESS spending in 2019/20 and 62% in 2020/21, with a 12% increase in nominal terms. It's important to highlight that program management constituted 18% of the total HIV spending in both years analyzed. This indicates a consistent allocation of resources to program management activities across the assessed period. The second largest component was public systems strengthening which accounted for 21% of the total PESS spending in 2019/20, and 18% in 2020/21. Strategic information, mainly M&E also received a fair share of the PESS spending, 13% and 10% in 2019/20 and 2020/21 respectively. All the other PESS activities combined (including community systems strengthening and strategic planning activities) received 7% of total PESS spending in 2019/20 and 11% in 2020/21.

Figure 14 : Expenditure on program enablers and systems strengthening (USD, 2019/20-2020/21)



Programme enablers and systems-strengthening activities have been financed almost entirely by international funding entities, while public funding entities have financed only 14% for the two years covered by the study. The contribution by the public financing entities for PESS shows the estimated Government contribution to strengthening public health systems in the delivery of HIV treatment services.

Figure 15 : Expenditure on program enablers and systems strengthening by funding entities (2020/21, USD, %)



3.4.5 Spending on social protection and economic support

The social protection and economic support (SPES) programs in Uganda are part of the broader social protection systems in Uganda, which are guided by the National Social Protection Policy and the Social Development Sector Strategic Investment Plan. This program is aligned with the PEPFAR OVC programme which accounted for only 3% of the total HIV spending in Uganda. The table indicates that the SPES spending decreased by 6% from 2019/20 to 2020/21, from $18 million to $17 million. However, the economic support for the OVCs category accounted for the largest share of the SPES spending, with 99% in both years. This indicates a gap in funding for social protection for non–OVC categories such as social protection through monetary or in-kind benefits and provision of social services, HIV-specific income generation projects, and other social protection services and social services.

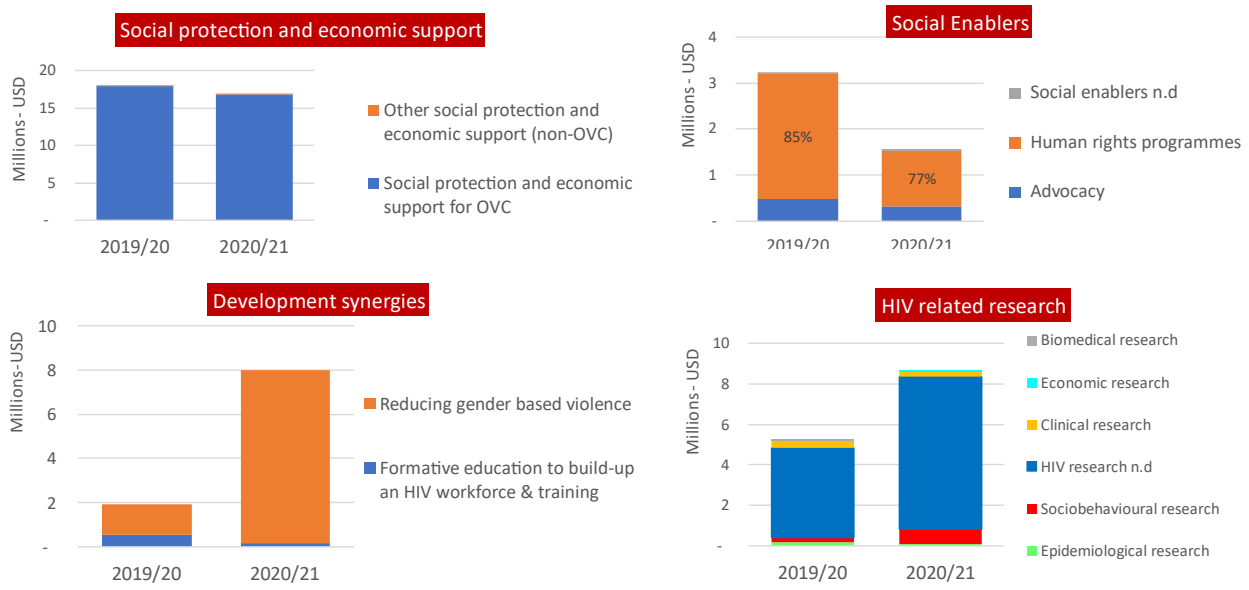
The NASA study indicates that the social protection and economic support programme was also largely funded by international partners. This was partly because of the difficulty of capturing Government contributions to this ASC, although Government contributions are still likely to be very meagre. The government should consider expanding social protection support provided through the grant to elderly people over 80 years to include people above 60 years with chronic illnesses such as HIV.

3.4.6 Spending on other programme areas/interventions in Uganda

Figure 16 reveals some patterns and trends of the spending on other program areas that received only small portions of total HIV spending from different financing entities. The other three program areas include social enablers; development synergies; and research, all together accounting for 2% and 3 % of the total HIV spending over the 2 years under assessment.

While the combined expenditure across these three program sectors saw a notable rise of 75% from $10 million in 2019/20 to $18 million in 2020/21, the investment in these programs still constitutes a relatively minor portion of the overall spending. A possible implication of this negligible spending is that the HIV response may not be sufficiently integrated with the broader development agenda and may not address the underlying social and economic determinants of the epidemic.

Figure 16: Expenditure on social protection and economic support, social enablers, development synergies and HIV related research.



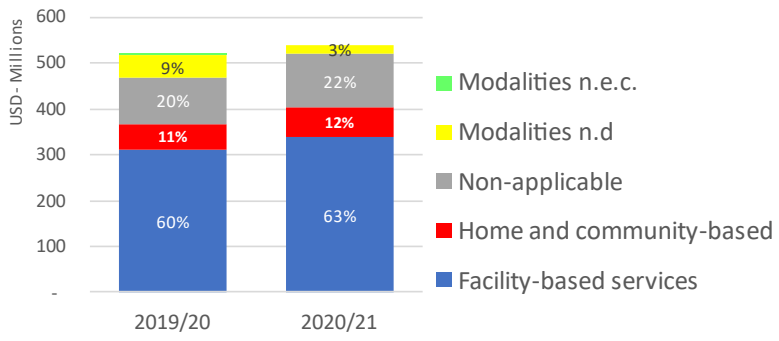
3.2. HIV SERVICE DELIVERY MODALITIES (SDM) IN UGANDA

Figure 17 displays the HIV expenditure by service delivery modality, while Figure 18 displays the service delivery models of the different AIDS spending categories. In both 2019/20 and 2020/21, facility-based services constituted the largest proportion of HIV intervention service delivery modalities, accounting for 60% and 63% respectively. This is not surprising given the high number of PLHIV (1.4 million) and the high expenditure on care and treatment which is largely

provided through facility-based services and to a smaller, but increasing, extent through home and community-based models.

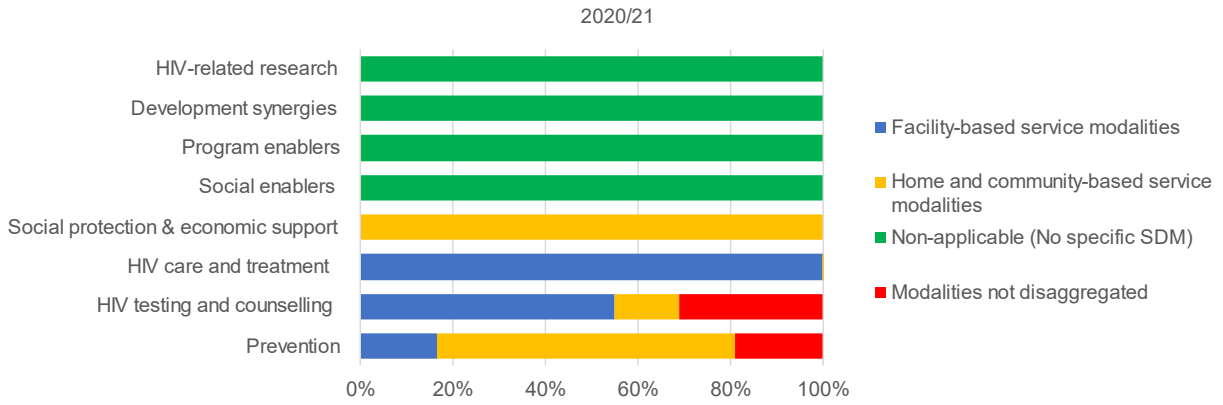
Prevention activities were also largely provided through a combination of facility-based and home and community-based service delivery models. Similarly, some HIV testing services were also provided through facility-based services. Home and community-based services saw a slight increase from 11% to 12% over the same period. The percentage of non-applicable modalities also increased marginally from 20% to 22%, the non-applicable modalities were assigned to all the program enablers, social enablers, development synergies, and research activities. In some cases, we were not able to disaggregate the expenditure by service delivery modality, hence these were coded as SDM not disaggregated, and most VMMC and HTC activities were coded in this category. On the other hand, the NASA SDM categorization does not include some categories such as activities at the workplace, prevention in school, prison, or university, hence these were coded as modalities not elsewhere classified (n.e.c) but made up a very small portion of total HIV expenditure.

Figure 17 : Expenditure by service delivery models (USDm, 2019/20 – 2020/21)



DSD models were introduced in Uganda about five years ago and the JAR report indicates that they have improved access to care and treatment services for some population groups. However, the collected expenditure data lacked detailed disaggregation of care and treatment based on service delivery modalities. Consequently, Figure 18 illustrates that the majority of care and treatment services were predominantly delivered at the facility level.

Figure 18 : AIDS spending categories by service delivery model (2020/21)



3.3. PROVIDERS OF HIV SERVICES IN UGANDA

Figure 19 shows that the public service providers accounted for the largest share of the spending in both years, with 40% in 2019/20 and 43% in 2020/21. Within the public providers' category, public health facilities (hospitals and clinics) received a significant amount of funds, about 37% in 2019/20 and 39% in 2020/21 of the overall spending. The percentage of funding allocated to other public entities (Uganda AIDS Commission, AIDS Control Program, Joint Clinical Research Centre, the ministries, and agencies - MDAs, etc.) stagnated at 18% of the share of funding in both years under assessment. The Ministries and Agencies received funding from the Government of Uganda to conduct workplace activities, while the Uganda AIDS Commission received funding for coordination of HIV/AIDS activities. The Ministry of Health on the other hand receives funding for care and treatment and other HIV clinical services.

International NGOs and foundations were the second largest providers of services, with 31% in 2019/20 and 27% in 2020/21. HIV funding to international NGO providers fell from USD 159.7 million to USD 147.3 million, reflecting an 8% decrease. The decline may be attributed to the PEPFAR pledge to transfer more funding for the HIV response to local organizations[8], which is reflected in the increase in spending by local NGOs (from 15% to 19% of the total HIV spending).

Figure 19: Providers of services for HIV/AIDS (USDm, 2019/20 – 2020/21)

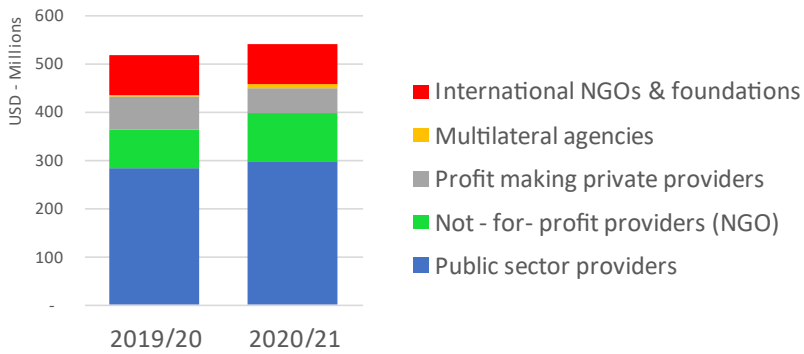


Table 10 : Providers of services for HIV/AIDS (USDm,%, 2019/20 – 2020/21)

Providers of services / USD	2019/20	2020/21	2019/20 %	2020/21 %
Health facilities (public)	191,261,769	209,462,689	37%	39%
Schools and training facilities (public)	50,925,739	50,571,517	10%	9%
Government entities (public)	33,796,252	38,701,007	7%	7%
Research institutions (public)	7,320,966	8,671,673	1%	2%
Non-profit non-faith-based	62,254,490	59,857,969	12%	11%
Profit-making private sector	68,151,126	67,433,832	13%	13%
Hospitals (private)	323,730	186,269	0%	0%
Research institutions (private non-profit	17,624,824	16,512,849	3%	3%
Multilateral agencies	1,992,571	3,228,143	0%	1%
International NGOs and foundations	86,224,835	82,794,178	17%	15%
Grand Total	519,876,302	537,420,126	100%	100%

[8] https://oig.usaid.gov/sites/default/files/2021-12/4-936-22-001-P.pdf

Table 10 shows that the other categories of providers of services had relatively smaller and variable shares of the spending for the providers of services in both years. Some categories, such as profit-making companies, reduced their spending by 26% from 2019/20 to 2020/21, most of the for-profit companies are PEPFAR recipients, providing technical support to MOH and also involved in health system strengthening activities. It was found that the majority of PEPFAR Implementing Partnerships (IPS) utilize local organizations for service delivery. However, we were unable to obtain detailed data categorized by sub-recipients, which would have provided a more comprehensive understanding of the service providers operating in Uganda. Meanwhile, multilaterals as providers of services had minimal spending at 1% or less. Public service providers received funding from private, public, and international financing entities in both years. As public service providers are the main providers in the country, they also deliver the bulk of HIV clinical services in the country. Profit-making providers were exclusively funded by the international financing entities, while the not-for-profit organizations were funded by all three entities but mainly by the international financing entities.

3.4. PRODUCTION FACTORS OF HIV/AIDS SPENDING

Table 11 shows that the recurrent expenditure category accounted for the largest share of HIV spending in both years, with 99% in 2019/20 and 98% in 2020/21. Recurrent expenditure is the spending on the day-to-day operations and running of the programme, such as wages, salaries, rent, utilities, and commodities and supplies. Recurrent expenditure is important for the smooth and efficient functioning of the services provided, as well as for the quality and quantity of the output. On the other hand, Capital expenditure is the spending on the acquisition and improvement of the fixed assets needed for the delivery of services, such as buildings, machinery, equipment, vehicles, and technology. The analysis also shows that the capital expenditure accounted for the smallest share of the spending for the production factors in both years, with 1% and 2% in 2019/2020 and 2020/2021, but increased by 58% from 2019/20 to 2020/21, from USD 7.2 million to USD 10.3 million.

Table 11: Production Factors for HIV/AIDS Services (USDm, 2019/2020 and 2020/2021

Production factors	2019/20	2020/21	2019/20 %	2020/21 %
Recurrent expenditure	510,398,690	528,563,276	99%	98%
Capital expenditure	7,211,565	10,356,851	1%	2%
Grand Total	517,610,255	538,920,126	100%	100%

The detailed production factors for HIV/AIDs services are displayed in Table 12. The major cost drivers for HIV have been medical products and supplies over the years, accounting for 47% of the total HIV expenditure in 2019/2020 and 46% in 2020/21. These include expenditures on ARVs and other pharmaceuticals, laboratory reagents, condoms, and other medical supplies. Uganda has over 1.4 million people on ARVs, hence it is not surprising that the major cost driver under medical supplies is ARVs contributing to 29% (USD 150.3 million) in 2019/20 and 26% (USD 140.6 million) of HIV spending in 2020/21. This reduction in spending on ARVs did not affect the continuity and quality of ART services, and the number of people on ART increased by 5% between the 2 years. It was established that some ARV stocks from the previous year were used in the following year. Sometimes the country purchases more drugs when the prices are favourable. It is also reported that more cost-effective regimens were used and hence the reduction in ARV prices caused some savings.

The other significant cost drivers were personnel costs and contracted external services. In 2018/2019 the personnel cost/ salaries amounted to USD 83 million (16%) in 2029/20 and slightly increased to USD 85 million (16%). Similarly, the contracted services experienced a 28% increase in funding from USD 35 million in 2019/2020 to USD 51 million in 2020/2021, accounting for 7% and 9% of the total costs. The expenditure on current expenditure not disaggregated also accounted for a large share of spending, 10% of the total in each year, this stemmed from the production factors data being aggregated by some organizations.

The first cost driver among the capital expenditures was the other capital investments category, including Laboratory and other medical equipment and non-medical equipment and furniture, accounting for 53% (USD 3.8 million) and 72% (7.2 million) of the overall capital expenditures in 2019/20 and 2020/21 respectively, followed by 1% spent on the buildings amounting to USD 2.9 million and USD 2.8 million.

Figure 20: Production factors for HIV (USDm, %, 2019/20 – 2020/21)

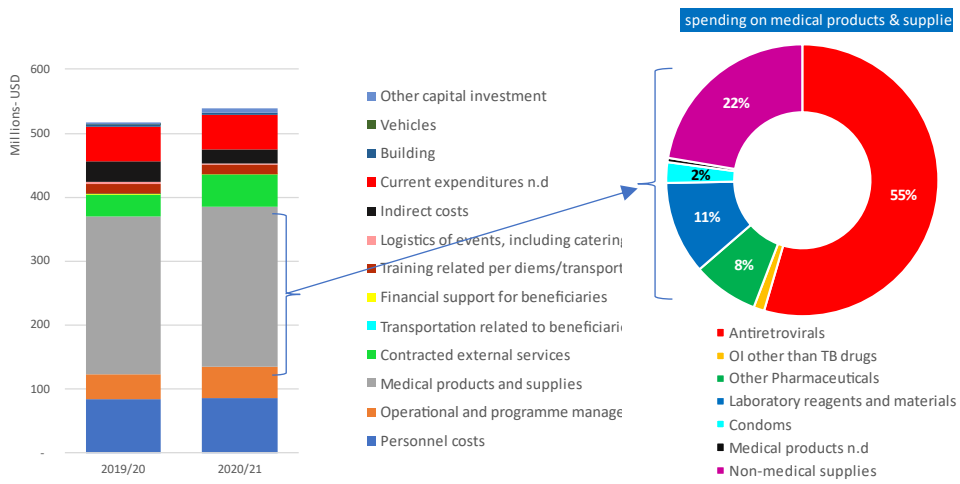
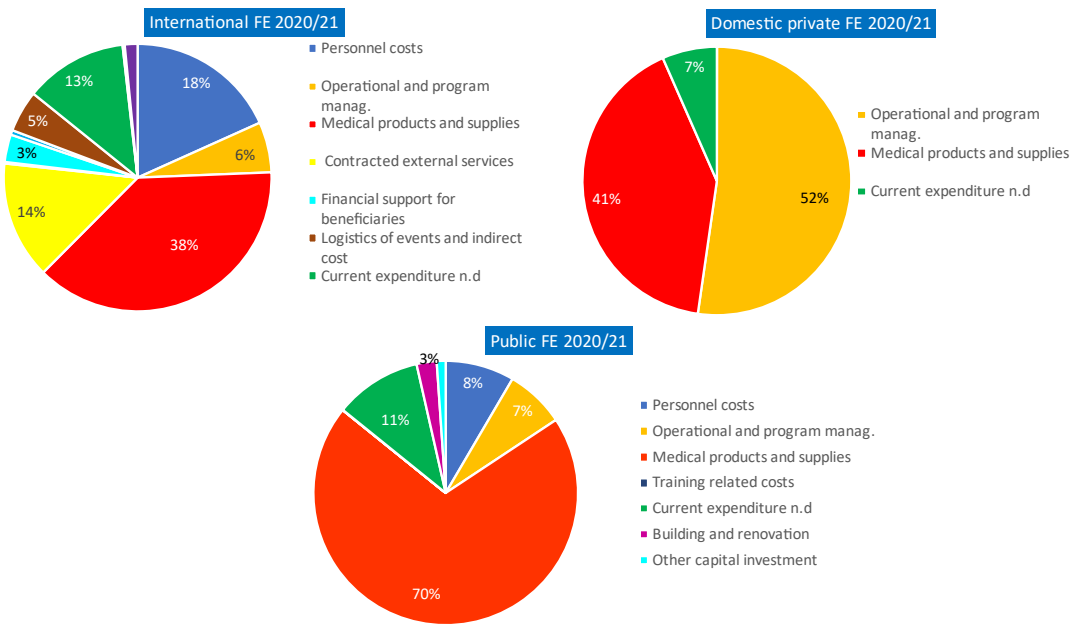


Figure 21 shows the spending on different production factors by financing entities for 2020/2021. The funding from public entities was mainly used for medical supplies and products (70%), personnel (8%), operational costs (7%) and recurrent not disaggregated (11%). The expenditure by the MDA's lacked disaggregated data, making it impossible to determine the specific items that the money was used for. The government pledged to raise the spending on ARVs by 50 million dollars annually, although they have fulfilled this pledge only partially. This explains why medical supplies are the main cost drivers for public entities. The domestic private financing entities, mainly the for-profit companies invested in operational and program management (52%) followed by medical products and supplies (41%). The funding from international financing entities, on the other hand, was spent mostly on medical supplies (38%), 18% on personnel costs, contracted services (14%), operations and program management (6%), logistics (5%) and not disaggregated recurrent costs (13%).

Table 12 : Production factors for cost drivers of HIV spending (USDm, %, 2019/20 – 2020/21)

Production Factors (USD)	2019/20	2020/21	2019/20 %	2020/21 %
Personnel costs	83,481,281	85,249,021	16%	16%
Operational and PM cost	39,920,258	49,326,966	8%	9%
Antiretrovirals	150,385,796	140,681,945	29%	26%
OI other than TB drugs	1,109,752	3,288,059	0%	1%
Other Pharmaceuticals	9,197,115	20,181,008	2%	4%
Laboratory reagents and materials	40,780,471	45,562,105	8%	8%
Condoms	6,513,347	6,333,451	1%	1%
Medical products n.d	439,751	1,311,730	0%	0%
Non-medical supplies	37,157,813	32,582,079	7%	6%
Contracted external services	35,034,994	51,071,015	7%	9%
Transportation related to beneficiaries	9,926	-	0%	0%
Financial support for beneficiaries	1,768,927	787,677	0%	0%
Training- Training related costs	15,259,844	14,445,648	3%	3%
Logistics of events, & catering services	2,607,213	2,447,822	1%	0%
Indirect costs	33,143,135	21,813,158	6%	4%
Current expenditures n.d	53,589,068	53,481,591	10%	10%
Building	2,965,913	2,881,214	1%	1%
Vehicles	406,627	-	0%	0%
Other capital investment	3,839,024	7,475,637	1%	1%
Grand Total	517,610,255	538,920,126	100%	100%

Figure 21 : Production factors by financing entity (%, 2020/2021)



3.5. BENEFICIARIES OF HIV SPENDING IN UGANDA

This analysis provides a useful and informative overview of the spending for the beneficiary populations in Uganda, as well as some trends and patterns in the spending, such as the increase in the people living with HIV category, the decrease in the key populations and general population categories, and the variability of the other categories.

The table shows that the people living with HIV were the main recipients and beneficiaries of the spending in both years of study, with 59% in 2019/20 and 60% in 2020/21, increasing from USD 303.1 million to USD 323.5 million. This picture is consistent with the fact that the number of people living with HIV in Uganda increased from 1.2 million in 2019 to 1.3 million in 2020.

The non-targeted interventions category, which includes the interventions that are not specifically designed or implemented for any of the beneficiary populations, but that may have an indirect or spillover effect on them, such as health system strengthening, development synergies, HIV related-research, and coordination and management, etc., received the second largest share of the spending in 2019/20, with 20% and 22% in 2020/21, increasing by 13%, from USD 102.4 million to USD 116.1 million, This category aims to enhance the capacity and quality of the health system and the HIV response in Uganda, as well as to support the implementation and coordination of the various programs and services for the beneficiary populations.

Figure 22: Beneficiaries of HIV spending in Uganda (USDm, 2019/20- 2020/2021)

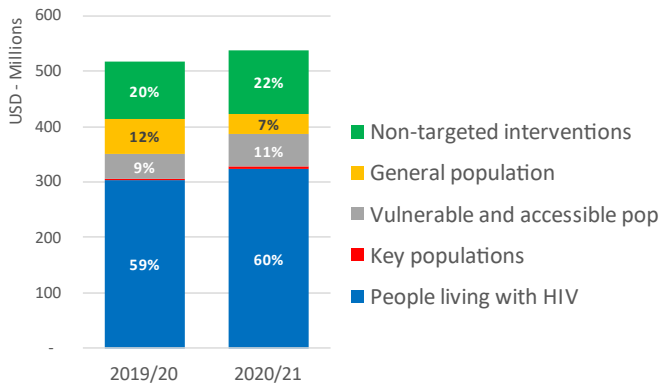


Table 13 shows that the vulnerable and accessible populations category, which includes AGYW, OVC, Children and youth out of school, Junior high/high school students, and Employees (e.g. for workplace interventions) received the third highest priority and the third largest share of the total HIV spending in both years, with 9% in 2019/20 and 12% in 2020/21. In a bid to become more efficient, the country has been targeting specific vulnerable and population groups for activities such as HIV testing rather than targeting the general population. Thus, the share targeted towards vulnerable and accessible populations increased by 31% from USD 48.1 million to USD 62.4 million in 2020/21, while funding targeted towards activities for the general population decreased by 45% from USD 60 million to USD 35 million in 2019/20 and 2020/21 respectively.

The key populations category, which includes categories such as sex workers, men who have sex with men, injecting drug users, prisoners, and transgender, received the lowest priority and the smallest share of total HIV spending in both years, with 1.7% in 2019/20 and 4% in 2020/21, although very small but there was an increase of about 163% in nominal terms, from $1.7 million to $4.6 million, which suggests that the HIV service providers in Uganda faced is picking up HIV prevention and testing services to key populations.

Table 13 : Beneficiaries of HIV spending in Uganda (USD, %, 2019/20 - 2020/21)

Beneficiaries of HIV services	2019/20	2020/21	2019/20 %	2020/21 %
People living with HIV	**303,182,287**	**323,561,817**	**296%**	**279%**
Adult and young people	91,728,664	51,329,345	90%	44%
Children (aged under 15)	5,260,180	14,672,805	5%	13%
PLWHIV n.d	206,193,443	257,559,667	201%	222%
Key populations	**1,768,640**	**4,659,874**	**1.7%**	**4.0%**
Sex workers	11,313	7,027	0.0%	0.0%
Inmates	249,430	-	0.2%	0.0%
Key populations n.d	1,494,936	4,019,718	1.5%	3.5%
Transgender	-	**11,915**	0.0%	0.0%
MSM	12,961	12,179	0.0%	0.0%
PWID	-	609,034	0.0%	0.5%
Vulnerable and accessible pop	**46,984,374**	**58,728,597**	**46%**	**51%**
OVC	17,899,307	16,806,313	17%	14%
Pregnant and breastfeeding HIV-positive women and new borns	1,786,512	1,988,366	2%	2%
AGYW	20,070,095	31,474,067	20%	27%
Children and youth out of school	316,070	-	0.3%	0.0%
Junior high/high school students	466	827	0.0%	0.0%
Employees	126,566	14,895	0.1%	0.0%
Vulnerable and accessible pop n.d	5,810,347	7,614,772	5.7%	6.6%
General population	**975,010**	**829,357**	**1.0%**	**0.7%**
Non-targeted interventions	**63,234,317**	**35,857,888**	**62%**	**31%**
Grand Total	**102,440,632**	**116,111,951**	**100%**	**100%**

The beneficiary populations in Uganda are also supported by various sources and mechanisms of funding, such as government funds, international partners' funds, and private sector contributions. Figure 23 displays how the funding from different financing entities benefitted different beneficiary groups. People living with HIV who were the major beneficiaries received most of their funding from international financing entities, which contributed 76% and 67% of the total spending for the people living with HIV category in 2019/20 and 2020/21. Followed by the public financing entities, which contributed 14% and 13% in 2019/20 and 2020/21, respectively. With some contribution from the domestic private financing entities, which contributed 9% in both years of the total spending for the people living with HIV.

The key populations category received services that were fully funded from the international financing entities, in both years. The vulnerable and accessible populations services received most of their funding from international financing entities, which contributed 86% and 75% of the total spending for the vulnerable and accessible populations category in 2019/20 and 2020/21, respectively. The remaining was contributed by the public financing entities, which accounted for 14% and 12% respectively.

The services targeting the general population were mainly funded by the international financing entities, with 95% and 74% in 2019/20 and 2020/21, respectively, while the public financing entities contributed the remaining 5% and 8%. Finally, the non-targeted interventions received most of their funding from international financing entities, which contributed 88% and 93%, while 12% and 10% came from public financing entities and 0.1% from the domestic private financing entities in both years under assessment.

Figure 23: Expenditure on beneficiary population by financing entity (USDm, 2019/2020 – 2020/2021)

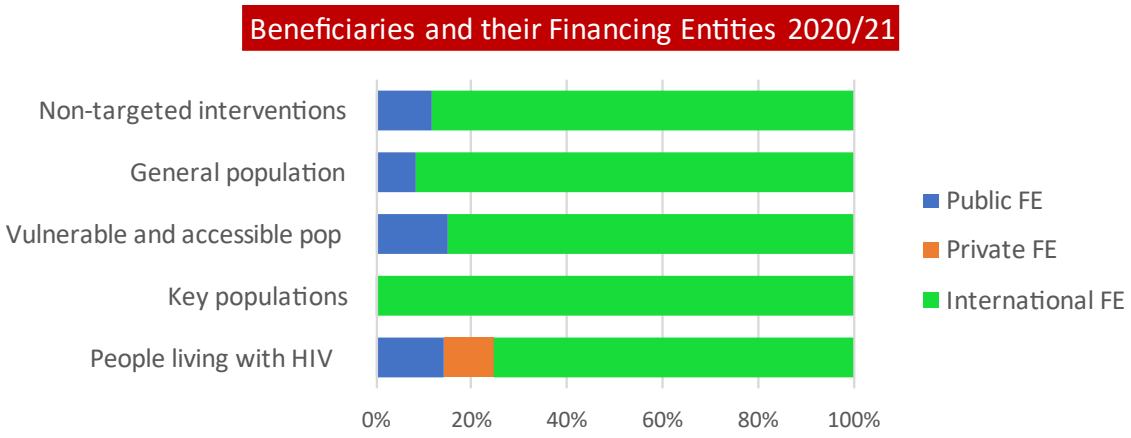
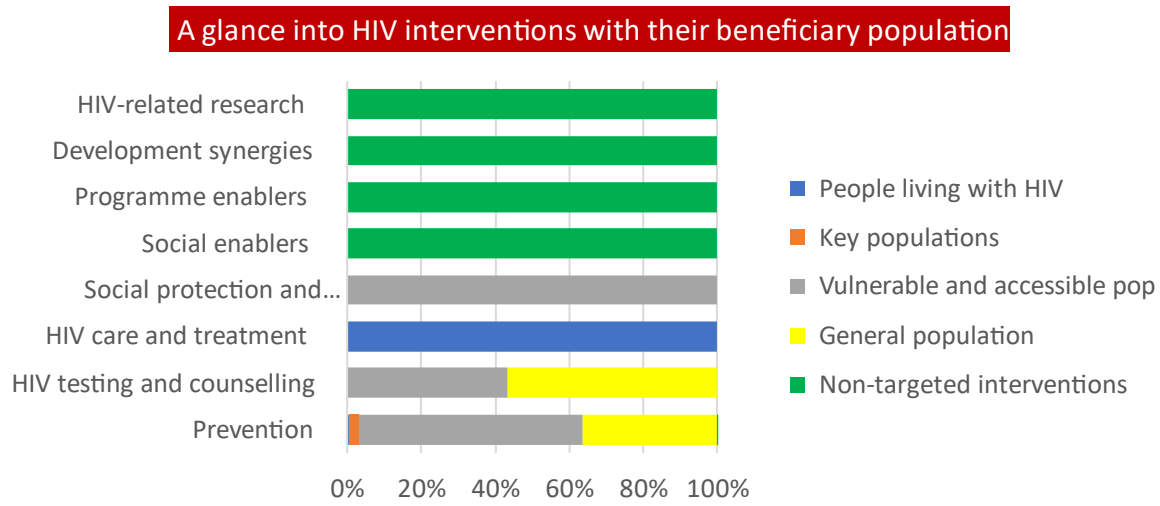


Figure 24: Beneficiaries in Uganda disaggregated by AIDS spending categories, 2020/21



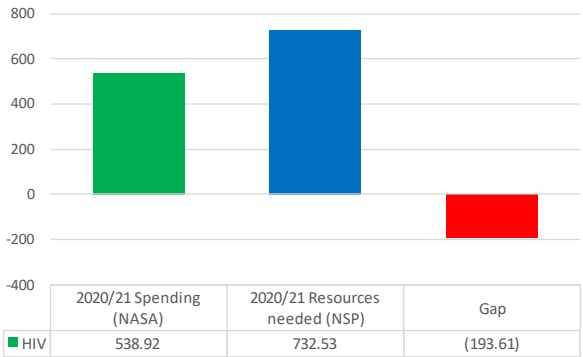
4. COMPARISON OF SPENDING VERSUS ESTIMATED COSTS OF THE NSP

4.1 ADEQUACY AND PRIORITIZATION OF PAST HIV EXPENDITURE

This analysis compares the estimated resources in the National Strategic Plan (NSP) for the fiscal year 2020/21, against the actual spending recorded in NASA for the same year. The goal is to assess the alignment of financing allocation to HIV interventions with the priorities outlined in the NSP. This analysis also provides a comparison of interventions for which estimated costs and expenditure data were available and comparable for the financial year 2020/21. The results show how well the allocation of financing to HIV conformed to the priorities defined in the NSP, if accurately and comprehensively costed.

The current National Strategic Plan (NSP) spans from 2020/21 to 2024/25, projecting an estimated implementation cost of USD 732.5 million for the initial year, 2020/21. According to the National AIDS Spending Assessment (NASA), HIV expenditure in the same period amounted to USD 538.9 million, suggesting a potential financing gap of USD 193.6 million, equivalent to 26%. This raises concerns regarding the adequacy of resources allocated for HIV interventions. However, definitive conclusions regarding the existence of funding gaps cannot be drawn until a thorough examination of the methods and assumptions utilized in the NSP costing is conducted, including whether the cost estimates align with the expenditure data. Further scrutiny into these estimates is warranted to ascertain the accuracy of the findings.

Figure 25: Comparison of HIV spending with estimated NSP costs (2020/21, USD million



	2020/21 Spending (NASA)	2020/21 Resources needed (NSP)	Gap
HIV	538.92	732.53	(193.61)

Figure 26 shows the comparison between the 2020/21 HIV spending by program areas and their estimated cost according to the NSP. A critical examination reveals potential gaps in funding, particularly in HTC, Treatment, Prevention, and social protection and OVC programs. While NASA's spending on HTC was USD 16.6 million, it fell short of the NSP's estimated need of USD 21.7 million, representing a possible deficit of USD 5 million (23.4%). This might indicate a lack of adequate resources for testing services, or, as mentioned earlier, the testing services were badly affected during the COVID-19 years, causing the spending to be less than had been anticipated. It could also reflect the change from universal targeting to the targeting of high-risk groups. Additionally, the following section on technical efficiencies found that the unit of expenditure dropped between the two years, probably due to technical efficiency gains, implying that the NSP cost estimates were over-estimated. These should be adjusted accordingly, especially to accommodate reduced test kit prices and self-testing efficiencies.

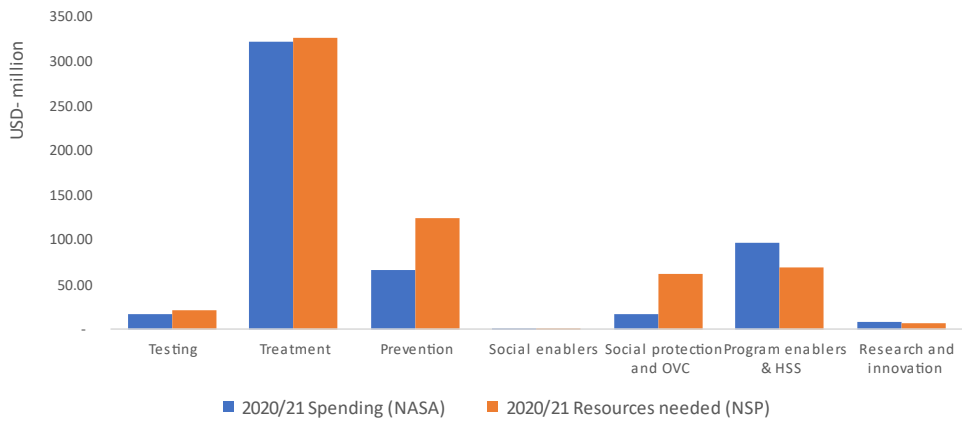
Care and treatment spending was closely aligned with the estimated NSP needed resources, with a slight shortfall of expenditure at USD323 million against NSP's requirement of USD327 million (1.2% less). Uganda has recently implemented strategies such as pooled procurement, cost-effective ARV regimens as well as optimised differentiated

ART delivery modalities, all of which could have achieved some savings when compared with the estimated ART resource need.

The most alarming deficit was observed in Prevention where NASA found spending of USD 66 million against an NSP estimate of USD 124.8 million, resulting in a USD 58.8 million gap (47%) – Refer to Figure 29 which explores specific interventions and shows a supposed gap for condoms. This could imply that prevention programs were severely underfunded in 2020/21 which could pose a threat to the goal of reducing new infections, and achieving epidemic control, and thus could potentially lead to an increase in HIV infections. Similarly, Social protection expenditures amounted to USD 17 million, reflecting a deficit of approximately USD 44 million (73%) compared to the estimated cost outlined in the National Strategic Plan (NSP), which stood at USD 62 million. However, it is also important to note that NASA might not have fully captured all expenditures on social protection given the diverse nature of social protection activities in the country. Insufficient funding for social protection initiatives could exacerbate socio-economic disparities, increase vulnerability to HIV/AIDS, and impede progress towards achieving the goals outlined in the NSP, including mitigating the socio-economic impact of the epidemic. Similarly, Program Enablers & HSS and Research and Innovation also saw possible surpluses of USD28.7 million (41%) and USD1.8 million (26%) respectively, but these are particularly difficult to cost and the NSP estimates might have been low.

The possible misalignment between NSP resource needs and actual expenditures across these program areas calls for rigorous evaluation to understand underlying issues, be it overestimation of required funds or implementation bottlenecks that prevent optimal fund utilization. A deeper dive into specific interventions below provides further insight into potential vulnerabilities in the HIV response.

Figure 26 : Comparison of HIV spending with estimated NSP costs (2020/21, USD million)



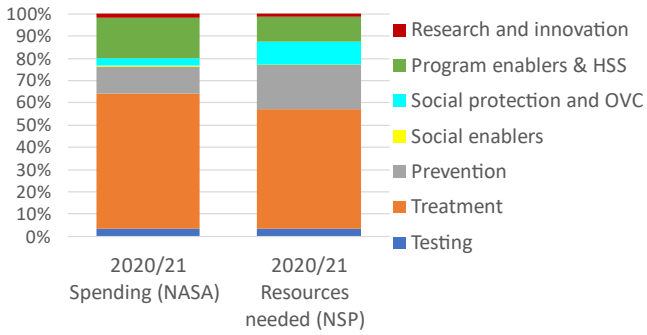
Sources: NSP costing (2020/21), NASA (2020/21)

Looking at the proportional composition of spending in Uganda relative to the proportional resource required for the NSP is an indication of prioritisation - Figure 28 shows that care and treatment and HTC were proportionally in line with the 2021 NSP estimated proportional costs

The distribution and utilization of resources allocated to prevention and social protection have not aligned with the priority assigned to these program areas in the NSP. This discrepancy suggests a possible de-prioritization in resource allocation to the NSP objectives of reducing infections and mitigating their impact. This high-level comparison of program areas' estimated resource prioritization in the NSP and their actual implementation expenditure shows some alignment of priorities, but optimal allocative efficiency is not quite achieved. This may call for reallocation of funding towards

prevention and social mitigation efforts, which may be challenging within the context of increasing demand for access to treatment.

Figure 27: Proportional NSP cost estimates versus expenditure (2020/21, %)

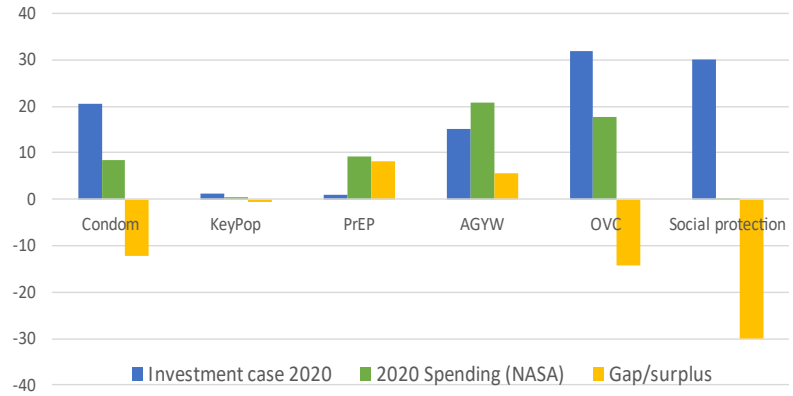


Sources: NSP costing (2020/21), NASA (2020/21)

Due to the lack of disaggregation of intervention costs in the NSP, Figures 29 and 30 below compare the projection from the HIV investment case (2021) and the actual spending from NASA 2020/21 on some interventions that were easily comparable between the two studies. Figure 29 indicates the estimated investment needed, actual spending, and the resulting gap or surplus for a few HIV interventions in 2020. The comparison reveals disparities between the planned investment and actual spending.

Key populations received only 43% of the planned investment of $1.13 million, resulting in a potential gap of $0.65 million. Condom provision seemed to have faced a shortfall of 59%, with an expenditure of $8.39 million against the anticipated $20.5 million, leaving a possible gap of $12.11 million. Despite this, the number of condoms purchased increased by 21% between the two years and the unit of expenditure per condom reduced slightly, implying some economies of scale. The Investment Case condom costing might have assumed higher usage rates and could have included demand creation activities which might not have been separated in the NASA expenditures, as these are usually part of comprehensive prevention packages. On the other hand, Pre-Exposure Prophylaxis and AGYW (Adolescent Girls and Young Women) interventions appear to have been overspent. However, the estimated cost of PrEP appears to be very low, hence the assumptions, targets, and prices used in the investment case must be examined to explain this. OVC was underfunded by 44%, with only $17.8 million spent out of the expected $32 million estimated to be needed.

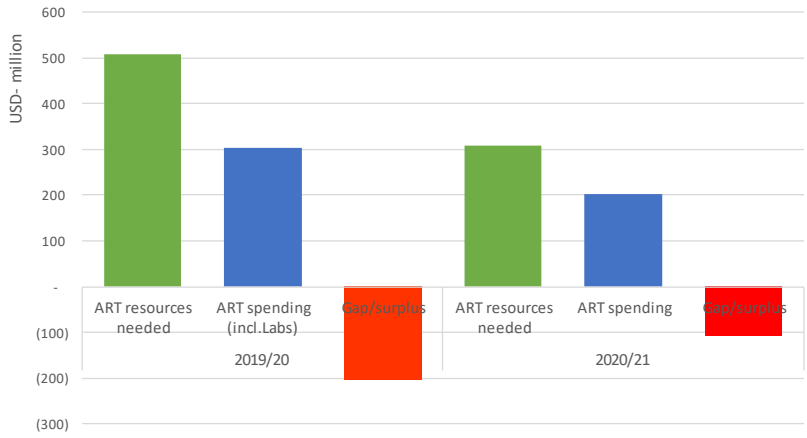
Figure 28: Comparison of HIV spending with estimated investment case costs – excluding ART (2020/21, USD million)



Sources: HIV Investment Case (2020), NASA (2020/21)

Figure 30 compares the projected and actual expenditures on Antiretroviral Therapy (ART) for 2019/20 to 2020/21. The Annual Joint AIDS Review (JAR) report suggested that Uganda has made significant progress in scaling up antiretroviral treatment (ART) for people living with HIV in 2020/21. The comparison appears to indicate that spending on ART was less than estimated by the Investment case in each year. However, the JAR report shows that Uganda has almost reached the second UNAIDS 95 target, which calls for at least 95% of all people living with HIV to be on ART in 2020/21, the JAR report shows, that 94% of adults living with HIV who were aware of their status were on ART, meaning that Uganda had met this target well in advance of 2025. This is a remarkable achievement that reflects the effectiveness and coverage of ART programs in Uganda, and that savings were made through reduced ARV prices and possibly through differentiated service delivery models. The following section on technical efficiencies reveals that the ART unit of expenditure was 33% less than the ART unit cost used in the Investment Case estimates – explaining the reduced spending and efficiencies gained. The JAR report also provides data on the viral load suppression (VLS) rate among people living with HIV who were on ART, which is the third UNAIDS 95 target and an important indicator of the quality and impact of ART. The VLS rate among adults living with HIV who were on ART was 92%, which is close but still below the target of 95%. Therefore, more efforts are needed to improve adherence and retention among people on ART and to monitor and manage treatment failure and drug resistance.

Figure 29: HIV Investment case ART costs and realised expenditure (2017/18- 2020/21, USD million)



Sources: HIV Investment Case (2020), NASA (2020/21)

4.2 TECHNICAL EFFICIENCY OF HIV SPENDING IN UGANDA

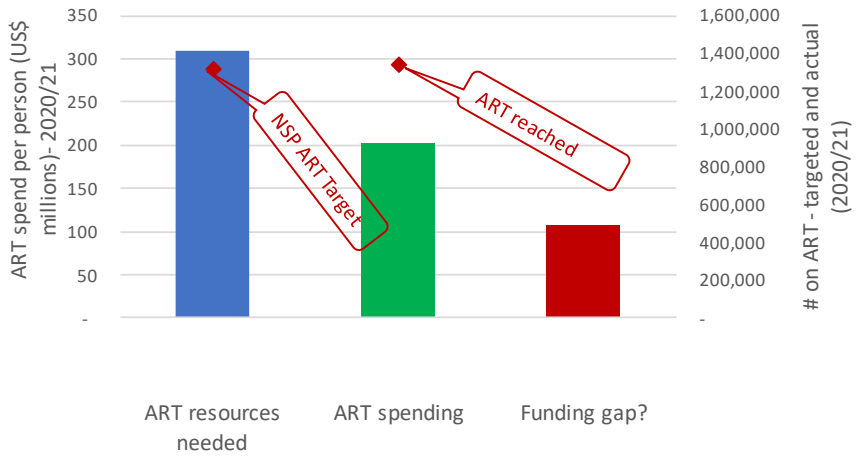
This section will attempt to give some insights into the technical efficiency of HIV spending in Uganda. The availability of data makes it possible to analyse only a few units of expenditure on specific HIV interventions such as ART, HTS, and condoms with their performance indicator achievement in 2020/21, without conducting full efficiency analyses. This will give some indication of any inefficiencies or efficiencies achieved with these interventions, which would then require a deeper examination. In addition, the section will also compare the programme performance with the NSP targets for 2020/21.

ART programme

The analysis reveals the changes in the unit of expenditure per ART patient in the two years, decreasing from US$181 per person on ART in 2019/20 to US$155 in 2020/21, a 14% reduction, and much lower than the estimated Investment case cost of $230. In this period, the number of people on ART also grew by 5% from 1.241 million in

2019/20 to 1.303 in 2020/21, and the NSP target number was nearly reached. The decrease in unit of expenditure per ART patient with the growth in the number of people on ART illustrates the adoption of more efficient differentiated service delivery modalities, multi-month scripting, reducing ARV unit prices, possible economies of scale, and other cost-effective strategies, improving the quality and coverage of ART services, as more people can access and benefit from ART with the same or less resources. These have important implications for planning for the sustainability of the treatment program going forward, and the country can examine the reasons for these findings in more detail, to ascertain what additional savings could be made.

Figure 30 Uganda spending per person on ART per annum (USD), and numbers on treatment (2020/21)



HIV testing services (HTS)

The JAR reported a variation in the number of HIV tests performed in each year of the NASA assessment (16% decrease in 2019/20 and then further reductions to nearly 6 million tests in 2021/22). This could indicate a decline in the demand or supply of HIV testing services, or both, in these years. A probable factor that could have contributed to this decline was the COVID-19 pandemic, which might have disrupted the availability and accessibility of HIV testing services, as well as the willingness and ability of people to seek testing, due to lockdowns, travel restrictions, fear of infection, or competing health priorities. Another possible factor is the strategic policy shift from universal testing to targeted testing mainly among at-risk populations.

The expenditure per test performed decreased from $4.63 in 2019/20 to $2.76 in 2020/21, a 40.4% reduction. This was mostly driven by a reduction in the personnel costs per test from $0.72 to $0.27, a 62.5% reduction. Some possible factors that could have contributed to this decrease are the adoption of more efficient strategies for HIV testing, such as using rapid diagnostic tests, self-testing kits, or community-based testing services, which could have reduced the unit of expenditure, despite the reduced number of tests performed. Such potential savings should be further explored and optimised, in scaling up testing to reach the first 95 target.

Condoms

In this analysis, the expenditure on condoms is not disaggregated by male or female condoms (the latter being more expensive), and therefore the unit of expenditure is a weighted average unit of expenditure across the male and female condoms, which has declined by 19% from $0.06 in 2019/20 to $0.05 in 2020/21. Importantly, the number of condoms distributed increased by 21%, from 150.4 million in 2019/20 to reach 182.4 million in 2020/21, hence

some economies of scale might have been achieved. The major cost drivers of the condom program were the commodities, with little to other recurrent costs. This implies that the spending efficiency of the condom program in Uganda has improved in 2020/21, as the unit of expenditure per condom distributed has decreased while the number of condoms distributed has increased. The country should continue to expand the condom program as an effective and relatively cheap prevention intervention, and add efforts to increase the demand, as was estimated as needed in the NSP targets and costing.

Given the global context of competing priorities, and shifting foci of international development partners, the issue of sustaining the HIV response so as not to lose the gains made has become forefront. Uganda has achieved some important efficiency gains in key programs and these savings can be redirected accordingly to allow further expansion of HIV service delivery. These findings can inform sustainability planning and give insights into where further savings could be explored and where more impactful reallocation of resources might be required.

5. CONCLUSIONS AND RECOMMENDATIONS

NASA indicates that the spending for the HIV response in Uganda increased by 3% from 2019/20 to 2020/21, from USD 517.6 million to USD 538.9 million, however when compared to the funding in 2017/2018 and 2018/2019 this reflects a declining trend in funding for the HIV response. The bilateral financing entities remained the main sources of funding for the HIV response in Uganda, they accounted for the largest share of the spending for the HIV response in both years, with 69% in 2019/20 and 65% in 2020/21. Followed by public financing entities at 12.9% and 13.3% in 2019/2020 and 2020/21. This implies that funding for HIV/ AIDS is still highly donor-dependent and unsustainable.

Financing agents/purchasers

HIV funding was mainly managed by financing agents from international organizations, followed by financing agents from the public sector. There was a slight decline in funds handled by international entities from 70% to 67% and similarly a slight increase in the percentage share of funds managed by the public sector from 23% to 26%. This may be partly linked to the push by the US Government and other donors to have more local entities take the lead in managing funds. These changes imply a slight shift in decision-making power with a mild increase in the decision space for public entities.

Expenditure on Aids Spending Categories

HIV prevention funding remains inadequate, mostly funded by international partners, with notable reductions in spending on voluntary medical male circumcision (VMMC) and key population interventions. Expenditure on HIV testing services decreased by 41%, partly due to COVID-19 disruptions. The largest share of funds is allocated to care and treatment, particularly antiretroviral therapy (ART), where there appears to have been some important efficiency gains made. Program enablers and systems strengthening saw a 7% increase, yet community systems strengthening remains underfunded. Spending on social enablers and development synergies is minimal, highlighting the need for cross-sectoral collaboration to address HIV determinants. Funding for people living with HIV (PLWHV) shows an upward trend, underscoring the importance of sustaining treatment while augmenting prevention efforts. Funding of key populations such as FSW, MSM and transgenders has been limited by the enactment of the AHA bill that criminalizes these activities and makes it harder to provide services and funding to them.

Recommendations

Sustainable funding for the HIV response

Funding for HIV/AIDS in Uganda is still highly donor-dependent and unsustainable therefore UAC needs to work with Government and other development partners to implement the resource mobilization strategy for HIV/AIDS. Particular attention should be paid to:

- Diversifying public funding options for HIV by considering innovative strategies such as the use of Government bonds revenue from oil, and revenue from taxing airline tickets.
- Expanding approaches for raising funds from local domestic enterprises by revamping approaches such as the one-dollar approach. The contribution of domestic co-operations to the HIV response over time has fallen and yet they contributed significantly to the response in the beginning.

- Investing in the resources (Human and financial) required to implement the resource mobilization strategy.
- Strengthening the use of mainstreamed funds allocated for HIV by the MDAs.
- Funding from other sectors and other programs should also be harnessed by promoting integrated delivery of HIV services at the facility level (promoting surveillance for HIV among patients with STDs, management of NCD's, medical male circumcision) and community level (Social and behaviour change communication, prevention of stigma and discrimination, violence prevention and poverty reduction and support to OVCs). Funding for the social enablers could be channelled through Government-wide programs.
- Harnessing existing opportunities to raise funds from multilateral entities and international for-profit entities which are still depicting a rising trend in funding.
- Domestic contributions can also be enhanced through contributions from households through health insurance.

Achieving allocative efficiency

The NASA report noted that several actions have been implemented to promote the efficient use of funds. These include actions such as pooled procurement, optimization of ART regimens, targeted testing, rationalization of Partners and differentiated service delivery. Further efficiencies can be achieved by improving allocative efficiency as listed below.

- Significant funding decisions ought to be managed by public financing agents and purchasers. Collaboration between the Government and development partners is crucial to align programmatic decision-making and ensure the harmonization of funds utilization, effectively allocating resources to address local priorities outlined in the NSP and NASA. This effort should coincide with the identification of local priorities through mapping exercises and engagement at the subnational level.
- The JAR for 2022/23 indicated that new HIV infection cases have stagnated and there is a declining performance on behavioural and structural indicators. UAC and partners should bolster efforts to ensure that the high-impact prevention interventions identified in the NSP are implemented by allocating adequate funds to these programs where funding gaps have been identified. The priority programs include condom use for high-risk sex, targeted HIV testing services, HIV treatment for prevention purposes, VMMC, EMTCT and PrEP.
- A recent report by the Uganda Ministry of Health[9] shows a significant reduction in the rates of mother-to-child transmission of HIV in the country from over 20 percent in 2000 to 2.8 percent in 2021. The overall mother-to-child transmission rate at 18 months post-partum was 2.8 percent, which is below the national goal of 5 percent. Infants born to younger mothers had higher rates of HIV infection, with 3.7 percent of infants of mothers aged 15–24 having HIV compared to 1.4 percent among those born to mothers 25 years and older. The GoU and partners in HIV response should therefore pay more attention to strengthening the PMTCT program to reduce defaulting and to promote the recommended behavioural practices. Women defaulting from ART contributed to 46% of the HIV infections transmitted vertically.
- It is essential to prioritize funding allocation to address the needs of key populations and those at high risk of getting HIV including women who work in the entertainment industry establishments such as bars and lodges.

[9] https://www.health.go.ug/2022/05/31/uganda-records-significant-drop-in-mother-to-child-hiv-infections/

Furthermore, the MoH in collaboration with its partners, should ensure that implementation of the AHA bill does not compromise care and allocation of funding for key populations. Similarly, increased funding should be directed towards HTS for inmates of correctional facilities, given their limited funding in the 2020/2021 period.

The contribution of the Government to the HIV response

Public entities need to increase the amount of funding allocated for development synergies, social enablers, social protection, and economic support since these areas were almost entirely funded by international partners with minimal contributions from the public entities. Societal enablers, development synergies, and HIV-related research are three key components of the HIV response that aim to address the structural barriers and drivers of the epidemic, as well as to generate new evidence and innovations for improved outcomes. Therefore, it is imperative that the global community, including governments, donors, civil society, academia, and the private sector, recognize the value and importance of these components, and allocate adequate and consistent resources and support to them, in order to achieve the global goals of ending AIDS as a public health threat by 2030.

Expanding HIV-Related Research

Research institutions ought to broaden their HIV research scope to encompass evaluations of the sufficiency of funding directed towards social protection and economic support for vulnerable populations beyond those living with HIV, but rather affected by HIV such as individuals with disabilities or elderly populations. Additionally, investigating the impact of the AHA bill on service accessibility and funding allocation for key populations is crucial. Furthermore, research endeavours should delve into understanding the underlying factors driving the persistent decline in safe behavioral practices crucial for HIV prevention, along with the suboptimal uptake of voluntary medical male circumcision (VMMC).

Measuring Public Sector Spending on HIV

NASA faced limitations due to insufficient data on how the public sector allocates resources for specific HIV interventions, especially where these are effectively integrated into the general primary health services. Consequently, it is crucial for NASA teams to develop and apply effective methodologies to estimate shared public sector expenditures across different AIDS Spending Categories (ASCs). Additionally, the government should enhance its capacity and reporting mechanisms to track financial commitments related to the HIV response.

Institutionalization of the NASA

During this period, significant progress was made in institutionalizing NASA by utilizing the FEMS tool and primarily engaging staff from the MAKSPH and UAC. These efforts should be further reinforced by continuing to collect NASA data for the fiscal years 2021/2022 and 2022/2023 using the FEMs tool. This approach will facilitate the timely and regular collection of financial information related to NASA. Additionally, the Directorate responsible for resource tracking at the UAC should establish a consistent team of supervisors and data collectors to ensure effective NASA data collection, thereby enhancing the local team's capacity to conduct these assessments.

The UAC, MoH, and partners should streamline the information required for the NASA and the National health accounts to enable Organizations that provide HIV/AIDS and other health services to record their HIV expenditure in a standard format that can allow their financial and program data to be captured more accurately for the NASA and National health accounts.

UAC should put in place a national system for the routine submission of the financial and programmatic data required for NASA. This will promote the timely and routine collection of the financial information required for NASA.

The FEMS tool necessitates further enhancement to facilitate the integration of financial data from other extensive datasets. This expansion will allow the tool to incorporate financial information from expenditure reports sourced from the Global Fund and PEPFAR.

The Ministry of Health (MoH) should collaborate with research institutions to undertake regular studies, preferably every five years, aimed at capturing government expenditure related to HIV within the Ugandan health system. Additionally, the Uganda AIDS Commission (UAC) should advocate for the inclusion of household expenditure on HIV/AIDS in national surveys conducted by entities like the Uganda Bureau of Statistics (UBOS) and other implementing partners, such as the National HIV Prevalence Survey, the Uganda National Household Survey, and the Uganda Demographic and Health Survey (UDHS). This integration will obviate the necessity for separate household surveys during the National AIDS Spending Assessment.

APPENDIX

ESTIMATIONS AND ASSUMPTIONS

1. Estimation of Out-of-Pocket Payment for HIV

The methodology employed in the 2020 survey on out-of-pocket payments.

Sampling approach

The data collection involved utilizing a simple exit-interview questionnaire due to constraints in time and budget, which precluded household visits. Instead, the sampling frame consisted of clients accessing HIV/AIDS-related services at health facilities. Accredited health facilities providing Antiretroviral Therapy (ART) served as primary sampling units (PSUs), with respondents purposively selected from these facilities, averaging 32 interviews per facility. Sampling coverage was achieved through two-stage stratification and purposive sampling methods, involving 15 HIV sub-regions and selecting one district with the highest HIV prevalence per region. Within each selected district, three health facilities of different ownership types were chosen, and respondents were interviewed after obtaining their consent. Cochran's formula was employed to estimate the sample size, which was slightly reduced based on available resources and research objectives. Data was collected from a total of 2001 PLWHIV.

Data collection

Data collected focused on direct out-of-pocket expenditures from individuals aged 18 and above diagnosed HIV positive and receiving ART services. This included expenses such as consultation fees, laboratory tests, medications, transport, and lost income during medical care seeking, with additional information gathered on the number of visits made and inpatient admissions. Key informant questionnaires were administered to healthcare providers for triangulation of expenditure data.

Estimation of patient costs

To estimate total direct outpatient annual expenses for each PLWHIV on ARV, the cost per outpatient visit was multiplied by the estimated annual count of HIV-related outpatient visits. It was assumed that the pattern of utilization for outpatients for the two years of assessment were the same as the pattern of utilization at the time of the survey. The cost per outpatient visit was derived from a 2020 household survey among PLWHIV. An adjustment was applied to account for inflation. Annual facility visit estimates were derived from the biannual visits for drug refills, assuming a consistent pattern for the remainder of the year. To establish the total estimated cost for outpatient visits for PLWHIV on ARVs in Uganda, the average annual cost per PLWHIV on ARV was multiplied by the overall count of PLWHIV in Uganda receiving ARV treatment.

The total direct annual inpatient costs for PLHIV on ART was estimated by multiplying the cost per inpatient visit by the annual number of inpatient visits. The cost per inpatient visit was gathered from a household survey conducted in 2020 among PLWHIV. The total estimated cost for inpatient visits for all PLWHIV on ARVs in Uganda was then determined. This calculation was based on the average annual cost for inpatient visits for the surveyed respondents.

It was assumed that the pattern of utilization of inpatient services for the two years of assessment were the same as the pattern of utilization at the time of the survey.

Estimation of productivity losses for both outpatient and inpatient visits

The productivity losses for outpatient and inpatient visits, per patient on antiretroviral therapy (ARV), were estimated by multiplying the income earned per minute by the time lost during each outpatient and inpatient visit. The income per minute was derived from the reported daily expenditure. Usually, NASA does not include such opportunity costs for which there was no monetary nor non-monetary transaction. However, UAC decided to keep these in. They represent a small portion of the household OOP payments.

2. Estimation of the human resources for HIV and utility costs incurred by the Government of Uganda

The Government of Uganda's expenditure on human resources for health, utilities, and other related overheads, including building and equipment costs for HIV/AIDS services, was determined through a comprehensive cost analysis outlined in Muheki (2019). The cost analysis was done to compute the **total health systems (HSS) costs** that GOU incurs at the sub-national level for HIV/AIDS. An ingredients approach was used, which involved identifying resource inputs for HIV/AIDS, quantifying the inputs, and valuing the inputs. The cost estimations only focused on resources that are directly paid for by GOU, with a focus on human resources for HIV/AIDS services, the annualized cost of equipment and furniture used for providing HIV/AIDS services, the value of space utilized for providing HIV/AIDS services, and utilities and overheads. All capital costs were discounted at 3% and took into consideration the assets' useful life. Although NASA does not typically include the costs for capital items that were procured outside the study years, the Country team preferred that these costs be included to reflect the full contribution of the GOU.

Updated figures for human resource expenses were calculated to align with the staffing levels and salary structures for the year 2020. The time allocation for delivering HIV/AIDS services per professional level was derived from a recent Time-Driven Activity-Based Costing (TDABC) study conducted in Uganda during the 2020/2021 period. While the overhead and utility costs from the Muheki study served as the basis, adjustments were made to accommodate inflation rates and to reflect prices in 2019 and 2020. Table 1 below summarizes the quantification method, the cost estimation, and valuation methods that were applied (Muheki (2019

Table 1: Cost categorization, quantification, and valuation method

	Quantification method (Q)	***Valuation technique (P)***	***Cost Estimation***
Resource Input			
Salaried Labour	Cost analysis, based on data collected from a sample of health facilities through a time based activity costing study conducted by UHSS in 31 health facilities. All staff directly involved in HIV/AIDS service provision were identified . Total time taken to provide HIV/AIDS related services was obtained through direct interviews with health	The reported percentage of level of effort on HIV/AIDS was multiplied with the monthly gross salary paid by the employer (GOU/MOH).	% of time spent on HIV X monthly salary X 12 (to get annual salary allocated to HIV) Total annual salaries of all staff involved in HIV/AIDS service provision. Salaries were obtained from Ministry of Public Service[6] for the different cadres. The costs were then scaled up to National level based on the filled posts for

	workers involved in providing HIV/AIDS services at health facilities. They were asked to estimate the proportion (%) of their working time spent on HIV/AIDS activities over the period of a week.		different cadres, and the proportion of personnel who provide HIV/AIDS services. An adjustment was made for inflation to reflect prices in 2019/2020 and 2020/2021.
Equipment and Furniture	Cost analysis, based on data collected from a sample of health facilities. Then scale up to national level.	The valuation of equipment and furniture was based on replacement prices from	Replacement cost of each item X annualization factor at 3% discount rate (which gives the annual cost of that item).
	List of all furniture and equipment used in HIV/AIDS service provision. This was developed through key informant interviews (KIIs) Quantities of equipment and furniture were obtained through KIIs. The % of use of furniture and equipment for HIV/AIDS was obtained through KIIs.	private sector sources (retail shops). These prices were adjusted to include freight and in-country transportation to health facilities.	The estimates were then scaled up to national level. An adjustment was made for inflation to reflect prices in 2019/2020 and 2020/2021.
Buildings	Cost analysis, based on data collected from a sample of health facilities. Then scale up to national level. We physically measured (in meters squared) the size of all the rooms where HIV/AIDS services are given.	A square meter was valued at UGX 61,240 (discounted and annualized). Cost per square meter obtained from Ministry of Health.	Cost per square meter (of building a new facility) X annualization factor at 3% discount rate (which gives the annual cost of space measured as being utilized for HIV/AIDS services). The estimates were then scaled up to national level. An adjustment was made for inflation to reflect prices in 2019/2020 and 2020/2021.
Utilities and overheads	Estimation based on actual GOU expenditure on PHC non-wage grant to health facilities. An attribution factor for HIV/AIDS was estimated and applied to total Primary Health Care non-wage (PHC non-wage) to estimate the proportion of expenditure on utilities and overheads that is attributable to HIV/AIDS. The attribution factor was based on the total annual HIV/AIDS cases[7] as a proportion of all other cases (outpatient + inpatient).	The attribution factor was applied to the total PHC Non-Wage (for the whole country). Data on the total PHC non-wage were obtained from MOH[8] and verified by Ministry of Finance[9].	Utilities and overheads for HIV/AIDS = (Total Annual HIV/AIDS cases / Total ALL Other Cases for all diseases) X Annual PHC Non-Wage Using the method described, the attribution factor for HIV/AIDS was found to be 14% in 2017/18. An adjustment was made for inflation to reflect prices in 2019/2020 and 2020/2021.

NASA PREPARATORY ACTIVITIES

The planning phase comprised of the following key activities:

- **Awareness raising.**

Awareness raising with key national HIV response stakeholders was undertaken. This included government ministries, cooperating partners, private sector, NGOs and civil society – the objective was to sensitize stakeholders about the upcoming NASA, and get their buy-in, active participation and support to the NASA activities. This was done by UAC and UNAIDS.

- **Enacting the oversight structures.**

Two main structures were responsible for providing oversight while NASA was being conducted. These include the steering committee and the NASA technical working group (TWG). The steering committee is comprised of 12 members of line governmental institutions, private sector, civil society organizations and cooperating partners. Their main role was to provide guidance and oversight of the activity as well as mobilize partners to create demand and support the NASA Resource Tracking Team for data collection. These committees were established and led by the UAC. The NASA technical working group (TWG) comprised of 10 members from UAC, line government ministries, civil society, HIV implementing partners, and AIDS Development Partners (ADPs).

- **Mapping of HIV/AIDS Actors.**

MakSPH and UAC undertook a mapping of all actors involved in the HIV response in Uganda at national and district levels. This was done by updating the database of HIV stakeholders who have previously participated in NASA. This database guided the data collection process.

- **Review and finalization of data collection tools.**

All the tools that were used during the NASA including the online NASA data collection tool (FEMS), implementation manuals and training materials, were reviewed and adjusted as necessary. In addition, MakSPH and the international consultant prepared a data collection plan.

- **Seeking permission to access financial data.**

Prior to the data collection, the UAC sent formal letters to institutions informing them of NASA and requesting permission to access the financial expenditure records. An online briefing meeting was held with selected health workers from the health facilities and organizations that collected data to provide information about the kind of data that was required for NASA.

- **Training.**

All the teams who participated in the NASA underwent training before the data collection. The two teams that played lead roles during the NASA included the lead team and supervisors from MAKSPH and UAC, the data collection team and program officers. The program officers were responsible for collecting NASA data from health facilities and NGOs who fund and provide HIV/AIDS services in the country.

- **Capacity development and Institutionalization.**

One of the objectives of the NASA was to enhance Uganda's capacity to conduct the NASA independently, without major assistance from external partners. To achieve this, consultants continued to strengthen the capacity of the MAKSPH, UAC and MOH that has been developed over the years. The specific aims were to build capacity to collect the necessary data using the online data tool and other appropriate data collection methods, manage and analyze the data collected, and consolidate and disseminate the data. Capacity was built among the lead team and supervisors from MAKSPH and UAC, the data collection team and program officers. The participants are expected to utilize the acquired skills to carry out the future NASA with minimum external support. This team consists of individuals from MakSPH, UAC, MoH and the District local governments.

The training that was provided covered the following areas: The new NASA 2020 framework, vectors, classifications, data collection tools (including the Ugandan customized online NASA data collection tool) and NASA consolidation tool (DCT), data cleaning, processing, and capturing. NASA Resource Tracking Tool (RTT), as well as NASA data management and analysis (including data preparation and importation, outputs, and preliminary analysis).

DETAILED NASA TABLES

i. Financing revenues for HIV (2019/20-2020/21, UGX %)

HIV financing Entities and their revenues (UGX)	2019/20	2020/21	%2019	%2020
FE.01 Public Entities	248,684,274,278	256,573,761,644	13%	13%
REV.01.01 Internal transfers and grants	246,994,081,218	256,566,473,340	13%	13%
REV.01.98 Transfers from government domestic revenue	1,690,193,060	7,288,304	0%	0%
FE.02 Domestic Private Entitites	105,241,957,677	121,636,516,957	5%	6%
REV.05.98 Voluntary prepayment not disaggregated	1,203,708,239	668,155,907	0%	0%
REV.06.01 Other revenues from households n.e.c.	102,717,813,726	120,968,361,050	5%	6%
REV.06.03 Other revenues from non-profit institutions n	1,320,435,712		0%	0%
FE.03 International Entities	1,570,677,522,169	1,554,924,081,237	82%	80%
REV.07.01 Direct foreign financial transfers	1,570,677,522,169	1,554,833,997,097	82%	80%
REV.07.02 Direct foreign aid in kind		90,084,140	0%	0%
Grand Total	1,924,603,754,124	1,933,134,359,838	100%	100%

ii. HIV financing Schemes per HIV programme areas (USD, 2020/21)

HIV financing Schemes and their interventions (USD, 2020/21)	Government schemes	Voluntary payment schemes	Household out-of-pocket payment	External schemes	Total
Prevention	16,474,488	49,543,054	-	66,017,541	66,017,541
HTC	7,893,044	8,782,480	-	16,675,524	16,675,524
HIV Care and Treatment	93,296,344	196,143,276	33,723,618	323,163,238	323,163,238
Social protection and economic support	-	16,951,873	-	16,951,873	16,951,873
Social Enablers	245,151	1,324,869	-	1,570,019	1,570,019
Programme enablers and HSS	13,942,814	83,873,514	-	97,816,328	97,816,328
Development synergies	10,196	7,977,408	-	7,987,604	7,987,604
HIV-related research	6,024,362	2,713,637	-	8,737,999	8,737,999
Grand Total	**137,886,398**	**367,310,110**	**33,723,618**	**538,920,126**	538,920,126

iii. HIV financing agents and purchasers (UGX, 2019/20-2020/21)

HIV Financing Agents/Purchasers (UGX)	2019/20	2020/21	2019%	2020%
FAP.01 Public Agents/purchasers	424,343,423,037	472,848,845,563	22%	24%
Ministry of Health	212,043,325,410	252,825,211,673	11%	13%
Ministry of Finance	201,301,717,320	207,093,297,320	10%	11%
Other ministries (MDAs)	749,121,408	324,944,000	0%	0%
Uganda Aids Commission (UAC)	10,249,258,899	12,605,392,571	1%	1%
Parastatal organizations	16,155,924,638	21,301,315,084	1%	1%
FAP.02 Private sector	130,929,849,778	138,580,683,597	7%	7%
Private insurance enterprises	1,203,708,239	668,155,907	0%	0%
Out-of-pocket payments	102,717,813,726	120,968,361,050	5%	6%
Not-for-profit institutions	27,008,327,813	16,944,166,640	1%	1%
FAP.03 International purchasing organizations	1,352,934,556,671	1,299,948,035,568	70%	67%
Bilateral agencies	1,307,405,737,214	1,250,092,010,996	68%	65%
Multilateral agencies	24,467,649,726	17,716,182,094	1%	1%
International NGOs	19,294,277,878	31,194,237,317	1%	2%
Projects within Universities	1,766,891,852	945,605,161	0%	0%
Grand Total	1,924,603,754,124	1,933,134,359,838	100%	100%

iv. Spending on care and treatment activities (2019/20 – 2020/21, UGX, %)

HIV Care and Treatment (UGX)	2019/20	2020/21	2019/20 %	2020/21 %	% Increase
Anti-retroviral therapy	834,797,074,032	723,240,206,055	74%	62%	-13%
Adherence and retention on ART	2,286,699,643	69,847,107	0%	0%	-97%
ART-related laboratory monitoring	198,941,912,553	313,469,778,167	18%	27%	58%
Co-infections and OIs	5,572,062,365	22,389,384,952	0%	2%	302%
Psychological treatment and	488,291,603	-	0%	0%	-100%
Care and treatment services n.d.	85,169,073,824	100,034,027,488	8%	9%	17%
Total	**1,127,255,114,020**	**1,159,203,243,769**	**100%**	**100%**	3%

v. Providers of HIV services with aggregated PEPFAR Ips in (PS 03.99) (USD, %, 2019/20-2020/21)

Providers of HIV services (USD)	2019	2020	2019/20 %	2020/21 %
PS.01.01 Governmental organizations	**147,386,927**	**172,697,056**	28%	32%
PS.01.01.01 Hospitals (public)	62,360,213	54,654,372	12%	10%
PS.01.01.09 Schools and training facilities (public)	842,801	932,610	0%	0%
PS.01.01.13 Government entities (public)	19,976,124	23,221,180	4%	4%
PS.01.01.98 Governmental organizations not disaggregated	5,898,781	7,628,711	1%	1%
PS.01.01.12 Research institutions (public)	4,703,948	6,080,791	1%	1%
PS.01.01.02 Ambulatory care (public)	41,563,616	80,179,393	8%	15%
PS.01.01.07 Pharmacies and providers of medical goods (public)	12,041,444		2%	0%
PS.02.01 Non-profit providers	**14,257,943**	**14,274,546**	3%	3%
PS.02.02 Profit-making private sector providers	**1,472,100**	**255,670**	0%	0%
PS.02.02.98 Profit-making private sector providers not disaggregated	133,098	53,836	0%	0%
PS.02.02.02 Ambulatory care (profit-making private)	51,008	15,564	0%	0%
PS.02.02.01 Hospitals (profit-making private)	323,730	186,269	0%	0%
PS.02.02.13 Consultancy firms (profit-making private)	964,264		0%	0%
PS.03.02 Multilateral agencies	**1,208,182**	**2,450,708**	0%	0%
PS.03.03 International NGOs and foundations	**1,666,428**	**740,895**	0%	0%
PS.03.99 Bilateral, multilateral entities, international NGOs and foundations – i	**351,618,669**	**348,501,252**	68%	65%
Grand Total	**517,610,250**	**538,920,126**	100%	100%

vi. HIV programme areas and their Beneficiaries (USD,%, 2019/20 – 2020/21)

HIV intervention and their beneficiaries	2019	2020	2019/20 %	2020/21 %
ASC.01 Prevention	**65,966,870**	**66,017,541**	13%	12%
BP.01 People living with HIV	9,025	378,020	0%	0%
BP.02 Key populations	483,354	1,664,924	0%	0%
BP.03 Vulnerable, accessible and other target populations	27,858,825	39,222,460	5%	7%
BP.04 General population	37,615,666	24,752,138	7%	5%
ASC.02 HIV testing and counselling (HTC)	**28,040,898**	**16,675,524**	5%	3%
BP.02 Key populations	1,285,286	2,994,950	0%	1%
BP.03 Vulnerable, accessible and other target populations	1,217,176	2,574,825	0%	0%
BP.04 General population	25,538,436	11,105,749	5%	2%
ASC.03 HIV Care and Treatment Care	**303,168,276**	**323,163,238**	59%	60%
BP.01 People living with HIV	303,168,276	323,163,238	59%	60%
ASC.04 Social protection and economic support	**17,993,574**	**16,951,873**	3%	3%
BP.01 People living with HIV	67,826	20,560	0%	0%
BP.03 Vulnerable, accessible and other target populations	17,925,748	16,931,313	3%	3%
ASC.05 Social Enablers (excluding the efforts for KPs above)	**3,170,559**	**1,570,019**	1%	0%
BP.05 Non-targeted interventions	3,170,559	1,570,019	1%	0%
ASC.06 Programme enablers and systems strengthening	**91,992,590**	**97,816,328**	18%	18%
BP.05 Non-targeted interventions	91,992,590	97,816,328	18%	18%
ASC.07 Development synergies	**1,926,387**	**7,987,604**	0%	1%
BP.05 Non-targeted interventions	1,926,387	7,987,604	0%	1%
ASC.08 HIV-related research (paid by earmarked HIV funds)	**5,351,096**	**8,737,999**	1%	2%
BP.05 Non-targeted interventions	5,351,096	8,737,999	1%	2%
Grand Total	**517,610,250**	**538,920,126**	**100%**	**100%**

vii. Financing Entities with their production factors (USD,%, 2020/21)

Financing Entities and their PF (USD)	2020/21	% 2020/21
FE.01 Public Entities	**66,882,094**	13%
PF.01.01 Personnel costs	6,165,004	1%
PF.01.02 Other operational and programme management	4,221,583	1%
PF.01.03 Medical products and supplies	48,429,621	9%
PF.01.09 Logistics of events, including catering services	386,311	0%
PF.01.98 Current direct and indirect expenditures not disag	5,784,412	1%
PF.02.01 Building	1,551,936	0%
PF.02.03 Other capital investment	343,227	0%
FE.02 Domestic Private Entitites	**28,304,172**	5%
PF.01.01 Personnel costs	122,549	0%
PF.01.02 Other operational and programme management	14,509,501	3%
PF.01.03 Medical products and supplies	11,725,338	2%
PF.01.08 Training- Training related per diems/transport/ot	34,083	0%
PF.01.09 Logistics of events, including catering services	83,020	0%
PF.01.98 Current direct and indirect expenditures not disag	1,829,682	0%
FE.03 International Entities	**422,423,989**	82%
PF.01.01 Personnel costs	77,193,728	15%
PF.01.02 Other operational and programme management	21,189,174	4%
PF.01.03 Medical products and supplies	185,429,086	36%
PF.01.04 Contracted external services	35,034,994	7%
PF.01.05 Transportation related to beneficiaries	9,926	0%
PF.01.07 Financial support for beneficiaries	1,768,927	0%
PF.01.08 Training- Training related per diems/transport/ot	15,225,761	3%
PF.01.09 Logistics of events, including catering services	2,137,882	0%
PF.01.10 Indirect costs	33,143,135	6%
PF.01.98 Current direct and indirect expenditures not disag	45,974,974	9%
PF.02.01 Building	1,413,977	0%
PF.02.02 Vehicles	406,627	0%
PF.02.03 Other capital investment	3,495,798	1%
Grand Total	**517,610,255**	100%

viii. Global Fund spending by Production factors (USD,%, 2019/20 – 2020/21)

Global Fund Spending on PF	2019/20	2020/21	2019/20 %	2020/21 %
PF.01 Current expenditures	50,563,600	60,404,299	96%	94%
Personnel costs	888,935	520,197	2%	1%
Operational and programme managemen	1,560,747	1,372,890	3%	2%
Medical products and supplies	29,193,661	49,385,103	56%	77%
Contracted external services	114,824	72,018	0%	0%
Financial support for beneficiaries	1,726,909	749,806	3%	1%
Training related costs	296,603	1,087,374	1%	2%
Logistics of events, & catering services	1,378,199	1,692,255	3%	3%
Indirect costs	15,403,721	5,524,656	29%	9%
PF.02 Capital expenditures	1,960,365	3,756,008	4%	6%
Vehicles	406,627	-	1%	0%
Other capital investment	1,553,738	3,756,008	3%	6%
Grand Total	52,523,965	64,160,307	100%	100%

ix. PEPFAR spending by Production factors (USD,%, 2019/20 – 2020/21)

PEPFAR Spending on PF	2019/20	2020/21	2019/20 %	2020/21 %
PF.01 Current expenditures	348,313,290	344,864,605	99%	99%
Personnel costs	67,184,913	73,749,788	19%	21%
Operational and programme managemen	18,370,045	18,182,848	5%	5%
Medical products and supplies	155,293,423	134,372,288	44%	39%
Contracted external services	34,881,828	50,998,997	10%	15%
Training related costs	14,257,656	12,736,182	4%	4%
Indirect costs	17,691,181	16,288,503	5%	5%
Current expenditures n.d	40,634,244	38,535,998	12%	11%
PF.02 Capital expenditures	3,305,384	3,636,647	1%	1%
Building	1,399,454	1,121,847	0%	0%
Other capital investment	1,905,930	2,514,800	1%	1%
Grand Total	351,618,674	348,501,252	100%	100%

GoU spending by Production factors (USD,%, 2019/20 – 2020/21)

Government of Uganda spending on PF	2019/20	2020/21	2019/20 %	2020/21 %
PF.01 Current expenditures	64,532,364	68,993,807	97%	96%
Personnel costs	5,710,437	6,029,628	9%	8%
Operational and programme managemen	4,221,583	5,182,508	6%	7%
Medical products and supplies	48,429,621	50,154,593	73%	70%
Logistics of events, & catering services	386,311	19,555	1%	0%
Current expenditures n.d	5,784,412	7,607,523	9%	11%
PF.02 Capital expenditures	1,895,163	2,531,917	3%	4%
Vehicles	1,551,936	1,750,436	2%	2%
Other capital investment	343,227	781,481	1%	1%
Grand Total	66,427,527	71,525,725	100%	100%

x. HIV prevention program by Production factors (USD,% 2020/21)

HIV interventions and their PF (USD)	2020/21	% 2020/21
ASC.01 Prevention		
PF.01.01 Personnel costs	9,392,754	14%
PF.01.02 Other operational and programme management cu	4,788,094	7%
PF.01.03 Medical products and supplies	22,202,370	34%
PF.01.04 Contracted external services	8,649,873	13%
PF.01.07 Financial support for beneficiaries	749,806	1%
PF.01.08 Training- Training related per diems/transport/othe	2,145,576	3%
PF.01.09 Logistics of events, including catering services	1,527,371	2%
PF.01.10 Indirect costs	2,988,218	5%
PF.01.98 Current direct and indirect expenditures not disaggr	13,090,204	20%
PF.02.03 Other capital investment	483,275	1%
Total Prevention	**66,017,541**	**100%**

xi. HIV care and treatment program by Production factors (USD,% 2020/21)

HIV interventions and their PF (USD)	2020/21	% 2020/21
ASC.03 HIV Care and Treatment Care		
PF.01.01 Personnel costs	26,373,648	8%
PF.01.02 Other operational and programme management cu	25,831,287	8%
PF.01.03 Medical products and supplies	212,376,550	66%
PF.01.04 Contracted external services	24,641,314	8%
PF.01.08 Training- Training related per diems/transport/othe	5,405,193	2%
PF.01.10 Indirect costs	3,281,451	1%
PF.01.98 Current direct and indirect expenditures not disaggr	19,652,358	6%
PF.02.01 Building	1,082,648	0.3%
PF.02.03 Other capital investment	4,518,767	1%
Total care and treatment	**323,163,238**	**100%**

xii. Programme enablers and systems strengthening by Production factors (USD,% 2020/21)

HIV interventions and their PF (USD)	2020/21	% 2020/21
ASC.06 Programme enablers and systems strengthening		
PF.01.01 Personnel costs	39,320,688	40%
PF.01.02 Other operational and programme management cu	9,979,807	10%
PF.01.03 Medical products and supplies	4,475,514	5%
PF.01.04 Contracted external services	12,269,010	13%
PF.01.08 Training- Training related per diems/transport/othe	4,556,561	5%
PF.01.09 Logistics of events, including catering services	359,098	0.4%
PF.01.10 Indirect costs	14,444,953	15%
PF.01.98 Current direct and indirect expenditures not disaggr	8,248,711	8%
PF.02.01 Building	1,784,697	2%
PF.02.03 Other capital investment	2,377,290	2%
Total of PESS	**97,816,328**	100%