ZAMBIA NATIONAL AIDS SPENDING ASSESMENT:

HIV AND TB SPENDING, 2015 – 2017

NATIONAL AIDS COUNCIL AND UNAIDS

FINAL

4 July 2019

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Acknowledgements

The National AIDS Council of Zambia would like to thank UNAIDS for their financial and technical support for this National AIDS Spending Assessment, and the Technical Working Group for their contributions to ensure a sound process throughout.

Thanks to Teresa Guthrie and Joshua Karume, the external consultants, for their expert technical support to the entire process, ensuring quality throughout, and for their preparation of this report. Thanks also to Dr Bona Chita, the national consultant who supported the data collection process and contributed to this report, and to the team of research assistants for their careful data collection and capturing.

Thanks to all the respondents who provided data and to those who gave valuable feedback and suggestions at the validation meeting.

June 2019

Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ASC	AIDS Spending Category
ART	Antiretroviral therapy
ARV	Antiretroviral
ARVs	Antiretroviral drugs
ASC	AIDS Spending Category
BP	Beneficiary Population
CHAZ	Churches Health Association Zambia
COP	Country Operational Plan
DHIS	District Health Information System
EA	Expenditure analysis (PEPFAR data)
eMTCT	Elimination of mother-to-child transmission
EU	European Union
FA	Financing agent
FS	Financing source
GAM	Global AIDS Monitor (formerly GARPR)
GDP	Gross Domestic Product
GFATM	The Global Fund to Fight AIDS, Tuberculosis, and Malaria
GRZ	Government of the Republic of Zambia
HA	Health Accounts
HAPT	Health Accounts Production Tool
HBC	Home-based care
HIV	Human Immunodeficiency Virus
HTS	HIV testing services
HSS	Health systems strengthening
IFMIS	Integrated Financial Management Information System
IGA	Income generation activities
INGO	International non-governmental organization
IP	Implementing partners (of PEPFAR)
IT	Information Technology
KP	Key population
LFA	Local Fund Agents (for GF)
LIC	Low income country
LMIC	Lower-middle income country
M&E	Monitoring and evaluation
MDG	Millennium Development Goals
MDR- TB	Multidrug-resistant tuberculosis
MOE	Ministry of Education
MOH	Ministry of Health
MOF	Ministry of Finance
MSM	Men who have sex with men
NAC	National AIDS Council
NASA	National AIDS Spending Assessment
NASF	National AIDS Strategic Framework
NDP	National Development Plan
NGO	Non-governmental organisation
NHA	National Health Accounts
NHSP	National Health Strategic Plan
OI	Opportunistic infection

OOPE	Out-of-pocket expenditure
OVC	Orphans and vulnerable children
PEP	Post-exposure prophylaxis
PEPFAR	(United States) President's Emergency Plan for AIDS Relief
PF	Production factor
PHC	Primary health care
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission
PPP	Public private partnerships
PR	Principal recipient (of Global Fund)
PrEP	Pre-exposure prophylaxis
PF	Production factor
PS	Provider of services
PWID	People who injects drugs
RTT	Resource Tracking Tool (NASA)
SADC	Southern African Development Community
SBCC	Social behaviour change communication
SDGs	Sustainable Development Goals
SHA	System of Health Accounts
SR	Sub-recipient (of Global Fund)
STI	Sexually transmitted infection
SW	Sex worker
T&T	Test and Treat
TB	Tuberculosis
TWG	Technical working group
UNAIDS	Joint United Nations Programme on AIDS
UNDP	The United Nations Development Programme
UNGASS	United Nations General Assembly on HIV/AIDS
USD	United States dollar
USG	United States government
VMMC	Voluntary medical male circumcision
WB	World Bank
WHO	World Health Organization
ZAMPHIA	Zambia Population-based HIV Impact Assessment
ZMW	Zambian kwacha

Executive Summary

The National AIDS Council (NAC) of Zambia and the Resource Tracking Technical Working Group (TWG) have led this third undertaking of the National AIDS Spending Assessment (NASA) to track all the HIV/AIDS and TB spending in Zambia (for the years 2015 to 2017). Public, external and private funding sources (excluding out-of-pocket) have been collected, across all sectors, importantly representing the multi-sectoral response to HIV. The first NASA was undertaken for the years 2005 and 2006, and the second for 2010 to 2012. Since then, the Ministry of Health has continued to led the National Health Accounts (NHA) which includes a section on HIV (health-related) spending, according to the System of Health Accounts (SHA) classifications. The NASA provides an in-depth examination of the HIV (and TB in this round) by detailed categories of funding source, activities, providers of services and the beneficiaries. NASA applies a standardised and comprehensive methodology for collecting, coding and analysing of HIV expenditure. It allows countries to understand if they are allocating funds according to their priorities and for the greatest investment in terms of impact.

The key findings from this NASA include:

- In Zambia, the commitment to combat HIV– guided by the National AIDS Strategic Framework (NASF) (2017-2021) - was evidenced by an increase of 37% of total HIV funding between 2016 and 2017, reaching US$ 478.5 million (ZMW 4.6 billion). This follows a reported decrease of 8% between 2015 and 2016, which respondents believed was possibly due to anti-retroviral medicines purchased in 2015 but only consumed in 2016, reflecting as an artificial under-spending in 2016[1].
- TB spending was relatively small in all the 3 years, but with an annual average increase rate of 6.5%, and reached US$ 15.8 million (ZMW 150 million) in 2017.
- Public contributions to the HIV response have also increased by 37% between 2016 and 2017, after a slight decrease from 2015. This NASA included the Ministry of Health's estimation of their 'embedded' human resource costs for delivering integrated HIV services (obtained from the most recent NHA estimates). With these additional amounts, the public sources made up 13.8% of the total spending on HIV in 2017.
- The external sources continued to be the largest contributors to HIV funding, at 85.6% in 2015 and increasing very slightly to 85.8% in 2017. The biggest external source was direct bilateral funding mostly driven by PEPFAR[2] funding (65% of total in 2017), followed by multilateral agencies (20%, of which 19% was from the Global Fund) while international not-for-profit organizations formed just under 1%.
- Regarding the function of financial agent – that of determining the interventions to be provided and by whom - the public agent share increased from 9% of the total HIV spending in 2015 to 15% in 2017, representing growing government control over the national response. This was primarily driven by the Global Fund's new grant to the country being channelled through the MOH as a principal recipient (moving from UNDP in the previous grant).
- Treatment and care programme area consumed the largest proportion (57%) of HIV spending in Zambia - having declined in proportional terms from 65% in 2016 (due to the increasing proportion on prevention activities). Within the treatment category, expenditure on ART was highest in terms of percentage of total HIV funding, and reached almost US$ 200 million in 2017.
- Public funds contributed 23% to the treatment and care programme area, while external funded the remaining 76%, which highlights a potential sustainability challenge for the country.

[1] The NASA methodology requires accrual (matching) accounting methods, and if there were funds spent on ARVs in 2015 that were only consumed in 2016, these should have been captured in the 2016 database. However, all efforts to confirm the details of these transactions failed.

[22] (United States) President's Emergency Plan for AIDS Relief.

- Notably, prevention activities in 2017 were 97% externally funded, 2% public funded and 1% from private sources. The government could consider alternative public funding sources to increase its contribution to efforts to reduce new infections.
- The prevention spending reached 23% of the total HIV spend in 2017, nearly reaching the Quarter for Prevention targets (UNAIDS, 2018). Within the prevention category, the largest share (36%) went to HIV testing services (HTS), followed by 24% for eMTCT and 18% for VMMC, while 12% could not be disaggregated by specific intervention.
- Spending on the Five Pillars of Prevention (UNAIDS, 2019) made up only 26.5% of total prevention spending in 2017. The spending on other prevention interventions might need examination in terms of their impact and effectiveness in reducing new infections.
- After treatment and prevention categories, the next largest share went towards systems strengthening, programme management and capacity building efforts[3] (12% in 2017, having increased from 8% in 2016).
- Orphans and vulnerable children and youth (OVC) received consistently around 6% of total HIV spending, over the period of study.
- The other programme areas: social protection and services, enabling environment and research received only around 2% altogether, in each year.
- The largest group of beneficiaries of the HIV spending in Zambia were PLHIV (57% in 2017), followed by general population (19%), other vulnerable and key populations shared 15%, while 9% of funds were non-targeted. Within the vulnerable populations, children to be born to HIV-positive mothers benefitted the most from the eMTCT spending, followed by OVCs. The total spending on the 'traditional' key populations (according to UNAIDS' definition) - sex workers, men-who-have-sex-with-men (MSM), and people who inject drugs (PWIDs) - formed just over 1% of the total HIV spending in 2017, while inmates of correctional facilities (prisoners) benefitted even less, receiving only 0.1% in 2017.
- The comparison of the HIV spending in 2017, found by this NASA, compared favourably to the estimated costs of the NASF in 2017 – both in terms of total amounts (adequacy) as well as proportional allocations to the priority interventions (except for the very low spending on condoms). This demonstrates some allocative efficiencies have been achieved in the national response, as directed by the NASF, apart from a possible need to reallocate to higher impact prevention efforts (according to the Five Pillars of Prevention). In addition, the reducing unit of spending on ART per person per annum, which was also lower than the unit cost used for the NASF costing, shows some technical efficiencies were possibly achieved in the largest driver of HIV spending, and therefore achieving significant savings.
- Further efficiencies, as well as efforts to mobilise new public funds for the HIV response, will be needed to progress towards domestic sustainability and to maintain epidemic control, in the context of reducing external support.
- Through this process, the NAC staff, the TWG and the local research team have gained skill in conducting NASA, and various recommendations have been made to institutionalise the process in future years (refer to text box below).

Refer to the more detailed policy implications and recommendations made in the full report.

[3] Human resource capacity development (training and formal education of the health work force) were included under the systems strengthening category, at the request of the resource tracking technical working group (TWG).

Key decisions to be made/actioned by NAC to facilitate the institutionalization of NASA:

- ✓ The NAC should lead the HIV data collection, capturing, cleaning, analysis and reporting process (necessary to meeting the NAC's and HIV actors' data needs).
- ✓ The NAC should house and maintain the HIV data, ideally in the NASA RTT. Alternative information systems should also be explored: IFMIS, NACMIS etc.
- ✓ Identify who will responsible for undertaking the time-consuming work of actually collecting, capturing, cleaning, analysis and reporting of the HIV spending (across all sectors) – and allocate adequate resources and person time to these functions.
- ✓ Commit/ secure the funding for the full resource tracking, on an on-going, annual or bi-annual basis.
- ✓ Agree on the data collection tools to be used for the HIV aspects (health and non-health).
- ✓ Agree on the data collection method - self-administered questionnaires have poor & incorrect/ incomplete responses, while face-to-face interviews allow for data validation and complete & correct capturing. A combination approach can be applied depending on the type of data.
- ✓ Agree on the type of analysis and presentation of the data as per the NASA requirements (follow UNAIDS suggested report outline, matrices generation and GAM structure).
- ✓ Maximize the dissemination and utilization of the NASA report.

1. Introduction and background

The Zambian National AIDS Council (NAC), UNAIDS and a Technical Working Group (TWG) have led the National AIDS Spending Assessment (NASA) which aims to collect available expenditure data on HIV and TB in Zambia for the financial years 2015 to 2017. The NASA framework measures the financing flows and expenditures across six variables describing financing, provision and consumption: Financing Sources, Financing Agents, Providers of Services, AIDS Spending Categories, Production Factors and Beneficiary Populations. This NASA report aims to provide a comprehensive picture of all HIV and TB spending from domestic (public and private sector) as well as external sources. In addition, the data presented here could trigger further analysis on issues such as equity, efficiency, absorptive capacity, allocative efficiency and sustainability. In addition, the report will make recommendations on how to routinize financial expenditure tracking to ensure its long-term institutionalisation.

This report presents the findings of the NASA analysis, after providing some Zambian background data, HIV and TB statistics and a description of the NASA methodology.

1.1. Socio-economic and health indicators in Zambia

Zambia is a lower-middle income (LMIC) country that has in the recent past exhibited some notable economic growth rates, particularly in agriculture which has been responsible for Zambia's advancement from low income country (LIC) status. The country has been implementing the Vision 2030 Long-Term Plan since 2006 which is aimed at transforming Zambia into a prosperous middle-income nation by 2030 (Central Statistics Office, 2010)[i]. Economic growth rates between 2007 and 2014 averaged slightly above 6% per annum. However, the economic growth rates have declined with an annual average growth rate of about 3.5% from 2015 to 2017. This has limited the available public resources for allocation and effective programme implementation. Zambia, with a Gini index of 75.10 in 2015, has one of the most unequal income distributions in Africa (World Bank, 2016).[ii]

Some of the Zambian health indicators, as shown in table 1 below, do not compare well with the average from other low-to-middle income countries (LMIC), such as the infant mortality rate which was 43 per 1000 live births in 2016, as compared to the 41.5 average of LMIC (in 2013), and an under-five mortality rate of 62.4 per 1000m compared to the 60 average of LMIC (2013) (World Bank 2016 & 2017).

Table 1: Zambian social, health and economic indicators

Economic Indicator	2013	2014	2015	2016	2017
Population (1'000)	14,580	15,023	15,474	15,933	16,405
GDP Growth rate (%)	5.1	4.7	2.9	3.8	4.1
GDP per capita (US$)	1851	1738	1314	1263	1370
Inflation (%)	7.1	8,4	9,0	14,4	7,5
Exchange rate (USD:ZMW)	5.39	6.15	8.63	10.31	10.01
Budget deficit (% GDP)	6.5	5.2	9.4	5.8	6.1
Government debt (% GDP)	25.5	35.6	61.4	60.5	57.0
Domestic debt (% GDP)	*13,2*	*15.5*	*18.3*	*24.0*	
External debt	*13.8*	*20.1*	*43.1*	*36.5*	
Poverty (% of population)	NA	NA	54.5	NA	
Gini Coefficient (Income based)	NA	NA	0.69	NA	

Health Indicator	2013	2014	2015	2016	Comparator: LMICs average (2013)
Life Expectancy (years)			53.3	53,7	54,2
Infant mortality rate per 1000 live births	48.3	46.3	44.2	43	41.5
Under-five mortality rate per 1000	71.6	68	64.9	62.4	60
Maternal mortality rate per 100,000 live births	NA	NA	224	272	398
Total fertility rate			5.6		
Immunization coverage (*DPT3 %)	79	86	90	91	94

Sources: All indicators World Development Indicators. World Bank (2016); (World Bank, 2017); *IMF (2017); Central Statistics Office (2016 and 2018); Ministry of Health (2018) National Health Accounts Unpublished Report.
NA = not available.

1.2. HIV situation in Zambia

In Zambia, the HIV epidemic is generalised with an estimated prevalence rate of 11.6% among adults aged 15-59 years in 2016, according to the Zambian Population-based HIV Impact Assessment (MOH, 2017).[iii] It is estimated that about 1.2 million people were living with HIV in Zambia by September 2018. The key populations most affected by HIV in Zambia are: sex workers with an HIV prevalence of 56.4%, and prisoners, with an HIV prevalence of 27.4%. Unprotected heterosexual activity is the main driver of new HIV infections accounting for over 90% of new adult infections (UNAIDS data, 2018).

The Spectrum estimates of new HIV infections for 2017 (table 2), found that 11% were amongst the 0 to 4 years old group, 16% among 15-19 years, 21% among 20-24 years, and the remaining 51% among those older than 24 years (25-80+ years) (MOH, NAC, UNAIDS Spectrum 2017).

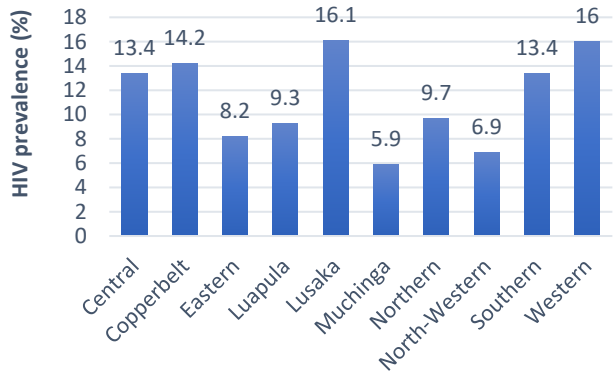
Table 2: Zambian new HIV infections by age group in 2017 (Spectrum estimates)

	# new infections	% of new infections
0-4	5 575	11%
5-14	0	0%
15-19	7 992	16%
20-24	10 174	21%
25-80+	24 782	51%
Total	48 523	

Source: MOH, NAC & UNAIDS, Spectrum (2017).

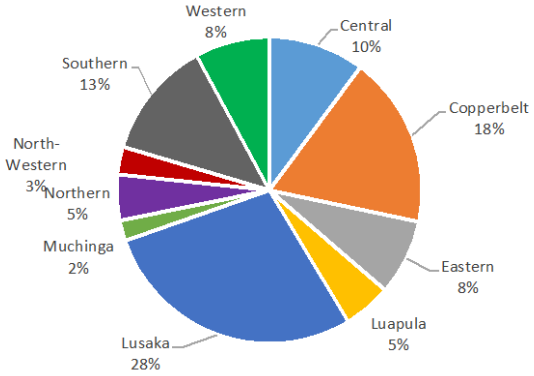
According to the Zambia Population-based HIV Impact Assessment (ZAMPHIA. MOH, 2017), HIV was most prevalent in the two urban provinces of Lusaka (16.1%) and Copperbelt (14.2%), among adults. The HIV epidemic varies considerably across the provinces (figure 1), with Muchinga at the lowest prevalence of 5.9% in 2017. HIV prevalence was highest among women estimated at 14.6% compared to men at 9.3%, while it was more than double among young women aged 15-24 years than young men of that age (MOH, 2017).[iv]

Figure 1: Provincial HIV adult prevalence (%, 2016)



Source: MOH, 2017. ZAMPHIA report.

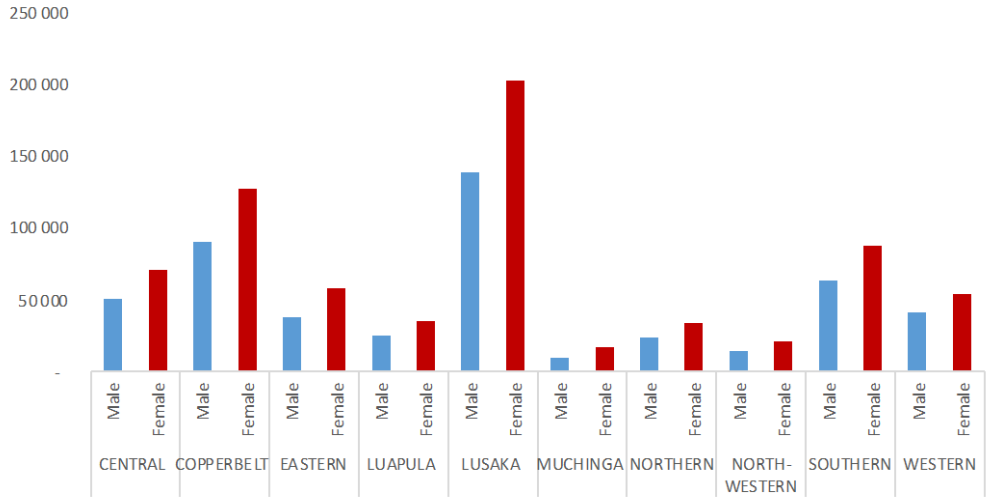
Figure 2: Provincial HIV population share (%, 2017)



Source: MOH, NAC & UNAIDS, Spectrum (2017).

The Spectrum estimates of HIV prevalence by gender estimated higher numbers HIV-positive females across all provinces, as shown in figure 3 below.

Figure 3: Provincial HIV population by gender (2017)



Source: MOH, NAC & UNAIDS, Spectrum estimates (2017).

1.3. Zambian national response to HIV

Over the years, significant progress has been made in the Zambian response to HIV. This has been driven by the National AIDS Strategic Framework (NASF), which guides the national multi-sectoral response as a developmental and health-related issue, and is now in its third iteration: NASF 2017 to 2021[v]. The main thrust of the current NASF is to: (1) align (2) prioritise and (3) devolve an accountable set of objectives and performance criteria as well as an implementation design that is transparent.

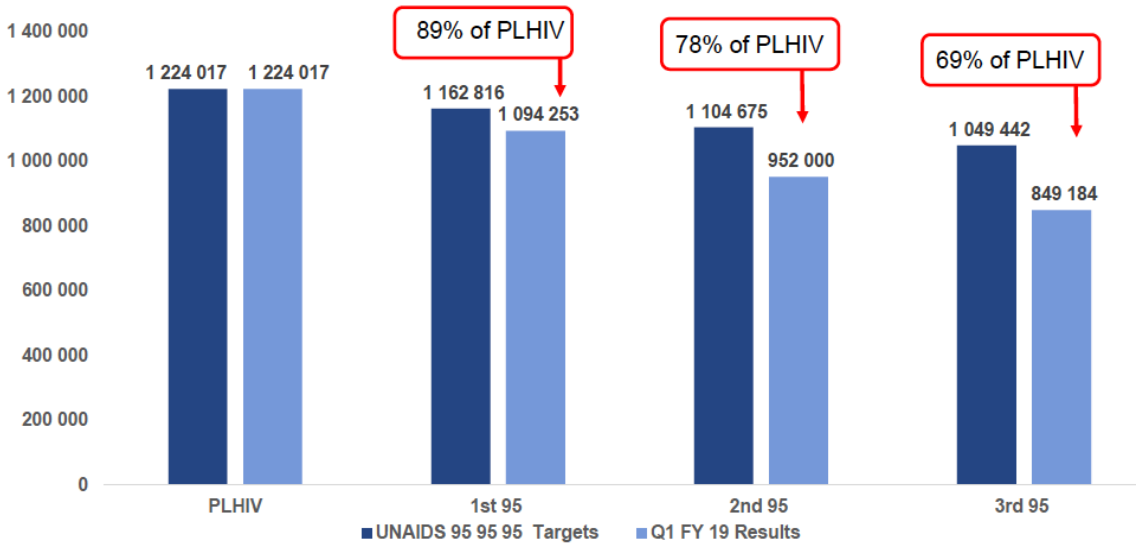
The NASF has been aligned with other national, regional and international policies and strategies, including: the National Development Plan (NDP, 2017-2021), the Sustainable Development Goals (SDGs), United Nations Political Declaration on Ending AIDS (UNAIDS, 2016[vi]), and the Southern African Development Community (SADC) HIV and AIDS Strategic Framework (2010-2015).

Importantly, Zambia has committed to, and made good progress towards, the 95-95-95 HIV Fast Track targets:

- 95% of PLHIV know their status;
- 95% of all PLHIV diagnosed with HIV infection receive sustained ART;
- 95% of all PLHIV on ART receive viral load suppression.

Zambia has made good progress towards achieving these targets and figure 4 below shows the achievements along the treatment cascade, in quarter 1 of USG FY2019 (end of 2018).

Figure 4: Zambia's progress towards 95-95-95 (FY19, Q1



Source: PEPFAR 2019: COP19 Outbrief: Zambia.

1.4. Tuberculosis in Zambia

Tuberculosis (TB) continues to be a major public health concern in Zambia. According to the WHO, Zambia is one of the 30 countries with the highest TB burdens in the world, with an estimated 361 people per 100,000 newly infected with TB in 2017, 210 of whom were living with HIV (WHO, 2018)[vii]. In the same year, 82.5% of people living with HIV newly enrolled in care had active TB[4], while the TB case notification data of 2017 indicated that 93% of people infected with TB are living with HIV (WHO, 2018)[5]. According to WHO estimates in 2015, the TB mortality rate, excluding HIV, was 30 (17–45) deaths per 100,000 population; and including HIV was estimated at 76 (48–110) per 100,000. In 2015/16, a total of 43,858 TB patients of all types were notified; with 40,149 new and 2,117 relapsed, representing a case notification rate of 118.7 per 100,000 population or a case detection rate of 50.7% (NHSP, 2017).

Table 3: Zambian TB profile (2017, WHO[6])

Estimates of TB burden, 2017	Number (thousands)	Rate (per 100 000 population)
Mortality (excludes HIV+TB)	5 (2.9–7.7)	30 (17–45)
Mortality (HIV+TB only)	13 (8.2–19)	76 (48–110)
Incidence (includes HIV+TB)	62 (40–88)	361 (234–514)
Incidence (HIV+TB only)	36 (23–52)	210 (135–302)
Incidence (MDR/RR-TB)	1.9 (0.67–3.8)	11 (3.9–22)

[4] UNAIDS 'AIDSinfo' (accessed March 2019).
[5] https://www.who.int/tb/publications/global_report/en/
[6] https://extranet.who.int/sree/Reports?op=Replet&name=%2FWHO_HQ_Reports%2FG2%2FPROD%2FEXT%2FTBCountryProfile&ISO2=ZM&outtype=pdf

The MOH is implementing the post-2015 End TB National Tuberculosis Strategic Plan, which aims to end the TB epidemic by 2035 (NHSP, 2017-2021). Some of the objectives in the current NHSP include: 1) To increase the number of notified cases of new TB episodes from 36,700 in 2015 to at least 59,000 in 2021; 2) To increase the treatment success rate for TB from 85.5% in 2017 to at least 87% in 2021; 3) To increase the treatment success rate for multi-drug resistant (MDR) TB patients to 90% by the year 2021; and 4) To provide ARV therapy for 80% of TB-HIV co-infected patients by 2021.

The table below shows the NHSP (2017-2021) targets set to reduce the number of TB deaths in the population by 40% in 2021 compared to 2015.

Table 4: Zambian TB targets according to the NHSP (2017-2021)

Indicator	Baseline	Target					
	2015	2017	2018	2019	2020	2021	Data Source
TB incidence rate compared to 2015 %	NA	2.8 %	4.3%	5.3%	6.9%	8%	HMIS/TB Survey
TB cure rate	84%	85.5%	86%	86.5%	86.8%	87%	HMIS
% of multi-drug resistance TB cases successfully treated	30%	50%	65%	75%	80%	90%	HMIS
TB/HIV on ART	76%	76.5%	77%	77.5%	77.8%	80%	HMIS

Source: MOH (2017), NHSP. NA = not available.

1.5. The National HIV and AIDS Strategic Framework (2017-2021) priorities, costs and previous estimates of expenditure

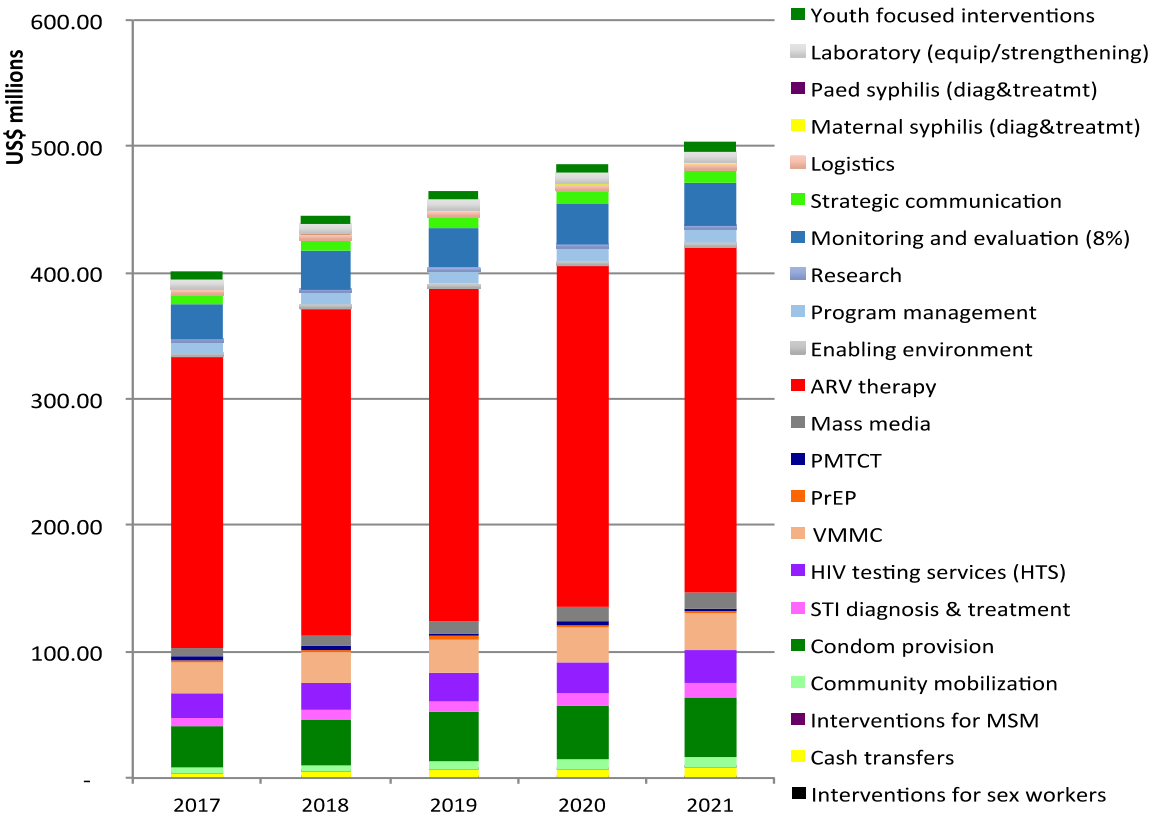
The NASF (2017–2021) aims to provide adequate space and opportunities for communities, civil society, private sector, development partners (bilateral and multi-lateral agencies) and Government institutions to actively participate in the implementation of evidence-based HIV and AIDS programmes, depending on their mandates and comparative advantages (NAC, 2017).[viii] The principal goal of the NASF (2017 – 2021) is to reposition prevention of new HIV infections as the main focus of the national multi-sectoral HIV and AIDS response, as well as to improve access to quality treatment and care services for PLHIV including promotion of positive health and dignity.

The NASF key HIV areas of focus and strategic interventions which correspond to the National Health Strategic Plan (NHSP 2017 – 2021), are as follows:

1. Social and Behaviour Change Communication (SBCC);
2. Comprehensive Condom programming;
3. Voluntary Medical Male Circumcision;
4. Sexually Transmitted Infections;
5. HIV Testing Services;
6. Elimination of Mother to Child Transmission;
7. Treatment (ART);
8. Critical enablers; and,
9. Synergies with other development sectors.

An estimation of the HIV resources needed to achieve the NASF goals, adjusted for the 'test and treat' strategy (figure 5), demonstrates that these needs continue to increase and if Zambia is to attain its goals, a potential funding gap could be experienced (EQUIP, 2017).

Figure 5: Estimated resources required for the NASF interventions (US$ million, 2016 prices)



Source: NAC, 2017. NASF. EQUIP cost estimates (2017).

Importantly, in the longer-term projections (e.g. EQUIP, 2017: T&T cost estimates to 2030[ix]), revealed that the costs will eventually begin to plateau around 2025, due to the impact of both the prevention efforts as well as the preventative effect of the scale-up of test and treat (NAC, 2017).

Zambia has applied the System of Health Accounts (SHA), formerly known as the National Health Accounts (NHA), which provides the total health-related spending in the country, including HIV (within the health sector), as shown in table 2 below. HIV financing in Zambia has been predominantly donor supported as shown below, and the Government) contributed 12.1% of the health-related HIV spending (MOH, 2018: NHA 2016). According to the NHA 2016 findings, HIV and STD programs and interventions took 34.78% of the General Health budget which translated to 7,14% of the national budget (MOH, 2018).

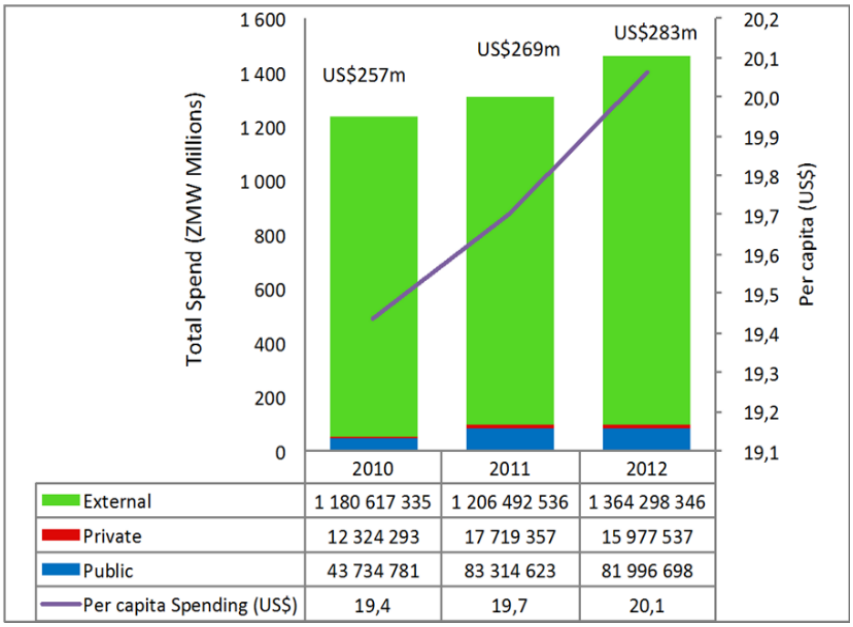
Table 5: NHA-HIV Expenditures by Source (2015-2016, ZMW millions)

	2015 (ZMW mill)	2015 %	2016 (ZMW mill)	2016 %
Government	368.58	14.82	394.98	12.09
Corporations	12.53	0.50	42.57	1.30
Households	3.85	0.15	4.53	0.14
NPISH	3.75	0.15	3.07	0.09
Rest of the world (PEPFAR Programmme)	2,099	84.37	2,821	86.37
Total	**2,488**		**3,266**	

Source: Ministry of Health (2018) National Health Accounts.

The previous NASA undertaken in 2014 covered the years 2010 to 2012, and the total HIV spending and sources are shown in figure 6 below.

Figure 6: HIV spending in Zambia (ZMW millions, 2010-2012)



	2010	2011	2012
External	1 180 617 335	1 206 492 536	1 364 298 346
Private	12 324 293	17 719 357	15 977 537
Public	43 734 781	83 314 623	81 996 698
Per capita Spending (US$)	19,4	19,7	20,1

Source: NAC (2014).[x]

2. The National AIDS Spending Assessment in Zambia

2.1. The rationale for an HIV and TB spending assessment

The tracking of expenditure on HIV is a critical activity that enables a country to monitor its spending according to its national priorities, as expressed in the Zambian NASF, to measure the degree of harmonisation and alignment of all the actors involved in HIV, and to estimate the programmatic financing gap, so as to improve future allocative decisions and resource mobilisation, especially in the context of reducing external aid and sustainability planning.

NASA is a methodology developed and promoted by UNAIDS as an approach that comprehensively identifies and measures all the spending on HIV within a country, and which has been particularly useful for countries undertaking a review of their National Strategic plans (NSPs) and in their reporting on the financial indicator for the Global AIDS Monitor (GAM) reports.

NASA can therefore generate useful evidence to assist with the planning and financing of HIV services, and can be used to measure the potential financial gap per intervention and thus to mobilize for additional resources. It is a very powerful tool for policy makers and all actors involved in the HIV response, including governments, donors, persons affected by HIV and civil society more broadly, by providing useful insights into the harmonization and alignment of the resource envelope to the programmatic priorities. This is particularly important when future HIV funding is threatened by competing global priorities and the economic down turn while expectations to achieve more remain high. The NASA data also allows for further examination of aspects of equity, efficiency, absorptive capacity and allocative efficiency, and are critical to inform the sustainability discourse.

2.2. Objectives of the NASA in Zambia

The general objective of this NASA is to contribute to strengthening the comprehensive and systematic assessment and tracking of actual spending from all sources that comprise the national response to HIV and TB in Zambia, for the calendar years 2015 to 2017, so as to improve financial planning and expenditure monitoring using the NASA tools and guidelines.

Specific NASA objectives were:

1. To implement the NASA methodology for systematic collection and analysis of the HIV and TB financial flows at national and provincial level;
2. To adapt the NASA methodology, classification and tools to the Zambian context;
3. Build national level capacity for systematic monitoring of HIV/AIDS financing flows using the NASA methodology;
4. To conduct an HIV and TB spending assessment focusing on public and development partner (external) resources and including private (both for-profit and not-for-profit) entities known to be contributing to HIV and TB activities.
5. To identify the vectors for each transaction: funding source, funding agent, service provider function/ intervention, cost components (factors of production) and beneficiary populations.
6. To prepare a report of expenditure trends that will assess the country's progress towards their national priorities (as expressed in the NASF), will contribute to the country's next Global Fund Request for Funding and to their Sustainability Plan, as well as to measure the potential funding gaps for the NASF III.
7. To make recommendations on how to institutionalize routine financial expenditure tracking and reporting using adopted tools and methodologies to ensure its long-term sustainability.

The NASA will answer the following questions:

- Who are the sources of funding for HIV and TB in Zambia?
- Are the funds adequate to achieve the NASF targets?
- Who are the agents/ manager of funding for HIV and TB?
- Who are the providers of HIV and TB services?
- What HIV and TB services are being provided, and what is being spent on these?
- Is there need to reallocate towards interventions of greater impact, as per the Investment Case findings?
- Which activities are most dependent on external support and may need sustainability planning?
- What is the spending on HIV and TB across the provinces, and does it match the provincial burden of disease?
- Who are the beneficiaries of the HIV and TB spending?
- What are the key cost drivers, the production factors, of the HIV and TB spending in Zambia?

2.3. NASA methodology and scope

The NASA methodology, as promoted by UNAIDS, was applied, with primary collection of expenditure data from service providers and sources/agents of funding. Face-to-face interviews, as well as self-administered questionnaires were used to collect these data, and their expenditure records were obtained as the primary source for the NASA.

Where expenditure data were missing, costing methods or other estimations were used to estimate the expenditure. The most logical estimation approach was applied, based on available data, but generally estimations were used as little as possible.

The assessment also used the secondary data through a desk review of key financial reports/documents, sources of funds, policies, annual programme reports, the National HIV and AIDS Strategic Framework (2017-2021), previous expenditure analysis reports, National Health Accounts, institutional budgetary and audited reports.

The following parameters defined the scope of this NASA:

- Calendar years: 2015, 2016, 2017.
- HIV and TB interventions, noting that spending on HIV-TB integrated services were captured in the HIV total and the spending on TB-alone interventions are presented separately.
- Financial sources included: public, external, private (businesses and not-profit, but excluding out-of-pocket).
- Level of the assessment: national and sub-national.
- The database and report currency will be United States dollars. Key tables have also been converted to Zambian Kwacha in the appendices, applying each year's annual average weighted exchange rate from the Bank of Zambia.
- All six NASA vectors were to be captured, as far as available data allows. The factors of production were not always available, per intervention.

2.4. Operational NASA dimensions, vectors and definitions

Here we present an overview of the NASA dimensions and definitions, as they were at the time of the study (Nov-Dec 2018). Subsequently, the NASA classifications have been updated and expanded (in January 2019) but this NASA study could not apply them at the time of data collection as they were not available.

In NASA, financial flows and expenditures related to the national response to HIV are organised according to three dimensions: finance, provision, and consumption/utilisation. Each of these dimensions is broken down into two vectors, for a total of six vectors. The classification of the three dimensions and six vectors constitutes the framework of the NASA system as follows:

Financing

1. Financing sources (FS) are entities that provide money to financing agents.
2. Financing agents (FA) are entities that pool financial resources to finance service provision programmes and make programmatic decisions (purchaser-agent).

Provision of HIV services

3. Providers (PS) are entities that engage in the production, provision and delivery of HIV services.
4. Production factors/resource costs (PF) are inputs (labour, capital, natural resources, "know-how," and entrepreneurial resources).

Utilisation

5. AIDS spending categories (ASC) are HIV-related interventions and activities.

6. Beneficiary segments of the population (BP) are key population groups such as men who have sex with men, injecting drug users, etc.

In addition to providing a standardised approach to labelling all expenditures, these classifications provide a means to check the comprehensiveness, consistency, neutrality (with regard to financing and mode of delivery) and the plausibility of single dimensions.

AIDS Spending categories

The AIDS spending categories (ASC) is a functional classification that includes the categories of prevention, care, and treatment, and other health and non-health services related to HIV. The HIV spending has firstly been structured into eight broad classes of spending categories:

1. Prevention;
2. Care and treatment;
3. Orphans and vulnerable children;
4. Programme management and administration;
5. Human resources – capacity building/training only – these were added to systems strengthening
6. Social protection and social services;
7. Enabling environment; and
8. Research.

Each of these thematic areas are further sub-divided into several sub-categories of activities, providing greater detail of the national response. (Refer to the NASA Guidelines for the full NASA ASC definitions, UNAIDS, 2009).

For determining expenditure boundaries, some key terms related to expenditure are defined as follows:

Expenditure

Expenditure measures in monetary terms the value of consumption of the goods and services of interest. While "expenditure" implies a monetary transaction, or non-monetary transaction, such as donations of commodities or in-kind payments in exchange for provider of services are also included and a monetary value was applied to these.

HIV/AIDS expenditure refers to spending on the continuum of HIV/AIDS-related activities, namely those that are 1) intended primarily to have an impact on the health and social wellbeing of PLWHA (e.g., economic, legal, and education) and 2) intended to prevent the spread of HIV (e.g., condom distribution programs for the general population, with the primary purpose of HIV prevention – not, for example, for family planning).

Transaction reconstruction

The main objective of resource tracking at the country level is to determine what is actually disbursed or spent in a country from the source(s) of expenditure to the beneficiary population categories. It follows the NASA methodology to reconstruct all the financial transactions related to the national response to the HIV epidemic. A transaction means the exchange and/or transfer of resources between different economic agents which may include: financing sources, buyers and providers and the description of its factors of the production function.

Additionality

New external funds provided for specific HIV and TB programs are said to be additional when they lead to increased overall external funds in the economy for HIV and TB programs and activities without reducing public expenditures for those programs and activities. Additionality provides a key aspect of

sustained programme formulation and implementation considering all available resources versus the programme needs.

2.5. NASA study design

The study design was a quantitative survey of the funding sources, agents and service providers of HIV and TB services in Zambia.

2.6. Study population

The study was intended to include all sources of funding for HIV, including:

- Public (all), external (all), private (not-for-profit and for-profit, but unfortunately most of the business sector - insurance companies and banks - did not provide data).
- National and provincial levels – although only eight provinces were included in sample for primary data collection, the spending of all the ten provinces were captured through the central levels and headquarters;
- All agents of funding for HIV and TB;
- Providers of HIV and TB services in Zambia – including public facilities; NGOs (local and international).

For each of these organisations/departments, the Directors, Programme Managers, Finance Directors, and Finance Officers were interviewed.

Note that this study did not interview HIV-infected patients, since individual or household spending on HIV was not included in the scope of the study. The collection of out-of-pocket expenditure (OOPE) normally requires a large household survey, with cost and time implications that were beyond the scope of this project.

2.7. Sampling approach

The mapping of all actors, at national and regional levels, provided the sampling frame from which the majority of financing sources and agents were included. However, the stakeholder database from the NAC were not completely up-to-date with all the services providers information, and in some cases the snowballing technique of sampling was utilized, finding a small group of initial respondents and using them to recruit more respondents. Those with the largest portfolio of services and expenditure were prioritized so as to ensure that approximately 85% of all the HIV expenditure in the country was captured, while also ensuring the selection of smaller but important service providers (who may have been the only providers of specific services such as those for the key populations).

This selection was informed by the NAC at national and provincial levels, however in the smaller provinces like Northern, Central and Eastern, all the listed actors in HIV field were included without sampling.

2.8. Data collection

Primary data were collected through a nationwide survey in which 8 provinces from the ten were included. The provinces which were covered were: Copperbelt, Eastern, Lusaka, Northern, North – Western, Southern and Western Provinces. The two smallest provinces in population size and with lowest HIV prevalence (Luapula and Muchinga) were not deemed eligible for inclusion in the survey sample but all their spending was captured through the central level and headquarters of respondents.

In each of these provinces, two districts were selected except for Copperbelt Province in which two more districts were added in the sampling while applying the snowballing technique. The respondents were identified from the NAC database of stakeholders which comprises all public, private-not-for-profit institutions (faith and non-faith based organisations), civil society organisations, as well as private-for-profit institutions. Data collection in the province was from 11th to 22nd November 2018 while in Lusaka the process was stretched until the last week of January 2019.

NASA data were collected through face-to-face interviews and extensive review of expenditure records. HIV and TB actual expenditure data were obtained from quarterly, bi-annual and annual expenditure reports as well as audited accounts of participating organizations. Both top-down and bottom-up approaches were employed during data collection. The top-down approach involved collecting data from sources and agents while the bottom-up approach involved collecting data from the service providers. The data from the three levels were triangulated by comparing and consolidating them into one transaction, so as to avoid double counting. Thus, when a complete transaction was captured, all the data from the agents and providers indicating the same funding received from that source would be excluded to ensure that there is no double counting from the source and provider perspectives.

The data collectors and capturers contracted by NAC were trained in the NASA methodology, the use of the NASA tools, as well as general interviewing and research skills.

2.9. Data variables

Expenditure data were collected on funding sources, financing agents, providers of services, HIV and TB programmes, beneficiary population and factors of production. Data collection was aimed at capturing all financial transactions and spending related to HIV and TB interventions.

2.10. Data collection tools

The UNAIDS NASA data collection tools were adjusted and used to collect quantitative data, using close-ended question for funding/HIV expenditure. Data were collected using both soft and hard copies of the tools. However, some of the larger organizations provided expenditure reports that data collectors and consultants populated in the NASA format.

2.11. Data analysis

The data were captured firstly in the hard copies then entered into Data Processing (DP) sheets. The DP sheet is an excel-based spreadsheet that translates raw data into a NASA format, it serves to organize, clean and verify the completeness of data, any missing, incomplete, or contradictory data were identified and addressed. Finally, the data were exported to the NASA Resource Tool (RTT), where the aggregation and analysis were undertaken, and further analysis and graphical displays were processed in Excel. The NASA principle of capturing only completed transactions and the processing of the data first in Excel sheets also assisted the team in undertaking triangulation, and reduced the chances of double counting. Further cleaning was done in the NASA RTT before analysis was completed.

2.12. Quality control

a) Data collectors and supervisors were trained for three and four days respectively. The training aimed at providing the trainees with a strong theoretical understanding of the NASA principles and methods and practical sessions on filling of the tools by using test cases. The adapted tools were piloted to ensure they collected the desired data and that the data collectors are comfortable in their use.

b) Pilot testing was done for all the trained data collectors.

c) Data collected was cross-checked daily by the international consultant managing the project (who was in country and in the field) for completeness and accuracy.

d) There was regular supervision by the Technical Working Group and NAC through face-to-face meetings and debriefing.

e) Regular briefing and review meetings were held by the international in-country consultant, the NAC and UNAIDS staff and the data collectors. Discussions about the data challenges, gaps, inaccuracies, coding issues helped the team to deal with any technical challenges, with identification of possible solutions.

f) Constant quality control was undertaken by the international consultant who led the in-country data collection and capturing process, as well as the data processing.

g) The additional international NASA expert undertook another level of data checking of all captured data through review of the RTT outputs. She ensured the quality and completeness of the data entered by the team, that each transaction has all the vectors labelled correctly, identified gaps and requested corrective actions to be taken. In addition, the RTT control board indicated where there were discrepancies that needed to be adjusted/ fixed. These were all corrected.

h) An initial internal meeting was held with the Technical Working Group (TWG) for their review of the preliminary findings, after which adjustments were made. Thereafter, a validation workshop was conducted with the TWG and broader stakeholders to; (1) share preliminary findings, (2) for organizations that provided data to confirm that the data they provided were presented correctly, and (3) to get stakeholders' input into the key issues being raised. Generally positive feedback was received from the stakeholders at these validation meetings, with only a few pieces of data identified as missing or incorrect. One of these issues related to the reduction in spending on ARVs in 2016, yet the numbers of ART patients increased in that year. Every effort was taken to locate any ARV spending that had not been captured, but MOH, UNDP and NAC could not identify any unrecorded funds.

2.13. Overview of the data collection and gaps

The following table shows the total numbers of agencies from which data were obtained.

Table 6: Overview of response rates

Respondents	Numbers that provided data
Public	MOH & NAC
	Aggregate data from all the ministries provided by MoF
Bilateral	5 (including USG)
Multilateral	10 (primarily GF and UN agencies)
International NGOs	25
Local NGOs	118
Private for profit	10
Key missing data	WHO
	World Bank
	Cash transfer for Chronical illness

2.14. Assumptions

The following key assumptions were made:

a) Initially PEPFAR provided their expenditure analysis (EA) data for 2014/15 (2015) and 2015/16 (2016) but without the navigation cover sheet which made it impossible to extract the programme specific spending by production factor. For these two years, their total spending for each program area was used (as provided). For 2017, their EA data was not available, and hence their total budget in their Country Operational Plan (COP) 2017 was split by intervention applying the same proportions found for 2016 from the EA dataset.

b) PEPFAR's data (EA and COP) did not indicate their implementing partners, and therefore all the USG funds had to be lumped under one service provider category (PS.99) which meant that they could not be identified as public, NGO, university, etc.

c) All data collected from any of the PEPFAR recipients/service providers was excluded in the analysis to avoid double counting.

d) An estimation of the Ministry of Health's human resource costs incurred in delivering integrated HIV services, but which are not specifically labelled as HIV, was included based on the suggestion from the validation meeting. For this estimation, the MOH suggested that 9% of their annual salary bill be attributed to HIV, based on the SHA allocative key.

e) Where details were not available on the beneficiaries of programme spending, the most obvious was selected, based on the ASC. For example,

    i. The spending of NAC on programme administration was assumed to benefit the general population.

    ii. The administration costs of other organisations were assumed to be non-targeted.

    iii. The M&E activities were assumed to be non- targeted interventions.

    iv. For the training received by health workers (trained health workers, Peers Educators, opinion leaders) the beneficiary population were the population that receives services that heath workers were trained on, mostly PLHIV.

    v. Prevention of mother to child transmission (PMTCT) was assumed to benefit children to be born to HIV positive mothers. The spending on the ARVs for the mother were captured under ART and were attributed to ART patients (which could not be disaggregated by sex).

f) The Ministry of Finance provided data for all the government sectors countrywide, both national and provincial levels. Therefore any other data collected from provincial government facilities were excluded from the analysis, to avoid double counting.

g) For standardisation only, the Bank of Zambia annual average exchange rates shown in table 3 below was applied to all currency conversions so that all figures could be presented in USD, as requested by the Steering Committee.

Table 7: Average Exchange Rates for the Financial Years

Currency	2015 ZMW	2016 (ZMW)	2017 (ZMW)
1 US $	8,70	10,31	9,53
1 Euro	9,64	11,41	10,77
1 Pound	13,30	14,01	12,28

Source: Reserve Bank of Zambia, 2019.

2.15. Limitations of the study

A number of limitations with the data should be noted:

a) Generally, HIV costs for integrated and/or wellness programs from sectors other than health were difficult to identify since they did not have separate budget lines nor were expenditures labelled as HIV-related. These costs are therefore underestimated, but are likely to be a small proportion of the entire response.

b) Similarly, the spending on TB services within the primary health care (PHC) services could not be easily identified, and hence only the directly TB-labelled spending was captured, as provided by the MOH. In addition, the team was unable to obtain the numbers of TB patients (split by drug-sensitive and drug-resistant TB) to enable an estimation of the spending on their treatment. Thus this NASA has underestimated the TB spending within the MOH.

c) The Ministry of Community Development Services was unable to provide the spending on the cash transfers for persons with chronic illnesses, and hence an estimation of the proportion that might be benefitting persons living with HIV could not be undertaken. This is a significant contribution of the GRZ to the response to HIV that could not be captured.

d) The private-for-profit sector such as health insurance companies, banks, mines and private hospital contributions were under-reported due to poor response, despite several attempts to collect these data, and hence this sector remains underestimated.

e) The Global Fund expenditure data did not provide the cost components/production factors (PF) for each program area/ intervention, but only provided their total spend spilt by PF, which has been presented here (and not by ASC).

f) The PEPFAR spending in 2017 relied upon their provided COP 2017 figures, since their expenditure analysis (EA) datasets were not available, as they had been for 2014/15 (2015) and 2015/16 (2016). This may have over-estimated the USG spending in 2017, since the COP amounts do not usually translate 100% into actual spending, and some degree of disaggregation might have been lost in the 2017 breakdown.

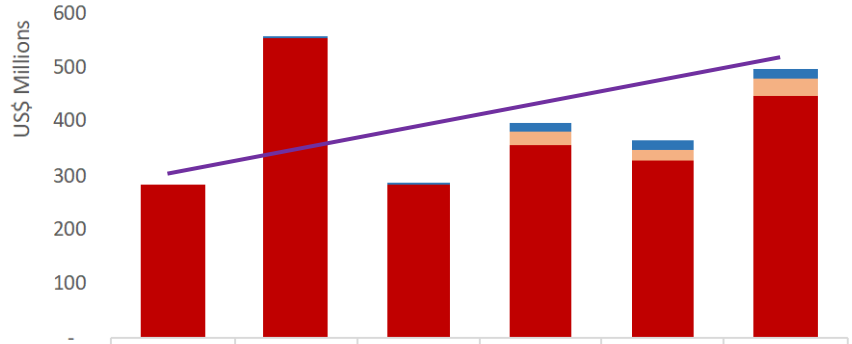
3. NASA Findings

In this section, all the spending on HIV in Zambia is presented, covering all sources: public, external (multilateral, bilateral and international foundations), and private (including some businesses, whilst excluding all private medical services since medical insurances did not provide data, & excluding OOPE). The first section provides a high-level perspective on the total HIV spending envelope in Zambia, followed by breakdowns of the spending by agent, activities, provider of services, beneficiaries, and production factors.

3.1. Total spending on HIV and TB in Zambia (2012-2017)

In Zambia, the commitment to combat HIV is evidenced in the increased funding, from both government and external sources. From the previous NASA in 2012, the annual average increase to 2017 has been 14% per annum, smoothing for the lumpiness shown in figure 5 below. The figure also shows that TB spending is relatively small (US$ 15.8 million in 2017), compared with the HIV spend, but as explained in the limitations, TB may have been underestimated slightly. For the period under study in this NASA (2015- 2017), the total HIV spending (including the integrated TB/HIV interventions) reached US$ 448 million in 2017. Including the additional estimated MOH personnel contributions of US$ 30.5 million (refer to assumptions section), brings up the total spending on HIV and TB/HIV to US$ 478.6 million in 2017. There was a slight decline in total spending between 2015 and 2016. However, the dip in spending in 2016 is probably unlikely given the numbers of ART patients continued to increase over the three-year period. It was suspected that ARVs were procured in 2015 with GF funding, but these were only consumed in 2016.

Figure 7: Total HIV and TB spending in Zambia (US$m, 2012-2017)



	2012 (Previous NASA)	2013 (NHA excl HH exp)	2014 (NHA excl HH exp)	2015 (NASA)	2016 (NASA)	2017 (NASA)
TB		3685 886	4652 616	14054 867	14846 363	15818 088
Est. MOH embedded HR cost				25809 120	23252 203	30476 404
HIV and TB/HIV	282563 078	553858 579	280711 103	355504 861	326163 810	448071 979

NB. There appears to have been funding for ART in 2016 that could not be obtained by the NASA team. These may have been GF monies for ARVs that were spent in 2015 but may have only been distributed in 2016 - but this could not be confirmed. For the two years of National Health Accounts' HIV figures shown above (2013 and 2014), the dramatic increase in 2013 and a decrease in 2014 were not explained.

3.2. Sources of HIV and TB funding in Zambia (2015-2017)

The breakdown by sources of funding shows that external sources continue to be the largest contributors to HIV funding, at 85.6% in 2015 and increased slightly to 85.8% in 2017. The private contribution, which was possibly under-estimated as explained in the limitations section, was less than half a percent in all the years. In 2012, NASA found that the public proportion was 6% of the total HIV spend, but this excluded the estimated MOH personnel contributions (see assumptions section). This nevertheless shows a significant increase in both nominal terms, from US$ 15.8 million in 2012 to US$ 35.4 million, plus another US$ 30.5 million estimated MOH embedded spending, causing the public portion to reach 13.8% by 2017.

Figure 8: Total HIV spending in Zambia by source (US$m, 2012-2017)

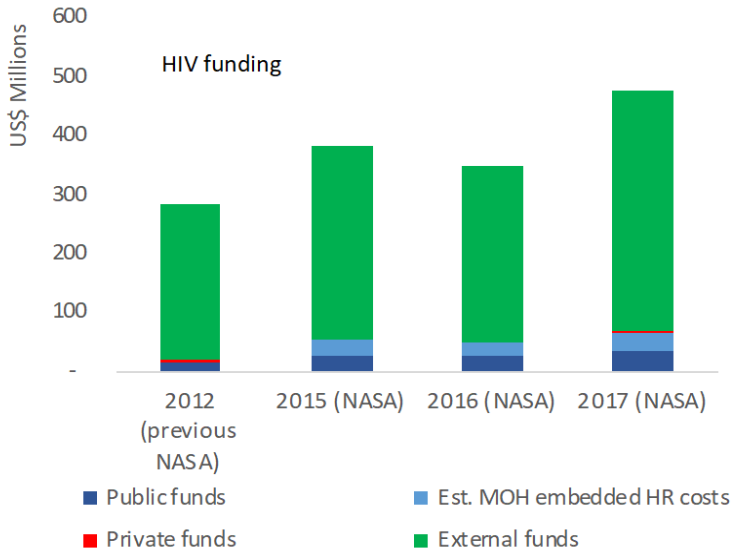
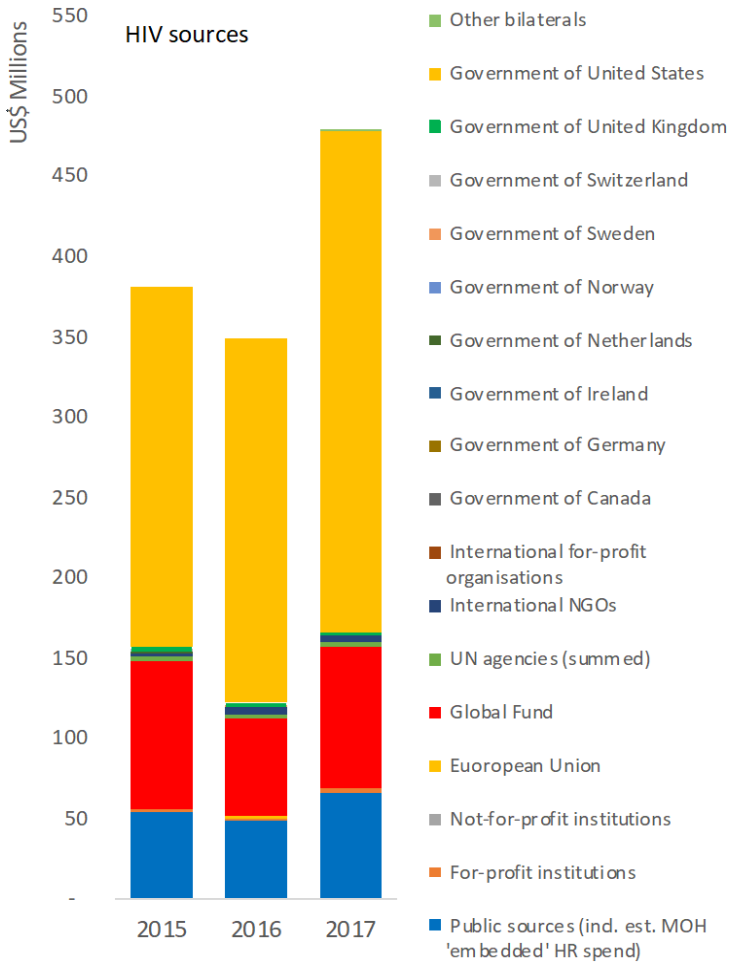


Table 8: Total HIV spending in Zambia by source (US$, 2012-2017)

HIV Sources of Funding (USD)	Public funds	Add.Est. MOH embedded HR costs	Private funds	External funds	Total HIV (US$)	Public FS % share	Private FS % share	External FS % share
2012 (previous NASA)	15 842 677	Not incl. in 2012	3 086 850	263 633 551	282 563 078	5.6%	1.1%	93.30%
2015 (NASA)	27 489 649	25 809 120	1 691 430	326 323 782	381 313 981	14.0%	0.4%	85.58%
2016 (NASA)	24 963 066	23 252 203	1 701 232	299 499 512	349 416 013	13.8%	0.5%	85.71%
2017 (NASA)	35 406 630	30 476 404	1 923 653	410 741 696	478 548 382	13.8%	0.4%	85.83%

Examining the sources in more detail (figure 9 below), shows the largest contributor to HIV was the USG over all three years, increasing from US$ 225 million in 2015 (59% of total), to US$ 227 million (65%) in 2016, and US$ 313 million (65%) in 2017 – the proportional amount did not increase in 2017 due to the overall total increasing, with the public and Global fund contribution also having increased from 2016. The GF amounts were US$ 93 million (24%) in 2015, US$ 61 million (17%) in 2016, and US$ 89 million (19%) in 2017 (noting that some of the GF funds may have been used for ARVs consumed in 2016 and paid for in 2015, but this could not be validated). There were other small but nevertheless important contributions from several other bilateral, multilateral partners and international NGOs.

Figure 9: Sources of HIV funding (US$m, 2015-2017)

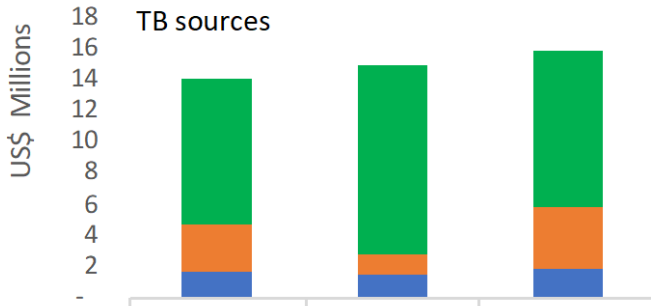


Summary table of HIV sources	2015	2016	2017	2015 %	2016 %	2017 %
Public sources (incl. est. MOH HR spend)	53 298 769	48 215 269	65 883 033	14%	14%	14%
Global Fund	93 215 482	60 970 084	89 008 715	24%	17%	19%
Government of United States	225 142 545	227 681 936	313 016 050	59%	65%	65%
All others summed	9 657 185	12 548 724	10 640 584	2%	4%	2%
Total	**381 313 981**	**349 416 013**	**478 548 382**	**100%**	**100%**	**100%**

Note these figures exclude any TB spending (by GF and USG), shown in figure 10 below. Please refer to the appendices for the detailed tables with the exact numerical contributions of each source.

Regarding the TB spending in Zambia, the sources contributed similar percentages with 88.2% from external and 11.8% from public in 2017, with only two external sources: USG (64% of total) and GF (24%) (figure 10).

Figure 10: Sources of TB funding (US$m, 2015-2017)

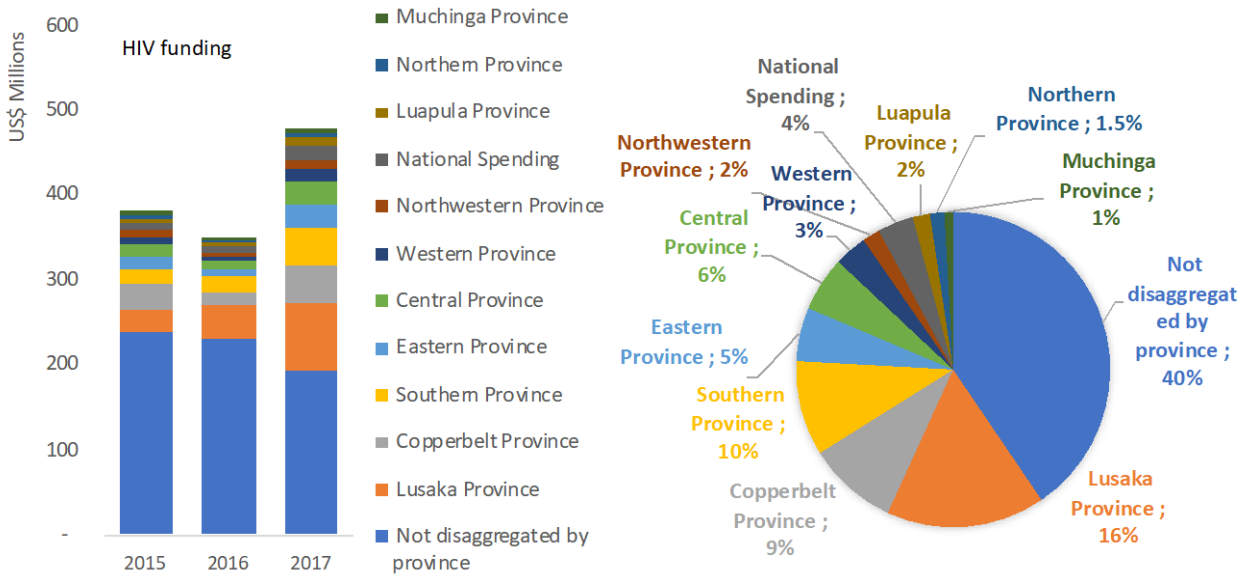


	2015	2016	2017
Government of United States	9381 776	12075 832	10097 343
Global Fund	3055 527	1419 405	3860 159
Public sources	1617 564	1351 126	1860 586

3.3. Provincial HIV spending in Zambia

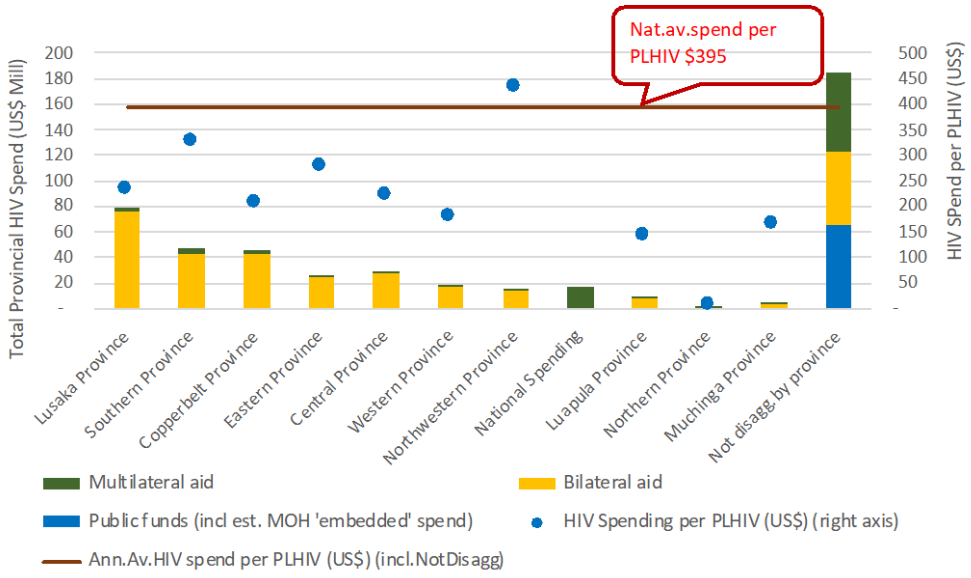
Every effort was made to attribute the HIV spending to geographic location, but large portions of the spending could not be broken down by province, 66% in 2016 but this reduced to 40% in 2017. The USG expenditure data was labelled by province, while the GF data was not. Bearing this in mind, Lusaka province received the largest share at 16% in 2017, followed by Copperbelt (10%). The smallest share went to Northern province (0.1%), followed by Muchinga at 2%.

Figure 11: Provincial HIV spending in Zambia (US$m, %, 2015-2017)



Considering the HIV burden in each province, using the Spectrum 2017 figures, the national per capita average spending per person living with HIV (PLHIV) was on average US$ 395 in 2017 (which includes the funds not labelled by province). For the funds that were labelled by geography, the range was from US$ 141 per PLHIV in Luapula province to US$ 434 per PLHIV in North Western province in 2017, which was an outlier. Another outlier was the US$ 6 for the Northern province, for which total spending was only US$ 355 thousand in 2017, having dropped from US$ 3 million in 2016.

Figure 12: Provincial HIV spending in Zambia, total and per capita (US$, 2017)



3.4. Financing agents of HIV funds in Zambia

Financial agents are the entities that manage and distribute funds, purchasing services and determining the interventions to be provided. The largest majority was external and this was mostly driven by the USG funds, since the USG was labelled as the agent for its own funding. Much of the GF monies went through the government or NGOs, which were labelled as the agent (as can be seen in figure 14 below). Importantly, the public agent share increased from 9% in 2015 to 15% in 2017, showing more direction from government and, assumingly, alignment with national priorities.

Figure 13: Agents of HIV funding in Zambia (US$m, 2015-2017)

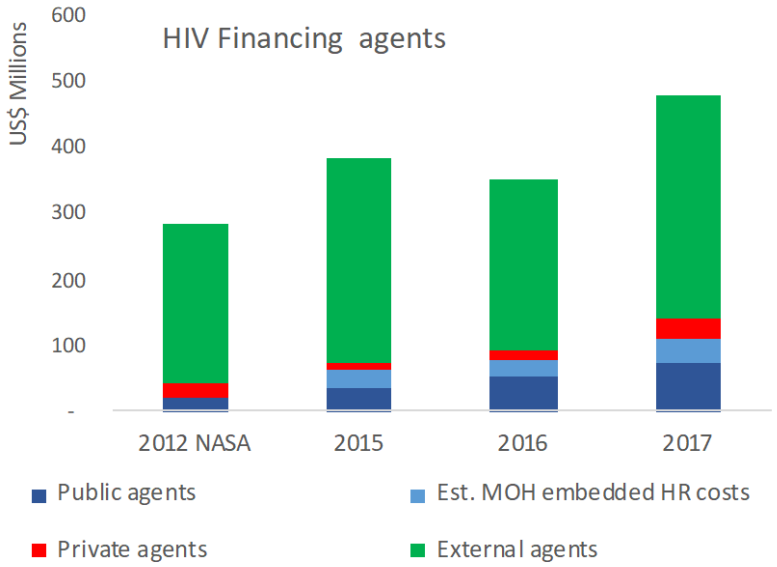
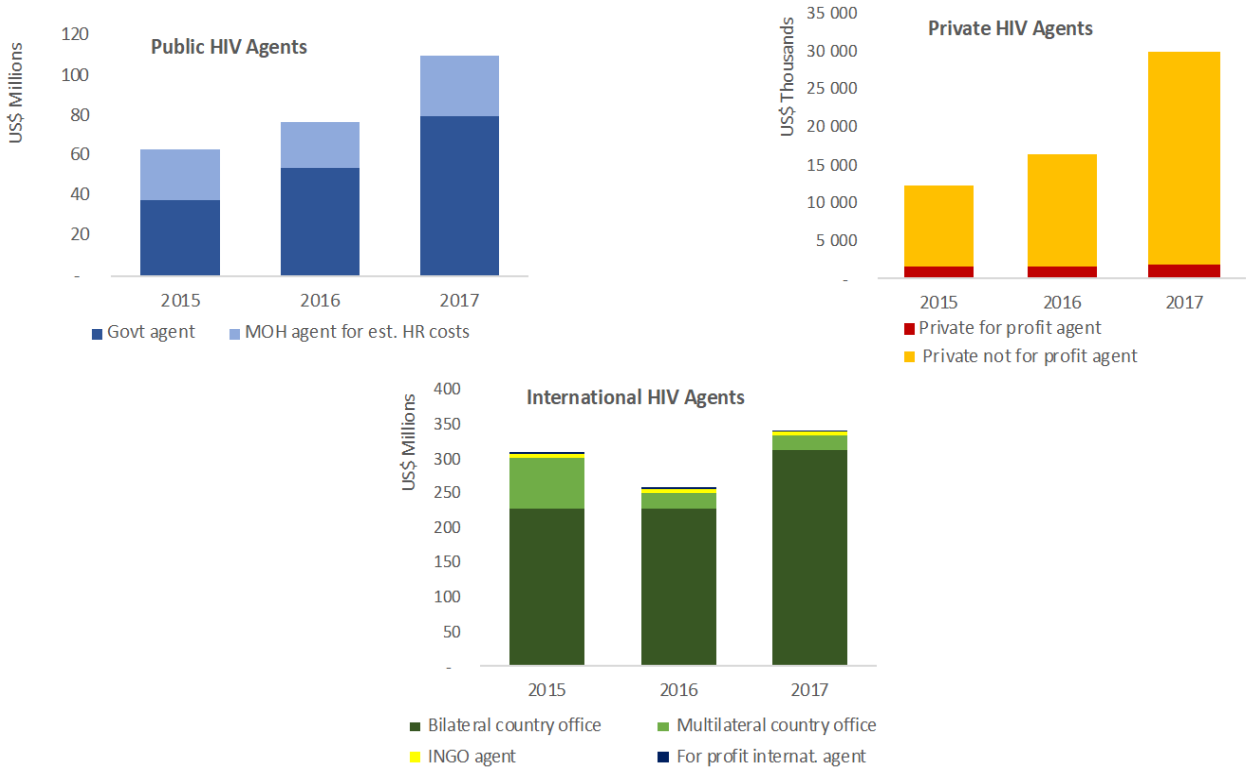


Figure 14: Agents of HIV funding in Zambia, further disaggregated (US$m, 2015-2017)



Refer to the appendices for the matrices, providing the funding sources by funding agents for further details.

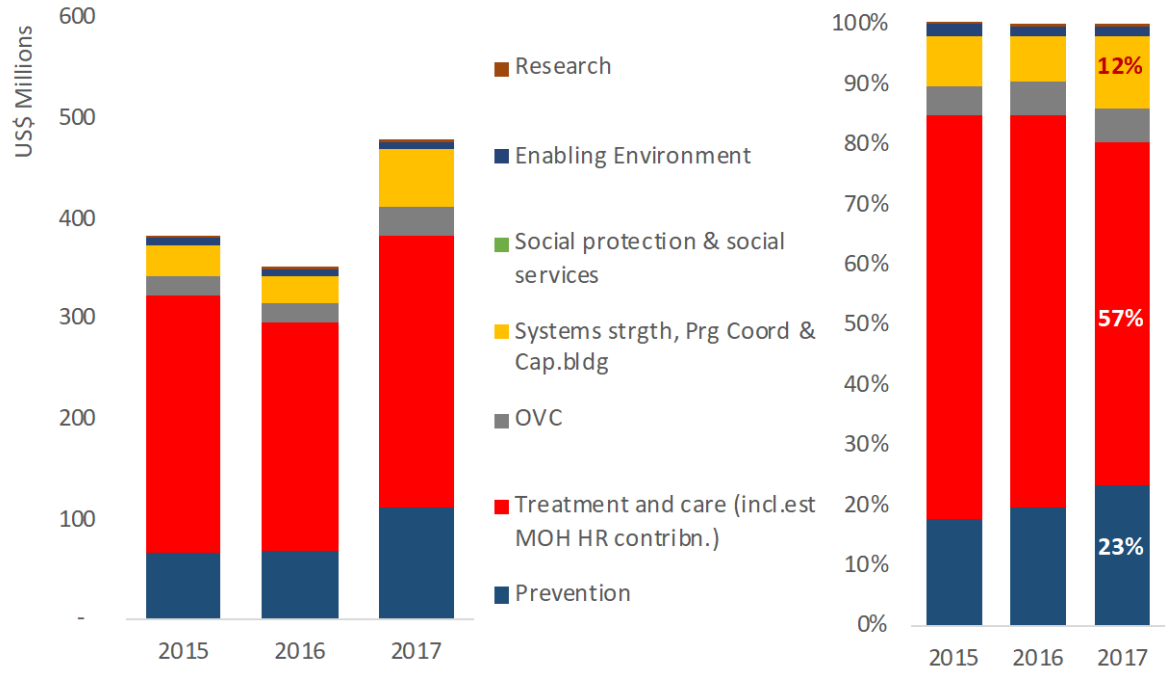
3.5. HIV spending by programme area and intervention

The NASA intervention categories (ASCs) provide detailed disaggregation of the activities upon which funds are spent, and these can be easily matched to the NASF priority areas. However, the degree of disaggregation is dependent upon the details of expenditure provided by the respondents.

The activities are first presented within their broader programme areas, as shown in figure 15 – both nominally and proportionally. Importantly, the prevention spending increased by 63% in nominal amounts between 2016 and 2017 from US$ 68.5 million to US$ 111.8 million, reaching 23% of the total HIV spend in 2017, thereby almost meeting the UNAIDS Quarter for Prevention target (2015). This is additionally important given the increase in treatment and care spending (19% increase between 2016 and 2017), mostly driven by the rising ART costs with the scale-up of the 'test and treat' policy. Although the total treatment and care spending (which includes interventions other than ART alone) **increased in nominal terms** from US$ 227.7 million in 2016 to US$ 271.9 million, its proportional share of the total decreased from 65% to 57% in 2017. This was mostly due to the dramatic increase in prevention spending in 2017, and partly due to a large increase in spending **systems strengthening and programme co-ordination** proportion (115% increase from 2016 to 2017). This large increase was mostly due to the more than doubling spending on training/ capacity building (included in this category at the TWG's request), as well as the GF spending labelled as 'health systems strengthening', drug resistance monitoring and programme management costs. USG also increased their spending on serological surveillance and M&E activities (also captured under systems strengthening). This program area therefore increased overall from 8% of the total spend in both 2015 and 2016, to 12% (US$ 57.3 million) in 2017. The funding for orphans and vulnerable children/youth (OVCs) also increased by 40% between the last two years from US$ 19.8 million in 2016 to US$ 27.8 million in 2017, representing 6% of total HIV spending in 2017 (up from 5% in 2015). Spending on

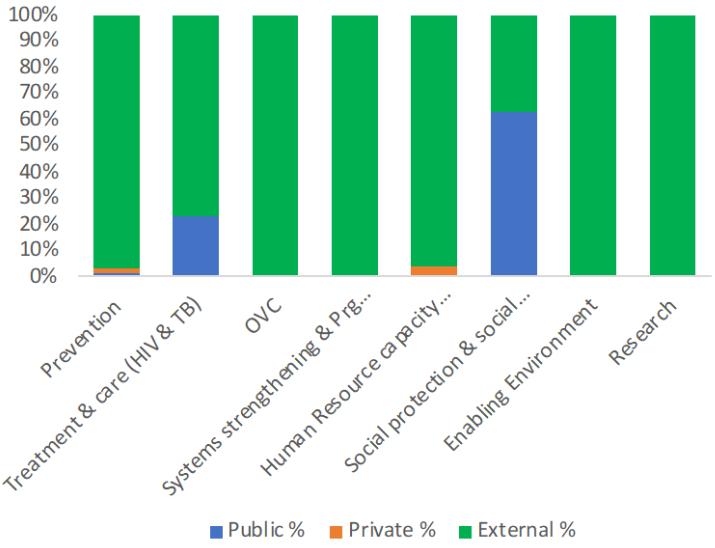
social protection, enabling environment and research all remained very small amounts, forming only 2% of the total when summed.

Figure 15: HIV spending by programme area (US$m, 2015-2017)



The current global discourse regarding the reducing external funding for HIV, has highlighted the urgency for governments to increase their public funding as well as to improve their efficient use of available funds. A deeper analysis of which programme areas are being funded by which sources is useful in this context, so as to identify those programmes which, being more dependent on external aid, might be more vulnerable and possibly un-sustainable. Figure 16 shows the proportional contributions of public, external and some private sources to these programmatic areas in 2017, the latter being only for prevention (such as workplace wellness programmes) and training activities.

Figure 16: Programme area by source (%, 2017)



Public funding contributed the largest share (63%) of the social protection and social services in 2017 (bearing in mind that the Ministry of Community Services also pays for cash grants for the chronically ill but these amounts are excluded here as the figures were not provided). Public funds also contributed 24% to treatment and care intervention, while external funded the remaining 76%, which may highlight a potential sustainability challenge for the country. Also to note is that in 2017, prevention activities were 97% externally funded, 2% public funded and 1% from private sources. If the government wishes to contain the new infections effectively, it will need to allocate more to prevention.

Prevention may be an area for which additional private resources could be mobilised more easily, and certainly the government could consider alternative public funding sources to increase its contribution to efforts to reduce new infections. Apart from social protection and treatment areas where public contributed, all the other programme areas were mostly externally funded in 2017. There were similar proportions in the previous years – refer to the annexes for the tables showing the detailed figures (FSxASC). The following sub-sections explore each programmatic area in more detail.

Prevention activities

Overall, the prevention spending increased by 63% between 2016 and 2017, reaching US$ 111.8 million, and importantly forming 23% of the total spend in 2017 (thus almost achieving UNAIDS' Quarter for Prevention target[7]). Within the prevention area, the largest spending (36%) went to HIV testing services (HTS) in 2017 (noting that there is some debate as to whether HTS should be included in the prevention category), followed by 24% for eMTCT and 18.4% for VMMC. Interventions for sex workers and their clients only received 3.1% of the prevention spending in 2017. Thereafter, all the other prevention activities received around 1% or less of all the prevention funding. There was 11.6% for prevention activities which were not disaggregated by prevention intervention type, mostly from the USG funding. The massive increase in prevention spending in 2017 was mostly driven by the large increase in the PEPFAR funding according to their COP commitments for 2017 (since their expenditure data was not available), but which was probably not fully absorbed (i.e. it did not covert fully into services).

Figure 18 further highlights this in 2017, where the public and private contributions to prevention were insignificant compared to external funds – the left-hand graph shows the nominal amounts while the right-hand side shows the proportional prioritisation (i.e. within each source amount, what prevention activities did they focus on, in 2017). This graph shows that the bulk (90.3%) of the US$ 1.9 million **public prevention funding** was for eMTCT, and the remainder for workplace and community/social mobilisation. The smaller **private prevention funding** (US$ 1.2 million) went to not disaggregated prevention activities (57.8%) and 20.5% went to community/social mobilisation and 18.3% for SBCC. The **external sources (international donors**) for prevention were largest (US$ 108.7 million) and funded a range of activities, with 37.1% for HTS, 23.5% for eMTCT, 18.9% for VMMC, 3.2% for sex workers and their clients. The estimated DREAMS spending (exact figures could not be provided as they were embedded in prevention activities for the general population) are included under community mobilisation and youth in-school interventions.

[7] UNAIDS, 2015.

Figure 17: Total HIV prevention spending by intervention (US$m, 2015-2017)

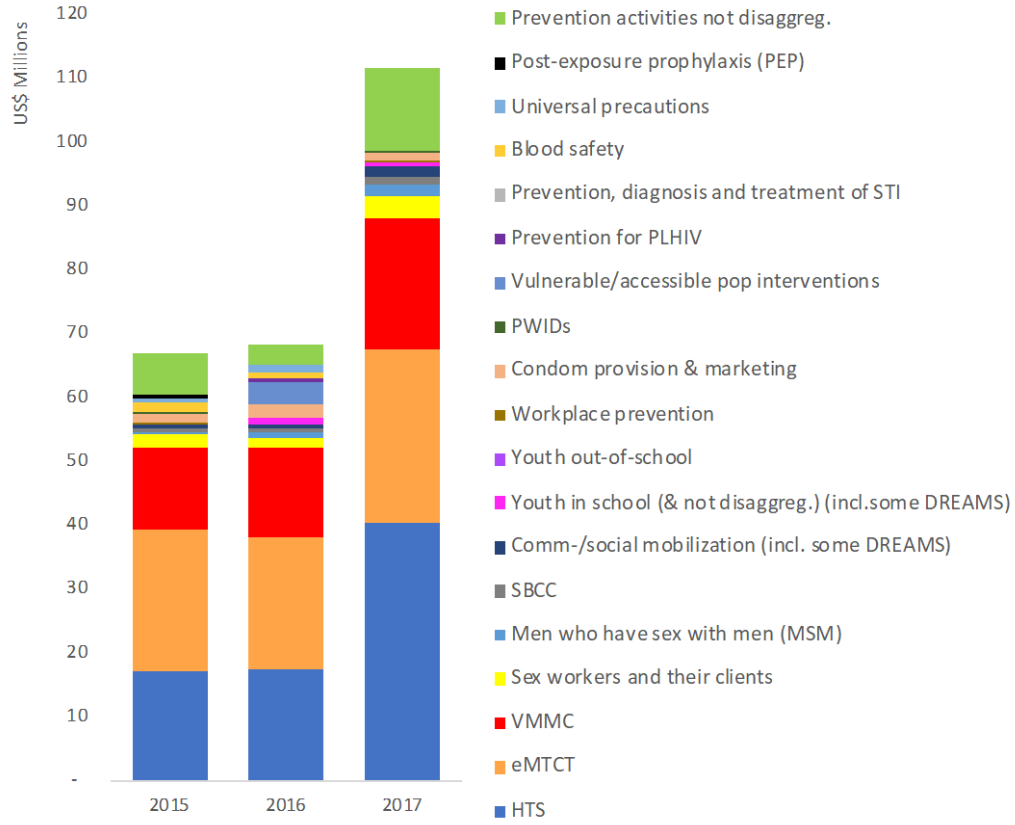
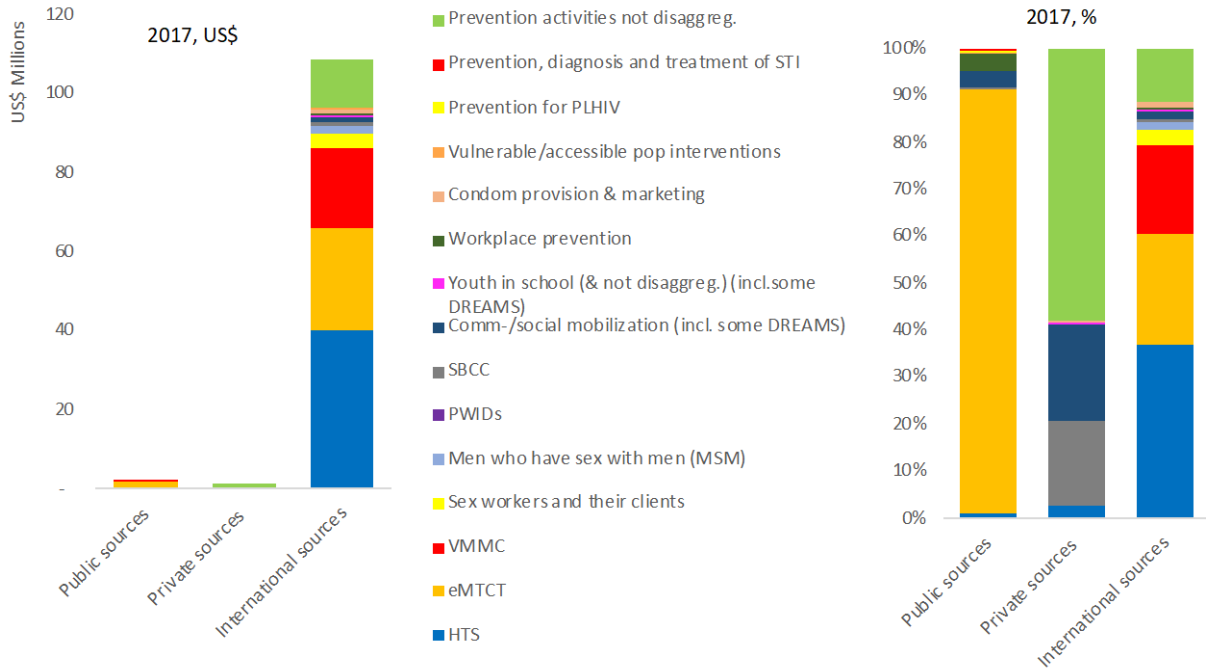


Figure 18: HIV prevention spending by source (US$m, %, 2017)



Given the recent emphasis on the five pillars of prevention (UNAIDS, 2017), table 9 below extracts the specific spending of the five priority interventions, noting that there was spending on youth that was not disaggregated by gender and hence not specifically attributed to AGYW (and not included in table 9). In addition, not all of PEPFAR's estimated DREAMS spending for AGYW is captured here, since some

are captured under enabling environment, for activities to reduce gender-based violence. The clearly identified AGYW prevention spending dramatically increased to US 3.7 million in 2016 but then reduced slightly to US$ 2.4 million in 2017 (from 5.4% to 2.2% of the total prevention spending). Spending on key populations (sex workers, MSM and PWID) doubled in the latter year, and VMMC spending also increased (by 47% to form 18.4% of all prevention spending). Of some concern was that condom spending almost halved between 2016 and 2017. Overall, the spending on the 5 pillars of prevention increased by 28% between 2015 and 2016, and then by 33% between 2016 and 20 17, showing an important commitment to focus on high impact prevention interventions. Nevertheless, there remained 74.5% of prevention spending in 2017 that went to other, less impactful prevention interventions, which might need re-examining to ascertain if allocative efficiency is being undermined.

Table 9: Spending on the 5 pillars of prevention in Zambia (US$, 2015-2017)

5 pillars of prevention spending (US$)	2015	2016	2017	2015 %	2016 %	2017 %
Prevention activities labelled for AGYW (excl. other youth interventions, not disaggreg.)	183 728	3 705 114	2 446 856	0.3%	5.4%	2.2%
Key populations	2 787 291	2 460 084	5 392 037	4.2%	3.6%	4.8%
Condoms	1 531 453	2 068 012	1 220 768	2.3%	3.0%	1.1%
VMMC	12 855 266	13 978 304	20 590 228	19.2%	20.4%	18.4%
PrEP	0	0	0	0.0%	0.0%	0.0%
Sub-total for 5 pillars	**17 357 737**	**22 211 514**	**29 649 889**	**25.9%**	**32.4%**	**26.5%**
Sub-total for all other prevention interventions	49 580 789	46 329 138	82 151 463	74.1%	67.6%	73.5%
Total prevention spending	**66 938 527**	**68 540 651**	**111 801 353**	**100.0%**	**100.0%**	**100.0%**

* Note that not all the DREAMS spending for AGYW was captured in the prevention table above, since some was captured under enabling environment (GBV reduction).

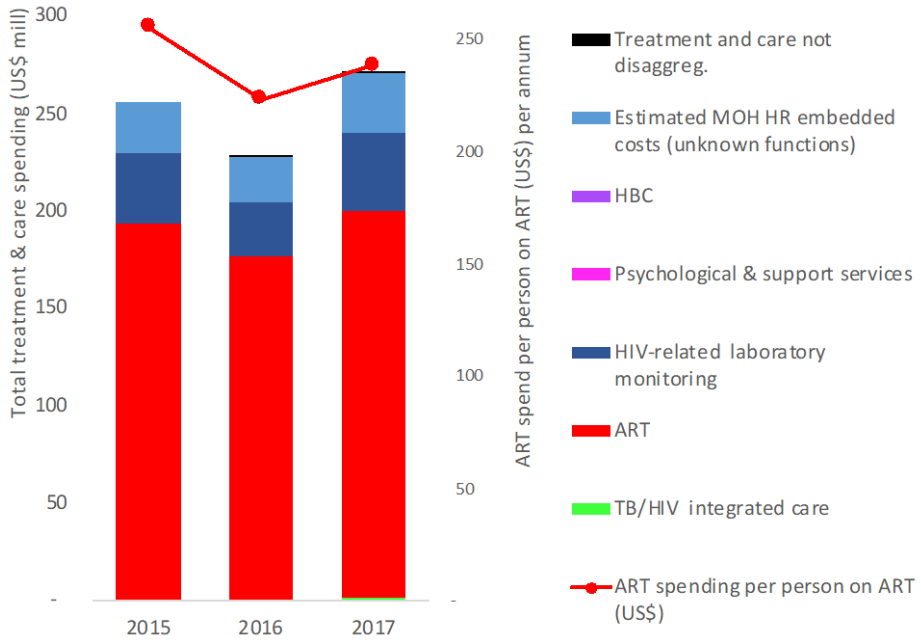
Treatment and care activities

The total treatment and care spending showed a decrease in 2016, primarily due to a decrease in the ART spending, but as explained above, this may have been due to ARVs that were procured and paid for in 2015, but were only consumed in 2016. Normally NASA principles require accrual-based accounting where the funds are captured in the year of consumption, but the figures could not be provided by MOH, GF nor PEPFAR, and hence the amount and source could not be ascertained and validated. However, the number of ART patients increased by 4% from 758,646 in 2015 to 792,696 in 2016, and again by 7% to 850,017 in 2017, which would have required increasing funding, not declining in 2016.

Between 2015 and 2017 the average annual increase was 3.1% in total treatment and care spending. Of this, the largest portion went to ART (73.1% in 2017), followed by HIV-related laboratory costs (14.5%) and with 11.2% for the estimated MOH human resource costs for integrated HIV services (assumed to have been treatment-related but may have included some prevention activities).

Because of the supposedly decrease in ART spending but with increasing numbers of persons on ART, the unit cost, shown by the red lines in figure 18, decreased from $255 per person per annum in 2015 to $223 in 2016 and then increased again to $238 in 2017 (applying the Spectrum estimates of ART patients). Over the three-year period, the average annual spending was $238.77 per person on ART.

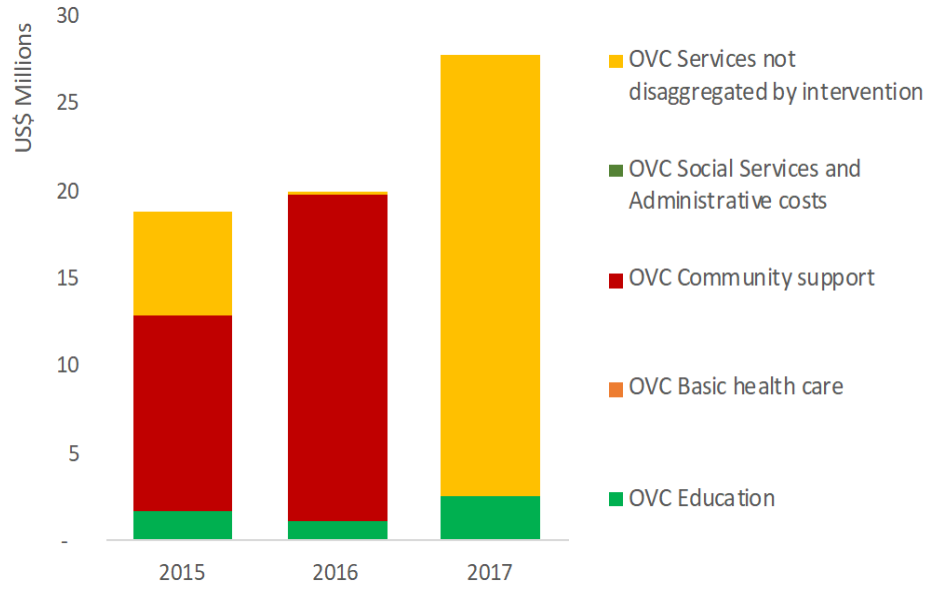
Figure 19: HIV treatment & care spending by intervention (US$m, 2015-2017)



Orphans and vulnerable children/ youth

The activities for orphans and vulnerable children and youth[8] in Zambia were funded almost entirely by external funds, apart from less than 0.01% coming from private sources. The total amounts increased from US$ 18.8 million in 2015 to US$ 19.8 million, and a large jump of 40% to US$ 27.8 million in 2017. The majority of the external funds (90.9%) came from PEPFAR funding in 2017, 9% from GF and less than 1% from DfID and other INGOs. Most of the spending (91%) was not disaggregated by the type of OVC activity in 2017.

Figure 20: OVC spending by intervention (US$m, 2015-2017)



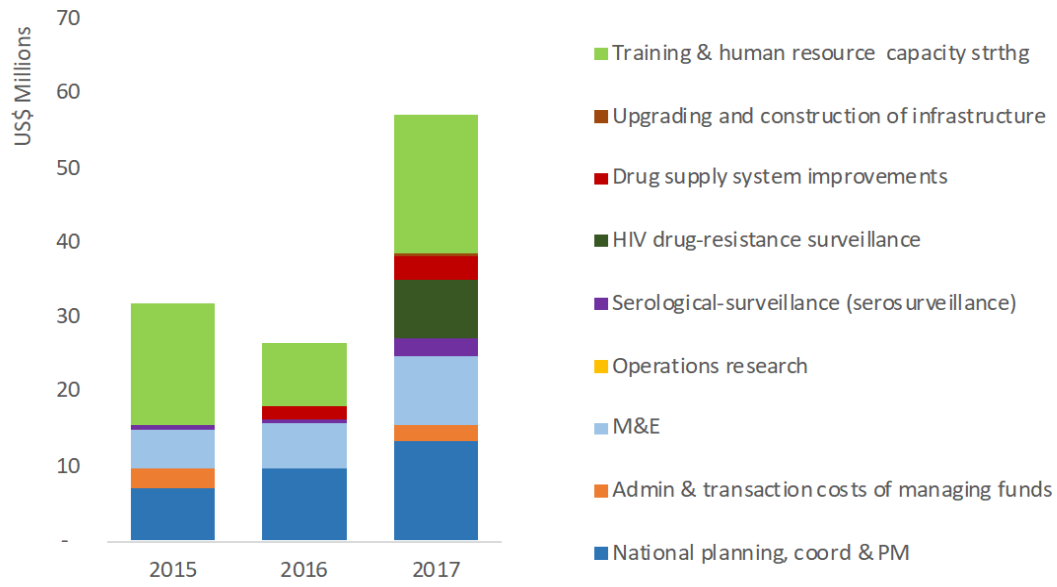
[8] The OVC activities funded by the GF were also targeting youth considered vulnerable to HIV or its impact.

System strengthening and programme co-ordination activities

The spending on various health system strengthening (HSS) activities, including the training and capacity-development activities (as requested by the TWG), after declining slightly from US$ 31.9 million in 2015 to US$ 26.7 million in 2016, then more than doubled to US$ 57.3 million in 2017. This large increase was mostly due to the increase of 123% in spending on training/ capacity building, as well as significant increases in drug supply improvements, M&E, drug resistance monitoring and sero-surveillance, mostly USG funding. There was also a 42% increase in national co-ordination and programme management costs between 2016 and 2017.

By 2017, the largest component of the total HSS spending (32.9%) was for training and capacity building, followed by national planning and coordination (23.5%), monitoring and evaluation (16.3%) and 13.7% for HIV drug-resistance surveillance. Smaller portions went to drug supply systems (5.9%), serological-surveillance (3.9%) and 3.5% for transactional and administration costs.

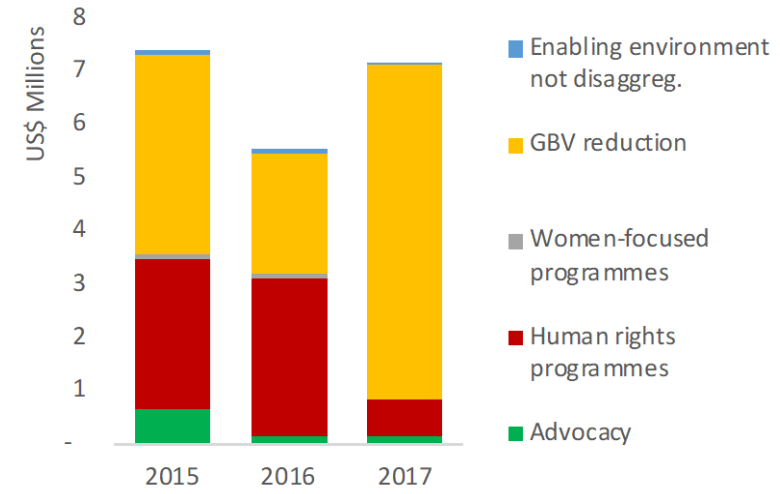
Figure 21: System strengthening spending by intervention (US$m, 2015-2017)



Enabling environment activities

The spending on enabling environment activities decreased from US$ 7.4 million in 2015, to US$ 5.6 million in 2016, and then increased again to US$ 7.1 million in 2017. The bulk of the 2017 spending (88.6%) went to activities aimed at reducing gender-based violence, through the USG DREAM project. The nominal and proportional amounts going to human rights interventions appeared to dramatically decrease from US$ 3 million in 2016 to only US$ 675 thousand. However, as explained in the limitations section (2.15), PEPFAR spending in 2017 relied upon their COP 2017 figures, since their expenditure analysis (EA) datasets were not available, as they had been for 2014/15 (2015) and 2015/16 (2016). Hence some degree of disaggregation might have been lost in the 2017 breakdown.

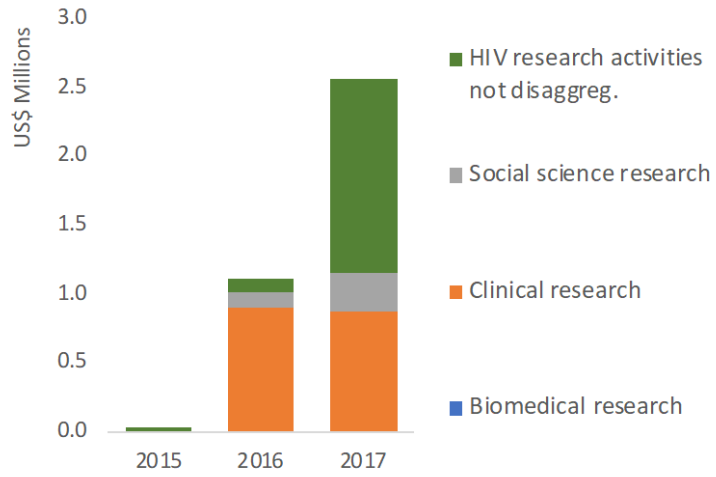
Figure 22: Enabling environment spending by intervention (US$m, 2015-2017)



HIV-related research

Positively, the spending on HIV-related research has increased over the period from almost nothing in 2015 to US$ 1.1 million in 2016, and reaching US$ 2.6 million in 2017. However, this still represented only 0.5% of the total HIV spending in 2017. A large portion (54.9%) could not be disaggregated by type of research, 34.2% was for clinical research and 10.9% for social science research in 2017.

Figure 23: HIV research spending by intervention (US$m, 2015-2017)



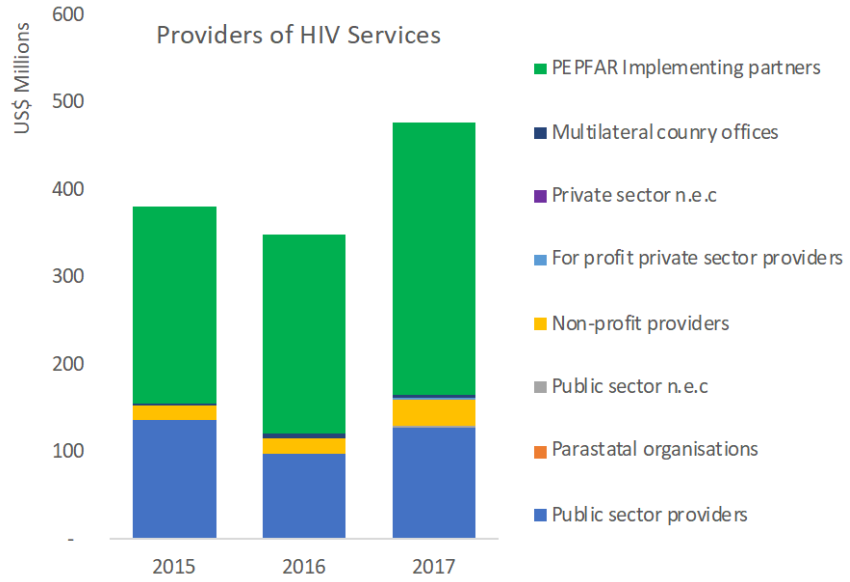
The next section looks at the HIV service providers in Zambia, followed specifically by the spending of the Ministry of Health (MOH), as a major player.

3.6. HIV service providers in Zambia

In Zambia, NASA found that **public** providers accounted for US$ 131.4 million in 2017, making up 27.5% of the total HIV spending. This was an increase US$ 98.6 million (25.9%) in the previous year, but a decrease from US$ 137.4 million in 2015 (36% of the total HIV spend). The largest portion in all three years went to the PEPFAR implementing partners, which increased in nominal and proportional terms from 59.1% (US$ 225.1 million) in 2015, to 59.7% (US$ 227.7 million) in 2016, and reached 65.4% (US$ 313 million) in 2017. The PEPFAR expenditure data were provided without the service providers details, hence they could not be broken down into the NASA categories of providers – they are

therefore lumped together in figure 24 below. This makes it difficult to estimate the real portion of funding that went to non-governmental providers and to external entities, such as research agencies based outside the country. However, of the non-USG funds, the smallest portion went to NGOs (4.4%) but which almost doubled between 2016 and 2017 from US$ 18.9 million to US$ 31.3 million (reaching 6.5% of the total HIV spending).

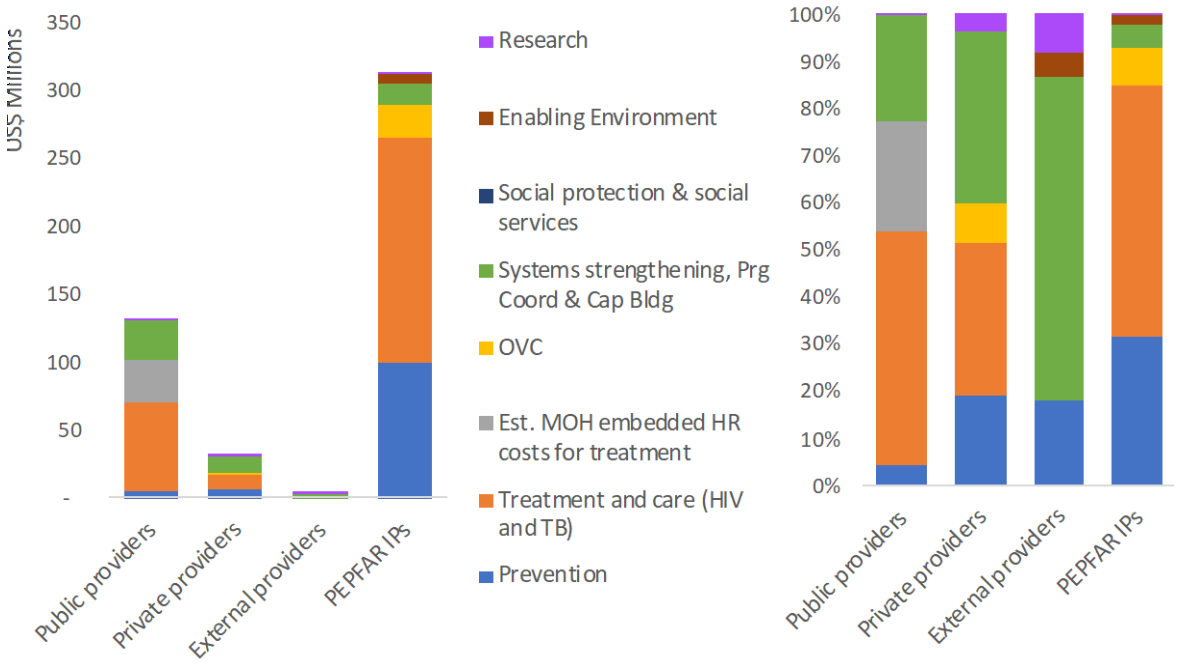
Figure 24: Providers of HIV services in Zambia (US$m, 2015-2017)



Refer to the appendices for the matrices, providing the funding agents by service providers, for further details.

Examining which services were being provided by type of service provider, figure 25 below shows that in 2017, 50% of the resources flowing to public providers was for the provision of treatment and care services, added to which were the estimated MOH embedded human resources for integrated HIV services (an additional 23%) that could not be defined but were assumed to be within the treatment and care area (some could have been for preventative services such as HTS or VMMC). Private providers, including NGOs and for-profit entities, but excluding the PEPFAR implementing partners (IPs), provided a range of services with a third (32%) of their funding going to treatment and care, and also 36% to systems strengthening (mostly training), with 19% for prevention activities, 8% for OVCs and 3% for research. For the external entities (excluding the PEPFAR agencies) that undertook direct service delivery, their spending was mostly for systems strengthening (67%), 19% for prevention, 4% for enabling environment and 10% for research, in 2017. Shown separately below because the PEPFAR expenditure data did not indicate their service providers, the majority (53%) of the PEPFAR IPs spending went to treatment and care, followed by prevention efforts (32%), OVC (8%), systems strengthening and HR capacity building (5%) and enabling environment (most GBV reduction for AGYM through the DREAMS project).

Figure 25: Programme area by service provider (US$m, %, 2017)

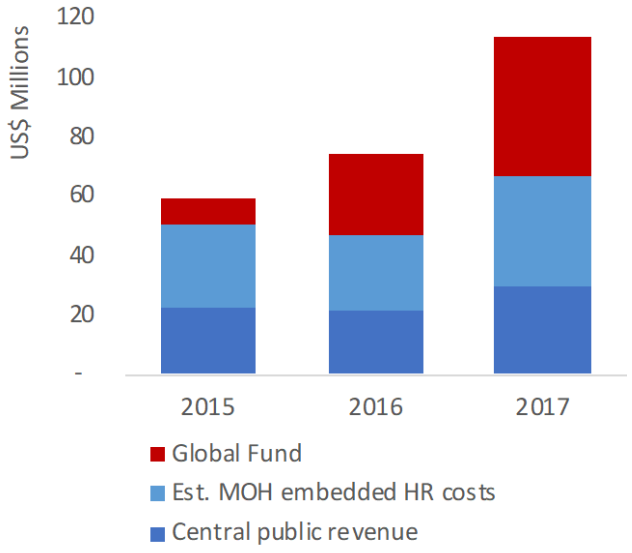


Refer the appendices for detailed figures.

3.7. Zambian Ministry of Health HIV spending

The available funding for the MOH HIV activities shown in figure 26 includes the GF monies to the MOH but excludes any funds that the USG might have channelled to the MOH, since those could not be distinguished from all the other PEPFAR IPs funding. MOH HIV funding increased by 26% in 2016 and by 52% in 2017, to reach US$ 114 million. Just under half (41%) of this was from the GF, while the rest (from UNICEF) was public sources: 27% were labelled MOH HIV funding and 32% were the estimated human resource costs in the HIV-integrated services.

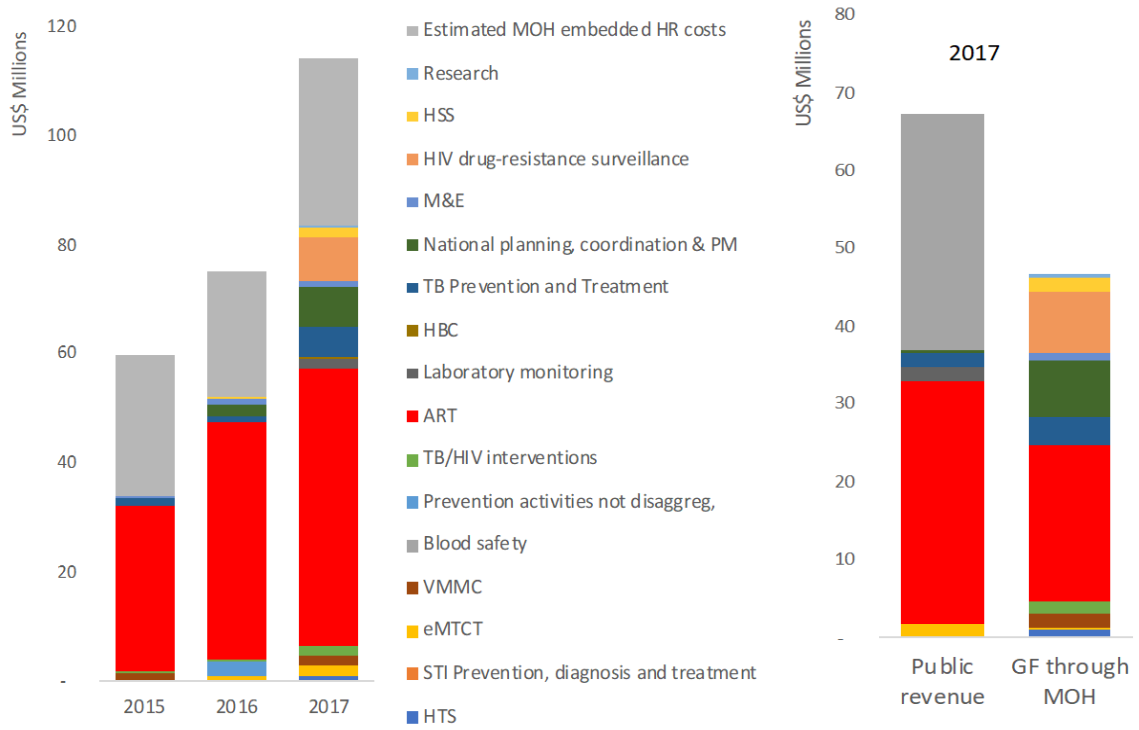
Figure 26: Ministry of Health HIV sources of HIV funding (US$m, 2015-2017)



As shown in figure 27 below, ART took the bulk of the MOH funds in all three years: 51% in 2015, 58% in 2016, but reduced proportionally to 45% in 2017, despite the nominal amount steadily increasing from US$ 43.4 million in 2016 to US$ 51.1 million in 2017. The reduction in the proportional amount for ART was due to the increased estimated MOH contribution to personnel costs for integrated HIV services. As explained in the assumptions section, this amount was provided by MOH as 9% of their total health personnel bill, which overall had increased in 2017. The right-hand bar chart in figure 26 below shows that in 2017, the public funding spent on ART was actually greater than the GF monies (channelled through the MOH), and that GF contributed to other important interventions via its funding to the MOH (note that other GF monies to other PRs are not showing in figure 26, refer to section 3.9 for the full GF portfolio).

The MOH spending on the other interventions was relatively small, but with some increases in 2017 for HIV drug-resistant surveillance (7%), national planning and coordination (6%), as well as TB treatment and prevention (5%).

Figure 27: Ministry of Health HIV spending by intervention (left) (US$m, 2015-2017) and by source (right) (%, 2017)



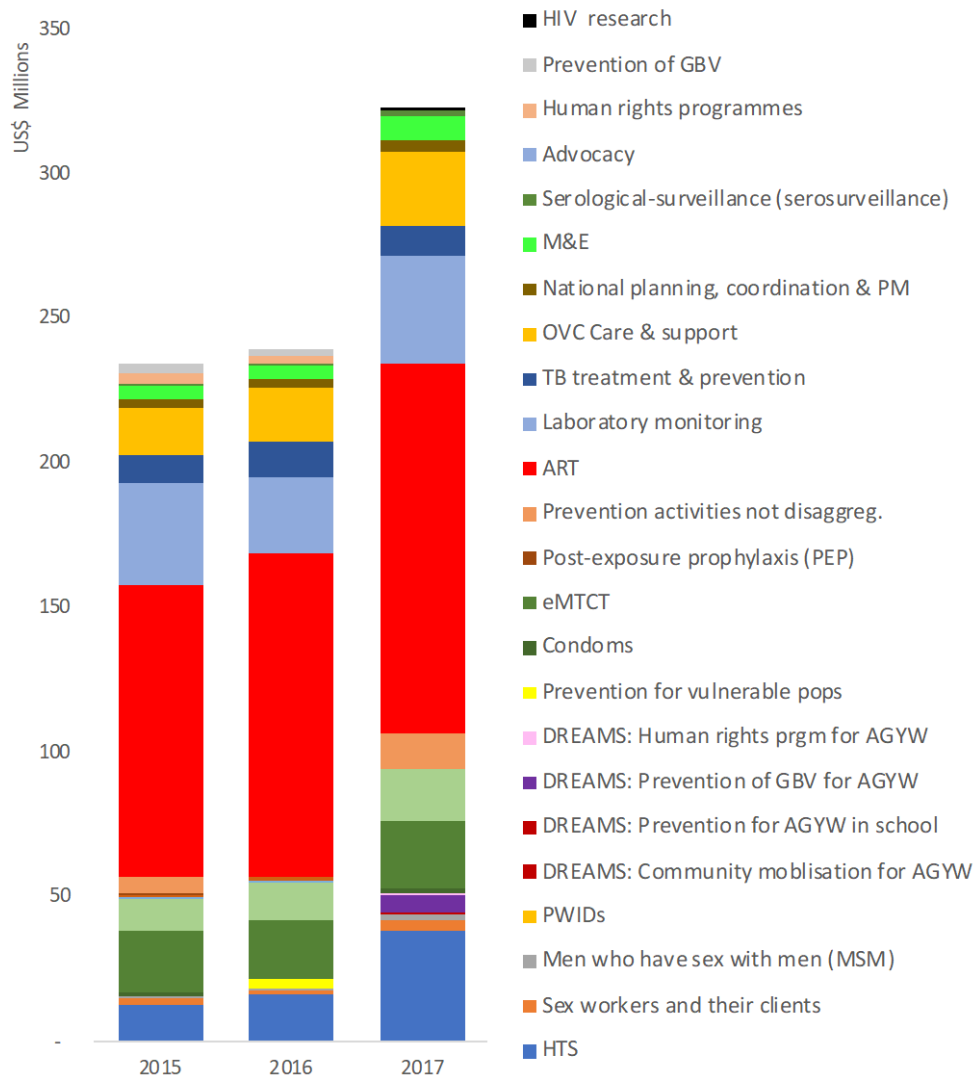
The next sections consider PEPFAR and GF expenditure data respectively.

3.8. PEPFAR HIV and TB spending

The USG funded HIV and TB programmes in Zambia through the PEPFAR mechanism, increasing by 2% from US$ 234.5 million in 2015 to US$ 239.8 million in 2016, and then with a large increase of 35% to reach US$ 323.1 million in 2017. Note however the limitation explained in section 2.15 that the PEPFAR figures for 2017 had to be extracted from their COP 2017 (since their expenditure data were not available), which may have over-estimated their actual spending in 2017 (since the full COP amount may not have been completely absorbed).

Note that figure 28 shows the breakdown by interventions matched to the NASA ASCs (not the PEPFAR categories, which can be found in the appendices).

Figure 28: PEPFAR HIV and TB spending by intervention (US$m, 2015-2017)



Refer to appendices for the PEPFAR figures according to their EA categories.

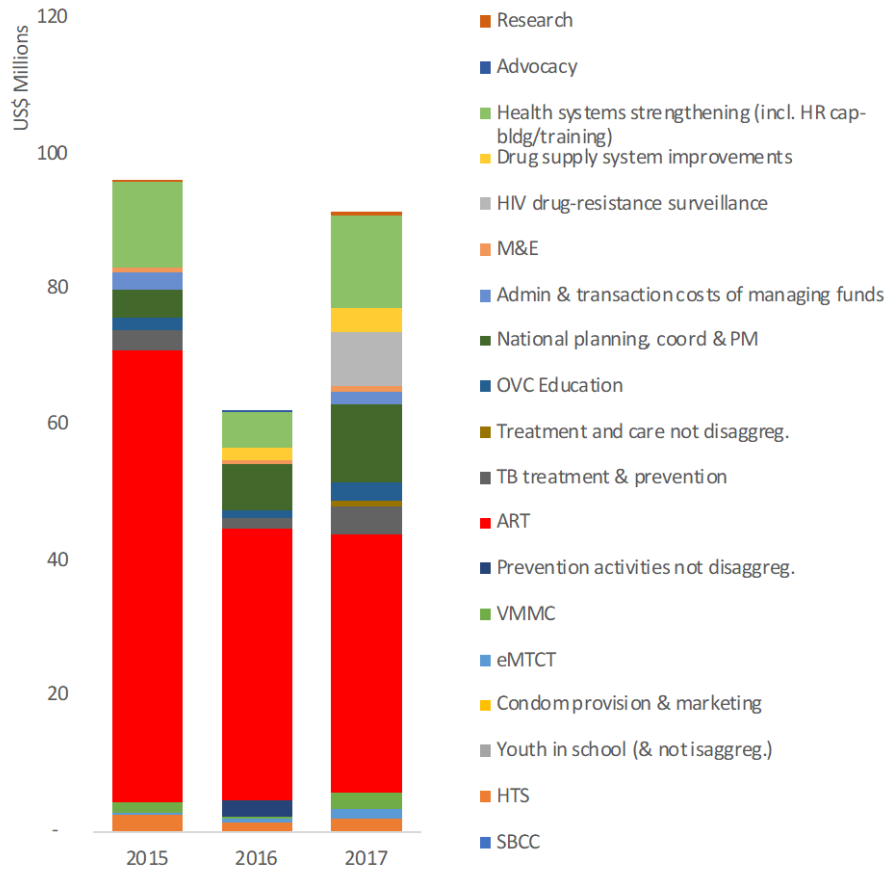
3.9. Global Fund HIV and TB spending

According to the GF principal recipient (PR) expenditure reports, their total GF funding for HIV and TB decreased by 35% from US$ 96.3 million in 2015 to US$ 62.4 million in 2016, and then increased by 49% to US$ 92.9 million in 2017. The dip in GF funding may have been because 2016 was the first year in a new GF grant period, during which absorption of budgets is usually low as new projects start up. It was also suspected that there was GF spending on ARVs in 2015, but these were only consumed in 2016. Efforts to obtain these amounts failed, hence showing a reduction in 2016 which may not reflect the situation correctly. However, the GF 2017 spending on ARVs also reduced further. Figure 29 shows the breakdown by interventions matched to the NASA ASCs – refer to the annexes for the detailed tables, noting that the figures and tables here present all the GF spending which included TB-specific interventions. The latter were excluded from the earlier figures/tables which presented only the GF HIV spending.

In the following table 10, the GF funding spent by NAC is indicated for the following reasons:

- Although NAC is a GF sub-recipient (SR), it also receives some money directly from GF secretariat's office
- In the PRs reports from CHAZ and MOH, NAC was reported separately, while their other SRs were aggregated
- NAC provided all their expenditure data from all sources, and their GF figures were triangulated, and confirmed, against those reported by their PRs (CHAZ and MOH)

Figure 29: Global Fund HIV and TB spending by intervention (US$m, 2015-2017)



NB. It is possible that GF funds were spent to purchase ARVs in 2015, but the drugs were only consumed in 2016. Unfortunately, all efforts to get these details failed – hence the seemingly drop in GF spending in 2016, but which may also have been due to the usual absorption delays in the first year of a new GF grant (2016).

Table 10 provides the breakdown of the GF spending by their PRs and service providers (sub-recipients), in 2017, noting the reasons given above for NAC (an SR) being labelled separately.

Table 10: GF PR spending on HIV and TB activities in Zambia (US$, 2017)

HIV and TB interventions	CHAZ	CSOs/ FBOs/ health facilities	MOH (incl. MSL)	NAC	Total
SBCC	81 129	19 066	-	315	100 509
HTS	743 680	174 768	809 781	-	1 728 230
eMTCT	546 071	539 278	347 558	-	1 432 907
VMMC	486 772	114 394	1 744 615	-	2 345 781
Prevention not disaggreg.	-		88 877	-	88 877
TB/HIV interventions	47 880	33 635	1 540 866	-	1 622 381

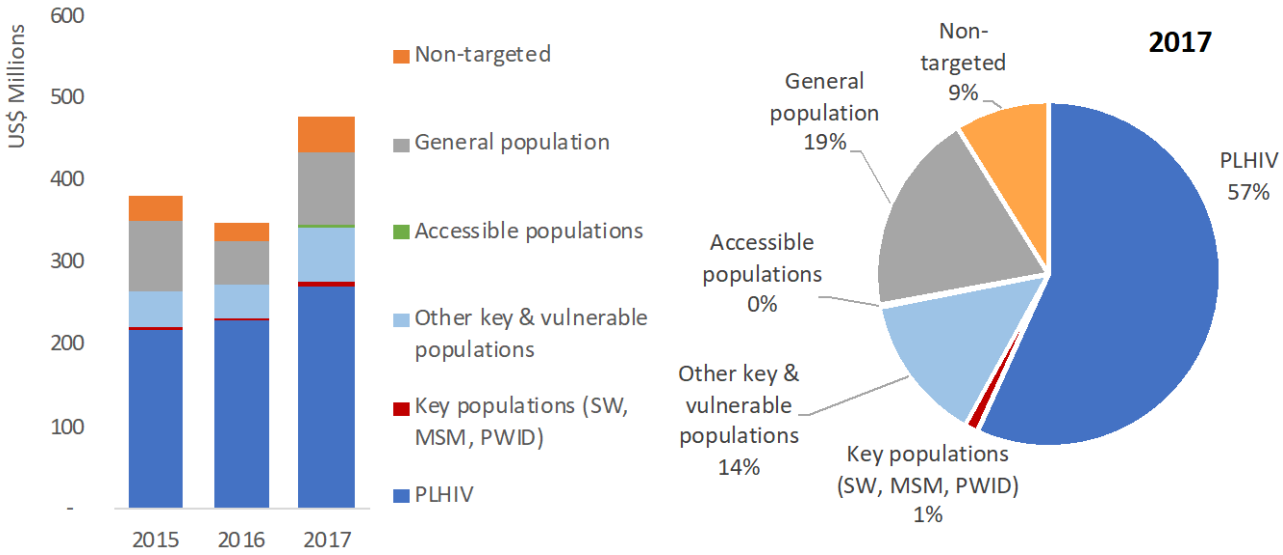
ART	-	7 187 222	31 064 813	-	38 252 035
TB treatment & prevention	66 597	-	3 793 562	-	3 860 159
Treatment and care not disagg.	-	1 141 366	-	-	1 141 366
OVC Education	1 572 300	921 899	-	-	2 494 199
National planning, coord & PM	2 888 565	532 506	7 168 472	828 296	11 417 839
Admin & transaction costs of managing funds	-		1 781 192	8 659	1 789 851
M&E	-		1 130 984	13 085	1 144 069
HIV drug-resistance surv.	-		7 858 772	-	7 858 772
Drug supply system strngth	-		3 396 829	-	3 396 829
Health systems strengthening (incl. HR cap-bldg/training)	6 574 472	956 527	6 085 007	-	13 616 006
Advocacy	40 564	9 534	-	-	50 099
Research	-	-	528 965	-	528 965
Total GF spend in 2017 (US$)	**13 048 030**	**11 630 195**	**67 340 293**	**850 355**	**92 868 873**

The following sections review the beneficiaries of HIV spending in Zambia and the production factors, respectively.

3.10. Beneficiaries of HIV spending

Using the NASA beneficiary broad categories first, the largest group of beneficiaries of HIV spending in Zambia were PLHIV (57% in 2017), as would be expected from the large ART spending. Key populations, as traditionally defined as sex workers (SW), men who have sex with men (MSM) and persons who inject drugs (PWID) only received 1% over all three years, while other vulnerable populations, as included in the NASF, received 14% of total HIV spending in 2017 (increasing from 11% and 2% in the previous two years). In 2017, 19% of the spending went towards general population while 9% were non-targeted, both increasing from 15% and 6% in 2016, respectively.

Figure 30: HIV spending by beneficiary (US$m, %, 2015-2017)



Looking in more detail into the sub-categories within the category of 'other key and vulnerable' populations (which received 14% of the total in 2017), figure 31 shows spending on the key NASF populations and others, where children born to HIV-positive women are the largest beneficiary group of the eMTCT spending (53% in 2017, within this category, and having increased by 84% from 2016),

followed by OVCs including vulnerable youth (40% increase) to form 39% of this sub-category in 2017. Funding for sex workers initially decreased between 2015 and 2016, but then more than doubled (146% increase) between 2016 and 2017, reaching US$ 3.4 million but remaining only 5% of the spending within in this category in 2017, which equated to only 0.7% of the total HIV spending. The other groups, such as prisoners and migrants, received very small amounts. Refer to the appendices for the detailed figures.

Figure 31: HIV spending on the NASF key & vulnerable populations (US$m, %, 2015-2017)

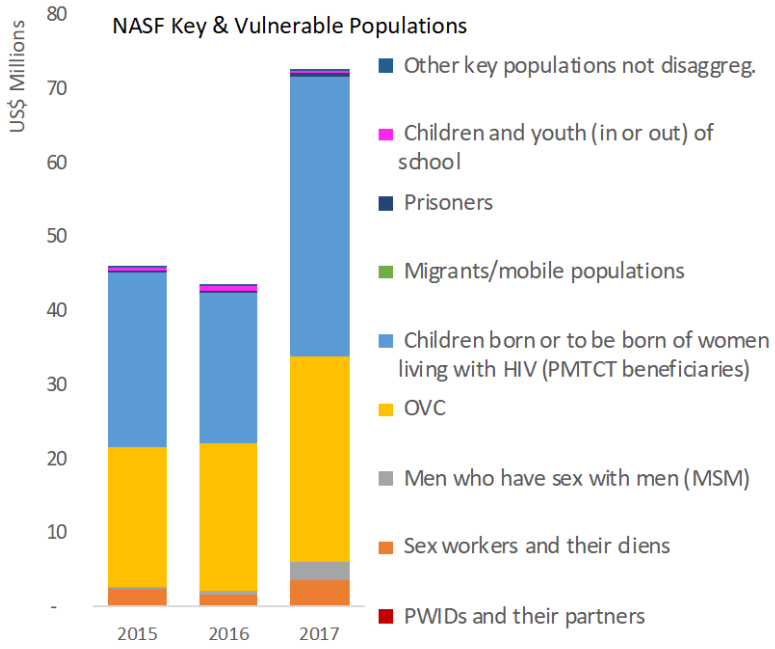


Table 11: HIV spending on the NASF key & vulnerable populations (US$m, %, 2015-2017)

				% share within sub-category			Share of total spend
NASF Key & Vulnerable pops	**2015**	**2016**	**2017**	**2015 %**	**2016 %**	**2017 %**	**2017**
PWIDs and their partners	228 002	123 960	106 034	0%	0%	0%	0.0%
Sex workers and their clients	2 323 008	1 394 778	3 430 333	5%	3%	5%	0.7%
Men who have sex with men (MSM)	236 356	715 159	1 856 992	1%	2%	3%	0.4%
OVC (including vulnerable youth)	18 764 543	19 867 641	27 833 956	41%	46%	38%	5.8%
Children born or to be born of women living with HIV	23 880 263	20 577 463	37 874 010	52%	47%	52%	7.9%
Migrants/mobile populations	-	-	5 257	0%	0%	0%	0.0%
Prisoners	137 124	74 606	502 444	0%	0%	1%	0.1%
Children and youth (in or out) of school	425 885	641 650	371 246	1%	1%	1%	0.1%
Recipients of blood or blood products (blood bank safety)	6 261	-	-	0%	0%	0%	0.0%
Other key populations not disaggreg.	138 130	121 820	121 345	0%	0%	0%	0.0%
Total Key & Vulnerable pops	**46 139 572**	**43 517 077**	**72 101 618**	**100%**	**100%**	**100%**	

The spending that were specifically labelled for **adolescent girls and young women (AGYW)** (including prevention and enabling environment activities) was relatively small (only 4% of total HIV spending in 2016) but steadily increased from US$ 7.2 million in 2015 to US$ 10 million in 2016 in 2017 and doubling to reach US$ 20 million in 2017, due mostly to the DREAMS allocation in 2017. The largest shares labelled for AGWY were for interventions to reduce gender-based violence and to promote human rights – estimated as from the DREAMS funding - as well other HIV risk-reduction and prevention activities not disaggregated. It is important to note that apart from specific programmes for AGYW, the other spending on youth could not be separated by gender and hence are omitted from table 12. Additionally, the PEPFAR spending on their DREAMS project was not labelled as such in their expenditure data nor in the COP, since it was incorporated into other broader categories, meaning that only estimated portions of DREAMS are captured in the table below. This re-emphasises the need for implementing partners to begin to label all their spending on AGYW more specifically as for this vulnerable group, so that we may begin to track, and attribute, the impact of this spending.

Table 12: HIV spending labelled for AGYW in Zambia (US$, 2015-2017)

Interventions labelled for AGYW	2015	2016	2017	Total (US$) over the period
SBCC	183 728	183 500	195 000	562 228
Community mobilization (incl. DREAMS)	-	-	875 273	875 273
HCT	-	6 980	-	6 980
Youth in-school	-	-	65 461	65 461
Risk-reduction and prevention activities	-	3 514 634	-	3 514 634
Prevention not disaggregated	-	-	11 318 912	11 318 912
National planning, coordination & prgm.management	-	48 960	-	48 960
Training	-	1 674	-	1 674
Advocacy	442 432	102 240	-	544 672
Human rights programmes (incl. DREAMS)	2 812 039	2 923 471	570 000	6 305 510
AIDS-specific programmes focused on women	8 373	-	-	8 373
Programmes to reduce Gender Based Violence (incl. DREAMS)	3 725 780	2 250 010	6 311 819	6 305 510
Research	34 200	972 019	876 483	1 882 702
Total for AGYW	**7 206 552**	**10 003 488**	**20 212 939**	**37 422 979**

Please note the explanation above that these totals do not capture all that is spent on AGYW due to the poor labelling of expenditure.

3.11. Production factors analysis

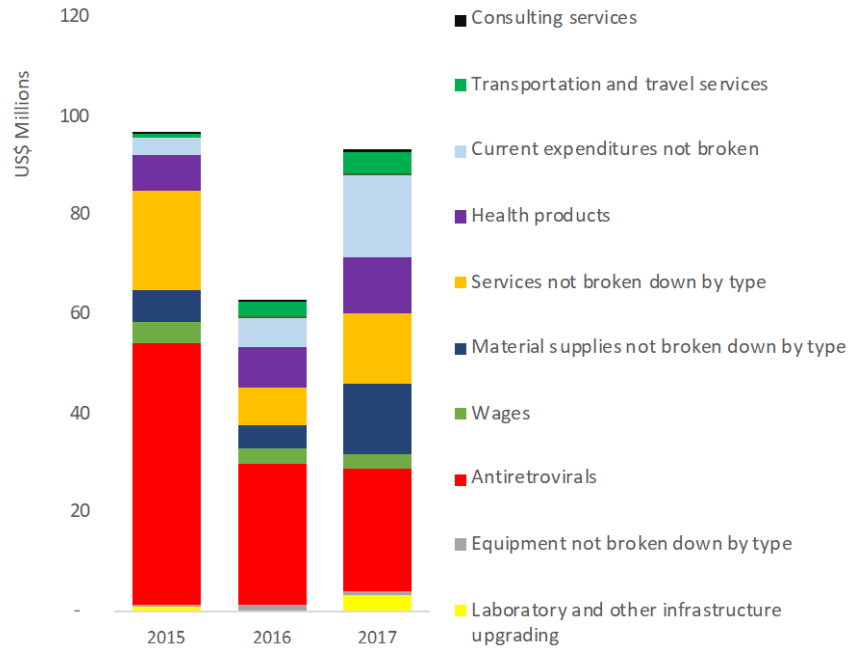
A number of challenges were faced when attempting to breakdown every activity's spending into its production factors (PFs):

- The Global Fund PRs provided their **total** expenditure data split by PF, and not each ASC split by PF, according to the reporting format required by the Local Fund Agents (LFA), making it impossible to tie the PFs to their ASCs. Their total spending split by PF is presented below (figure 31).

- The PEPFAR expenditure data (EA) for 2015 and 2016 provided the ASC by PF. For 2017, no EA data was available, so only the total COP amount was provided split by PF, and not linked to specific interventions. Therefore their 2016 spending on activities split by PFs is shown in figure 32 (a & b) below.

Therefore, only a very small proportion of transactions in the RTT could be captured with each activity (ASC) being correctly split by production factor (PF), and the rest were not disaggregated, making the analysis (ASCxPF matrix) meaningless, and even misleading. The GF and PEPFAR PF splits are provided separately below, figures 32 and 33 respectively.

Figure 32: GF HIV & TB spending by production factor (US$m, 2015-2017)



As explained previously, it is possible that GF funds were used to purchase ARVs in 2015, but the drugs were only consumed in 2016. Unfortunately, all efforts to get these details failed – hence the seemingly drop in GF spending in 2016. However, the GF ARV spending further declined slightly in 2017 – it is not clear if this was according to plan, but as shown in the MOH section (3.7), the MOH contributed a larger amount of public funds for ARVs in 2017.

Figures 33a and 33b breakdown PEPFAR recurrent and capital spending respectively, per intervention for 2016, as was available in the EA dataset. These data were not available for 2017, for which only the COP figures were provided.

Figure 33a: PEPFAR recurrent spending by production factor per programme area (%, 2016)

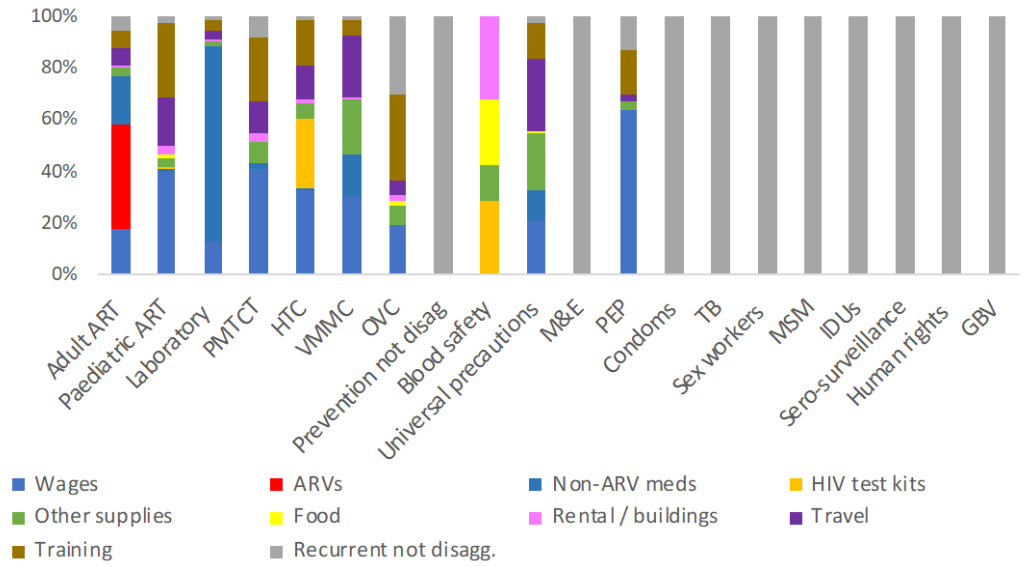
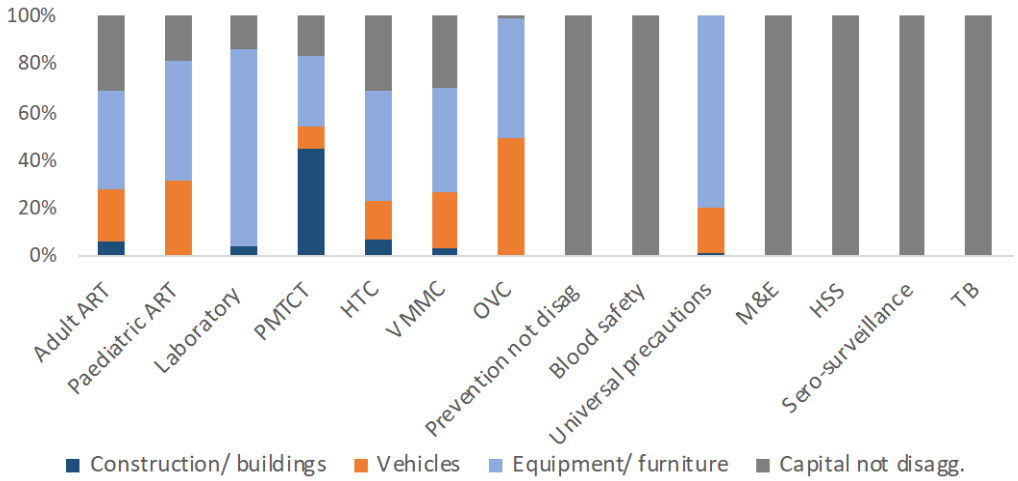


Figure 33b: PEPFAR capital spending by production factor per programme area (%, 2016)



4. Comparison of spending versus estimated costs of the NASF

The HIV spending for 2017 was compared with the revised NASF with the updated 'test and treat' costs undertaken by EQUIP (NAC, 2017). It is important to note that the cost estimates may have excluded some NASF interventions that could not be costed or were insufficiently defined and at the same time, the expenditure for some of the NASF interventions were not collected, such as for maternal and paediatric syphilis. Therefore, figure 34 presents only those interventions for which both costs and expenditure data were available and comparable. Because of the larger numbers for ART, these are presented separately from the other interventions (figure 35).

Figure 34: NASA spend per intervention compared with NASF cost estimates for 2017 (excluding ART) (US$ mill)

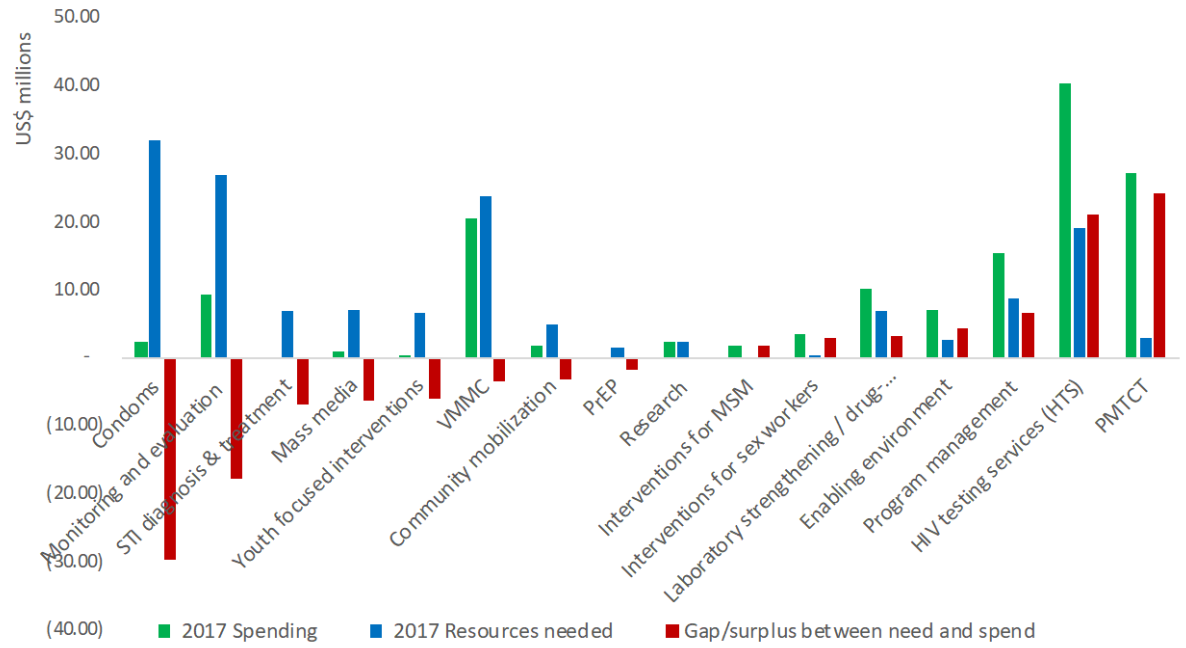


Figure 34 above shows, on the left-side (red bars), those interventions which appeared to have a funding shortfall in 2017. These were primarily condoms - but it is possible that NASA did not obtain all the spending on condoms or they were included in the not disaggregated prevention spending – hence the funding gap may be over-estimated, but certainly greater allocations might be required to this key prevention pillar. M&E efforts appear to be under-funded, as do youth interventions, community mobilisation, VMMC (even including the PEPFAR funds), and a small PrEP shortfall (spending on the latter was not picked up in 2017 and also the NASF costing did not expect large targets to be achieved by 2017).

HTS and eMTCT may have experienced a surplus of funding in 2017, bearing in mind that the cost estimates for both of these may have only included the test kits and nevirapine costs respectively, while the NASA would have also collected all the programme-support and demand-creation spending, such as the 'mother-to-mothers' programme for increasing PMTCT adherence. It is therefore difficult to compare these, and to understand their components so as to ascertain whether there was indeed, over-spending on these. Nevertheless, the high HTS spending may be reflecting the challenge of the high rate of testing while having low positivity yields. This often requires more re-testing incurring greater costs, and reflects the difficulty of reaching the last 5% of PLHIV who do not know their HIV status. This may pose sustainability issues for the government, should the large PEPFAR funding for HTS be reduced.

The ART spending in all three years was closely aligned to the estimated resources needed, as shown in figure 35, where the ART spending (green bars) was slightly over the estimated cost in 2015 showing a small surplus (US$ 12 million), but then was lower than the estimated costs in 2016 and 2017 (but noting previously explained missing ARV spending in 2016), showing relatively small funding gaps (US$ 45 million and US$ 32 million respectively). However, note that some of the ART-related laboratory spending may have been included in the separate NASA category 'Lab monitoring' (shown in the grey bars). The gap/surplus calculation does not include these additional lab monitoring spending, as these would not all have been specifically for ART only. This could not be confirmed since the provided expenditure reports would not have separated ART-related tests from other diagnostics.

The NASF estimated ART costs were based on the modelled rate of scale up to achieved treat-all policy targets, which aimed to treat **896,119** persons by 2017. The achieved number of patients by the end of 2017 was **834,190** (according to Spectrum 2017 estimates, UNAIDS 2019), thus achieving 93% of the NASF target – which may explain why the spending was lower than the estimated cost. The following figure 36 explores the ART annual **unit cost** per person compared to the **unit spend** per person per annum.

Figure 35: NASA ART spending compared with NASF ART cost estimates (US$ mill, 2015-2017)

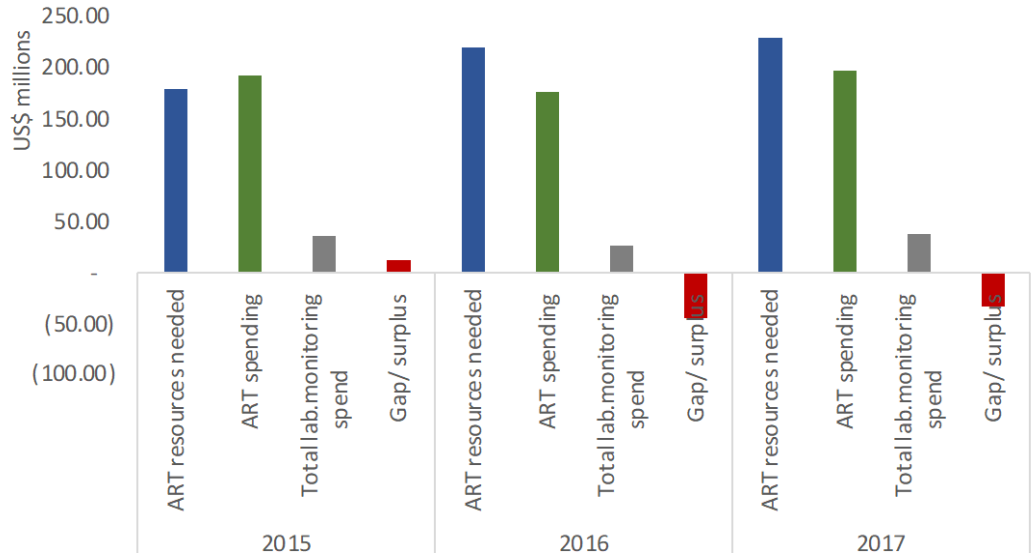


Figure 36 below shows a number of interesting aspects. Firstly, the NASF estimates for the annual ART unit cost (blue bars) were very close to the actual spend per person on ART (green bars) in all three years, being slightly over in each year, which is usually the case since cost estimates include all possible ingredients required to deliver a service while the expenditure tracking only picks up those expenses specifically labelled as ART (thus possibly missing shared overhead costs, support costs, etc.). In this case, the spending may be missing part of the ART-related laboratory costs if they were included in the separate NASA 'lab-monitoring category (as explained above, the expenditure records did not differentiate ART-related from other diagnostics).

Secondly, the unit spend for ART (green bars in figure 36) in 2016 dropped unrealistically because the numbers on treatment increased but the reported spending decreased, which, as explained in the treatment section, may have been due to ARVs being paid for in 2015 but consumed in 2016 (but which could not be validated and corrected).

Thirdly, the numbers of persons ART steadily increased over the three year period (at an annual average rate of 4.5%), the trend shown by the dotted red line connecting the red markers.

Fourthly, the reducing trend in unit spending per person on ART (green dotted line in figure 36) potentially shows important efficiency gains as the country scales up ART coverage, with an annual average reduction of 3% over the period (smoothing for the dip in 2016). This is to be commended and hopefully will continue, while also noting that as the country gets closer to the 95-95-95 targets, the unit cost will become higher due to the extra efforts required to initiate and maintain the remaining PLHIV. It underscores the continuing urgency to negotiate reduced ARV and laboratory prices, as well as to allocate adequate spending to adherence support initiatives while also making

access for patients easier (such as multi-month scripting, alternative community distribution points, community adherence groups).

Figure 36: ART unit cost compared to actual unit spend, with numbers of ART patients (US$, 2015-2017)

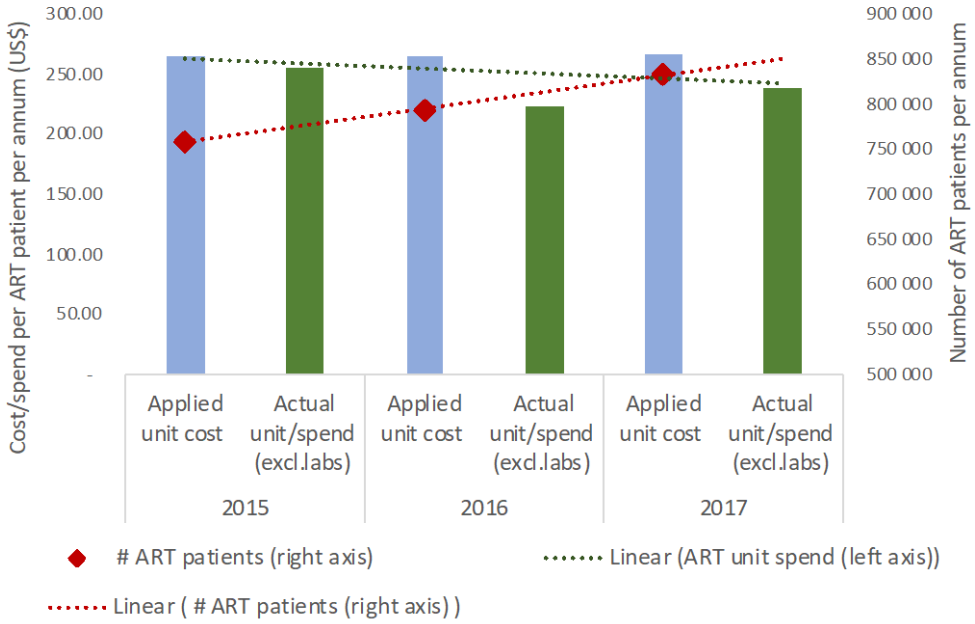
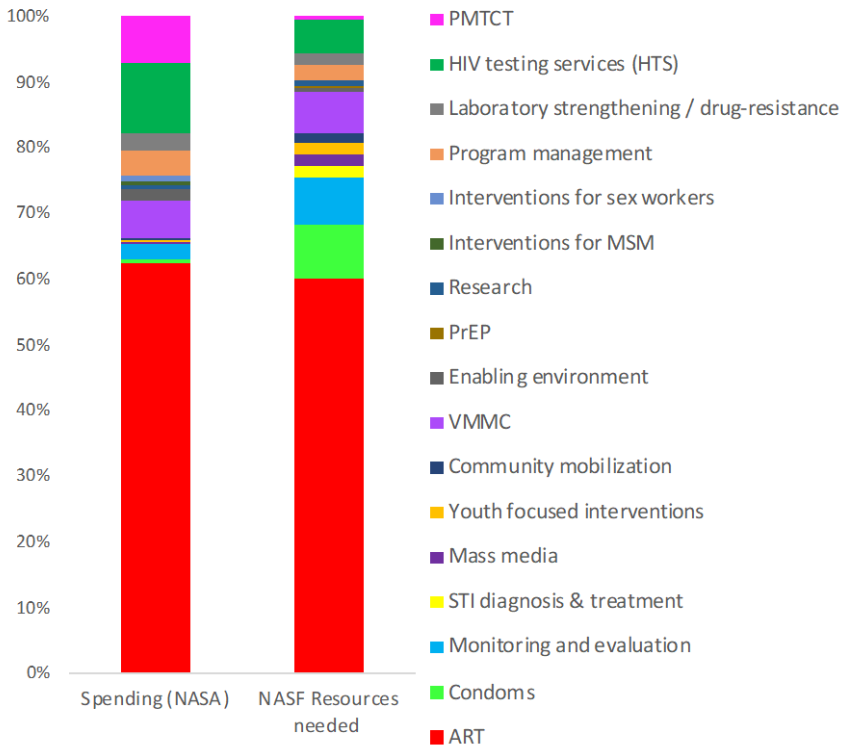


Figure 37 presents the **proportional** amounts (in %) of resources needed versus spend, per NASF intervention (that could be compared), and shows that the available funds were more or less aligned to the national priorities in the NASF – as a rough measure of allocative efficiency. The figure does not show actual amounts (in US$) but provides only proportional comparisons (in percentages).

Figure 37: Proportional comparison of NASF costs versus NASA spending (%, 2017)



5. Policy implications of the NASA findings

This NASA has contributed valuable information on the expenditure for the Zambian HIV and TB responses between 2015 and 2017, identifying the key sources and agents of the funds, service providers and the services/ interventions they deliver, as well as the beneficiaries of these. The key findings and their policy implications include the following:

1. Public contributions to HIV and TB increased between 2016 and 2017 in nominal terms, and remained at 13.5% of the total funding (after including the MOH estimated human resource costs for integrated HIV services). This illustrates the government's commitment and additionality of the public contribution.

2. The contribution of external funding remains high (85.8% in 2017), raising concern about continuing dependence on these funds.

3. The interventions funded by external sources, especially the ART and prevention efforts, will be sensitive to external influences, fluctuations and changing donor priorities.

4. There is therefore urgent need for the Government of Zambia to explore alternative public funding sources for health broadly and for HIV and TB more specifically. The National Health Insurance (NHI) may be an important possibility in this regard, but other innovative sources will also need to be considered for longer-term sustainability of the response.

5. The first year of the new Global Fund grant (2016) saw a drop in the GF PRs' expenditure, which may have interrupted service delivery. In particular, the ART spending dropped by 40%, which is likely to have had implications for patients' access to treatment - unless bridging funding was used, or ARVs were procured in 2015 but only consumed in 2016. This seems possible since the numbers of ART patients did not decrease in 2016, but they could nevertheless have experienced stockouts which would have affected patient adherence. Unfortunately, the NASA team could not obtain data on the possible bridge funding, but nevertheless the concern remains about the fluctuating GF funding at the end of every three-year funding cycle which needs to be negotiated and managed better. Options include arranging bridging funding well in-advance of the end of the grant, and/or the government committing additional funding to provide a buffer for this period. Longer-term and globally, the GF could consider a five-year funding cycle, especially for essential services, such as ART which will more than likely continue to be require GF support.

6. The increasing public management of the GF funds (moving from UNDP as PR to MOH PR) is important for ensuring the national priorities are achieved and requires continuing strengthening of their financial management systems.

7. The contribution of the private sector remained very small, and options for increasing these and leveraging in-kind contributions should be explored, as well as public-private partnerships (PPPs), if they can be managed optimally and allow for more strategic and efficient purchasing of services.

8. The provincial split of funding, noting that much of the spending could not be disaggregated geographically, may not be equitable based on the burden of the disease. Donors should be encouraged to label their spending by geography, to enable joint planning and co-ordination

at the provincial level, which would improve equity of spending, and reduce duplication and fragmentation of efforts.

9. The public funding for HIV is still highly centralised, and Ministry of Finance (MOF) records of the HIV expenditure did not provide adequate detail of interventions to align to the NASF and NASA categories. If the government is moving towards decentralisation, or devolution, this will require provincial level capacity building to plan, cost, budget, manage and account for expenditures with sufficient detail. Adjusting the Charter of Accounts will be necessary for greater detail according to the NASF and NASA categories, and ensuring its application at requisitioning stage as well as capturing and reporting stages, to enhance programme performance monitoring.

10. The comparison of the spending against the estimated resources needed for the NASF showed some alignment to the national priorities, and importantly adequate funding for the ART programme in 2017 (noting that this was prior to the massive increases expected for 'test and treat' scale-up). There appeared to be have been possible funding shortfalls for condoms (unless there were missed spending on these), M&E, youth interventions, (especially for AGYW), community mobilisation, VMMC and PrEP. The large over-funding for HTS and eMTCT may need further exploration, but noting that the NASF costing may have only included the commodities (test kits and nevirapine), while the spending would have captured other supporting activities, such as demand creation and adherence support efforts. Aligning the components in both the costing and expenditure tracking for these and other interventions will be important in future to improve the comparison.

11. Importantly the spending on HIV prevention efforts increased massively by 63% between 2016 and 2017, and proportionally from 18% of total HIV spending in 2015, to 20% in 2016, and reached 23% in 2017 (close to UNAIDS' promoted 'Quarter for Prevention'). These are important efforts to 'turn off the tap' and to try to curb the escalating treatment costs. However, the public funding contribution to prevention was very low **(only 1.7%),** highlighting the vulnerability of these programmes to reducing donor funding, which may undo the epidemic control achievements.

12. There was prevention spending that could not be disaggregated by type of activity, needing further review, as well as of the effectiveness of the other prevention efforts, will be necessary to ensure their optimal impact. The five pillars of prevention (UNAIDS, 2018) should guide any re-allocation of prevention funding towards:

    i. Combination prevention, including comprehensive sexuality education, economic empowerment and access to sexual and reproductive health services for **young women and adolescent girls** and their male partners in high-prevalence locations – received only **2.2%** of prevention spending in 2017.

    ii. Evidence-informed and human rights-based prevention programmes for **key populations,** including dedicated services and community mobilization and empowerment – received only **4.8%** of prevention spending in 2017.

    iii. Strengthened national **condom programmes,** including procurement, distribution, social marketing, private-sector sales and demand creation – received only **1.1%** of prevention spending in 2017.

iv. **Voluntary medical male circumcision** in priority countries that have high levels of HIV prevalence and low levels of male circumcision, as part of wider sexual and reproductive health service provision for boys and men – received 18.4**%** of prevention spending in 2017.

v. **Pre-exposure prophylaxis** for population groups at higher risk of HIV infection – no spending on these could be found in 2017, since PrEP programmes had not be scaled up.

Therefore the spending on other prevention activities (non-5 pillars) made up 73.5% of the Zambian HIV prevention spending in 2017.

13. The seemingly high HTS spending may be reflecting the challenge of high testing rates achieving low positivity yields. This may be leading to re-testing which is incurring greater costs, and reflects the difficulty of reaching the last 5% of PLHIV who do not know their HIV status. This may pose sustainability issues for the government, should donor funding for HTS be reduced.

14. Regarding the ART programme, the Treat All policy is being implemented with dramatically increasing number of persons on ART, despite the seemingly reduced ART funding in 2016 (as explained above). These efforts are commendable, although reaching 95% coverage may require additional spending and efforts to initiate the remaining PLHIV.

15. Variation in the ART spending per person on ART across the provinces could be explored further, bearing in mind that large portions of spending could not be split by geography (such as the GF ART spending). Nevertheless, the relative distance from the national average annual spend per ART patient (US$ 255) could flag potential technical inefficiencies in certain provinces, such as North Western and Southern provinces.

16. Importantly, the national average of annual spending on ART per person (US$ 255) was very close (slightly lower) than the estimated unit cost used for the NASF costing, and reduced over the period, showing possible efficiency gains. Further technical efficiencies would mostly be gained by negotiating reduced ARV prices through pooled procurement mechanisms, exploring alternative and cheaper delivery models, and reducing laboratory costs, these two being the largest drivers of ART costs.

17. Spending on health systems strengthening has been increasing through PEPFAR and GF, and these are important to better enable the health system to respond to the increasing treatment demands. A key question to consider is what will be the impact of reduced PEPFAR and Global Fund funding for key HSS?

18. Spending on enabling environment initiatives is being increasingly dominated by interventions to reduce GBV for AGYW – these being estimated portion of PEPFAR's DREAMS, noting that greater efforts are needed to track this spending specifically (rather than being lumped with other aggregated categories).

19. There was an increased reporting for funding for HIV-related research, which is commended, but its share remained very small, at only 0.5% of the total HIV spending in 2017. It is difficult to accurately estimate the resources needed for research, without knowing the specific research needs, but the nominal amount spent was comparable to the NASF cost estimates.

6. Recommendations for improving/ institutionalizing NASA

Institutionalization

Institutionalization is the process of conducting resource tracking (collection of financial indicators), on a regular basis that is fully supported and led by the government: financially, politically & technically (UNAIDS, 2019).

Examples of institutionalized NASA in various forms

- ✓ **Rwanda:** annual HIV expenditure reporting is **mandatory.** Any organisations operating in Rwanda has to register and report their budget & expenditure at the end of the year, to the government.
- ✓ **Peru:** NASA is included in the DHIS.
- ✓ **Zimbabwe:** NAC drives the process every year and after several years, has an excellent response rate and cooperation of players. Initially NASA fell under the M&E department, and then was moved to the finance department (to lead and ensure the quality of the financial data). In each district, three staff (employed by NAC) are allocated the tasks of collecting, cleaning and capturing the data: these are the M&E, IT and finance officers. These staff have been fully skilled and are closely supported. Annually, a NASA data analysis workshop is held where they analyse, validate and interpret the findings. Importantly, the process has been fully funded from local revenue (AIDS Levy).
- ✓ **Ukraine:** the government collects reports from every health facility from 25 regions, in which HIV activities are clearly labelled, and from which the regional reports are generated.
- ✓ **Mexico:** NASA is fully routinised and automated. They placed emphasis on the importance of equipped personnel who ensure the continuation of NASA.

Based on the experience of this NASA process and feedback provided in the validation meeting, as well as through discussions with various stakeholders, the following suggestions are to improve the quality of the data collected for NASA, and to enable its routine collection more timeously and its institutionalisation:

- ➢ **Maintain an up-to-date database** of all the actors in the HIV field, including funding sources, agents and service providers, with names of key positions and their contact details.
- ➢ Engage all the key national HIV response and TB response stakeholders timeously, and **raise awareness and understanding** of NASA purpose and importance.
- ➢ In particular, **involve the business sector** in the awareness-raising and in the planning process.
- ➢ Leadership by the NAC, MOH and MOF is critical, with requests for all actors, both public, private and external and at all levels, to **submit their data routinely** will be necessary, with exploration of which information system to use for this process.
- ➢ **Existing information systems,** such as NACMIS, IFMIS, NAVISION or others, might be suitable to capture the key financial data. All options which could accommodate the expenditure data, matched to the interventions, should be explored.
- ➢ The MOH/ MOF could **improve the public accounting system** so as to provide, in real time, more accurate HIV and TB expenditure data, which would involve **expanding the Charter of Accounts** coding of various interventions to match the NASF categories. The NASA ASC codes could be applied and provided in drop down menus in the transaction capturing tool (as was done in Zimbabwe for every requisition).
- ➢ The accuracy of NASA data also relies on other **health information and patient record systems**, which should therefore also be improved and digitalized.

- Continuation of the **strengthening of the capacity of NAC and key partners** in NASA principles, methodology, and data collection, supervision and analysis, as well as overall quality control. This will reduce the time taken for data collection and cleaning, assist in responsiveness of stakeholders and accuracy in data, thus contributing to an accurate NASA report.
- NAC should decide on the unit/entity to be **responsible for the bulk of the effort** involved in each stage of the NASA process. Possible options could be:
    - NAC national, provincial and district staff – the NASA should be part of their annual performance indicators with adequate time allocated (e.g. Zimbabwean example)
    - External consultancy team (such as provided by UNAIDS), which may not be sustainable
    - Local consultancy team/ agency (e.g. Ugandan example)
    - University/ research unit/ agency (e.g. Kenyan example) – which could provide economic students to assist with data collection and could build up mass of capacitated personnel that would continue with the project on an annual basis.
- Increase the **utility of the NASA findings** which will act as an incentive for actors to share their data in future. Possibilities include:
    - Informing any required allocative choices/ changes;
    - Providing evidence to support the mobilization of additional domestic and private revenues;
    - Highlighting any potential technical efficiency gains, such as through differentiated service delivery models for ART and more impactful prevention efforts, as aligned to the investment case findings and the Five Prevention Pillars (UNAIDS, 2018);
    - Providing valuable data for the medium-term review of the NASF;
    - Feeding into the updated Investment Case;
    - Informing the Sustainability Plan and actors' responsibilities;
    - Providing baseline data for further efficiency analyses, such as Value for Money analysis of specific programmes, such as eMTCT and HTS, and;
    - Informing any other opportunities relevant to Zambia.
- If **harmonisation of the National Health Accounts (NHA) with the NASA** is being considered as an efficient data collection approach, careful consideration of the required steps is needed (especially adjustment of the data collection tools, training of the data collectors and the additional effort to collect non-health HIV spending) so as to ensure that the data are collected with adequate disaggregation and classification to meet NAC's and NASA requirements. Additionally, analysis (in the RTT) and presentation of the all the HIV spending (including the non-health) must allow the HIV programme manager to recognise their programme's spending (i.e. according to the NASF and NASA interventions), allow for the NASF review, report to the Global AIDS Monitor (GAM), and other key uses of NASA (these are mentioned since the routine NHA style cannot provide for these). UNAIDS Geneva can assist countries to plan for their NHA-NASA harmonisation, where the NHA team are willing to adjust their tools and data collection processes, and will allow for the NASA RTT to be used concurrently with the Health Accounts Production Tool (HAPT) with separate presentation of the data according to the NASA classifications.

Key decisions to be made/actioned by NAC to facilitate the institutionalization of NASA:

- ✓ **The NAC should lead** the HIV data collection, capturing, cleaning, analysis and reporting process (necessary to meeting the NAC's and HIV actors' data needs).
- ✓ **The NAC should house and maintain the HIV data**, ideally in the NASA RTT. Alternative information systems should also be explored: IFMIS, NACMIS etc.
- ✓ **Identify who will responsible for undertaking the time-consuming work of actually** collecting, capturing, cleaning, analysis and reporting of the HIV spending (across all sectors) – and allocate adequate resources and person time to these functions.
- ✓ **Commit/ secure the funding** for the full resource tracking, on an on-going, annual or bi-annual basis.
- ✓ **Agree on the data collection tools** to be used for the HIV aspects (health and non-health).
- ✓ **Agree on the data collection method -** self-administered questionnaires have poor & incorrect/ incomplete responses, while face-to-face interviews allow for data validation and complete & correct capturing. A combination approach can be applied depending on the type of data.
- ✓ **Agree on the type of analysis and presentation of the data** as per the NASA requirements (follow UNAIDS suggested report outline, matrices generation and GAM structure).
- ✓ **Maximize the dissemination and utilization of the NASA report.**

7. Conclusion

The National AIDS Council (NAC) with support from UNAIDS has led this important HIV and TB spending assessment (NASA), and it is envisaged that the findings shall inform policy choices, improve implementation of the NASF priority services, and identify potential allocative and technical efficiency gains. In the context of declining external funding, the extent of dependency of the Zambian HIV response on these funds is alarming and points to a looming sustainability crisis, if the government cannot mobilize increased funding and make more efficient use of available funds. The gains made in the country towards epidemic control maybe seriously jeopardised.

The assessment faced some challenges with data, and these highlight the need for continual efforts to improve all actors' coding and reporting of their HIV and TB expenditures. Disaggregation by province would enhance the efficient direction of funds to the high burden areas.

The NAC and TWG members have gained key skills necessary to institutionalize NASA, from its conceptualisation and TOR development, design of data collection tools, managing the data collection process, as well as cleaning and capturing the data. Their involvement in the data analysis has been through close review of the draft outputs and providing guidance to the writing team to address gaps and to present the findings in an accurate and comprehensive manner. For future NASAs, the team could undertake these aspects again, as well as the analysis and report preparation, or they could consider the options proposed above to ensure the continuity of the core tasks of NASA.

July, 2019.

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8. Appendices

8.1. Zambian HIV statistics

Appendix 7.1.1: Provincial HIV adult prevalence in 2016

Province	Prevalence Rate (%)
Central	13.4
Copperbelt	14.2
Eastern	8.2
Lusaka	16.1
Luapula	9.3
Muchinga	5.9
Northern	9.7
North-Western	6.9
Southern	13.4
Western	16

Source: ZAMPHIA report, MOH 2017.

Appendix 7.1.2: People Living with HIV in Zambia in 2018

	National	< 15 Years of Age		15-24 Years of Age		>25 Years of Age	
		Female	Male	Female	Male	Female	Male
Population ('000s)	17,381	3,600	3,400	1,768	1,748	3,061	2,860
Pregnant women in need of ART	100,116						
Annual Births	834,953						
HIV Prevalence (%)	12.3	1.19	1.4	5.7	1.9	21	15
Aids related mortality	18,780	21,117	2,167	1,074	619	6,390	3,338
PLHIV (Spectrum'18)	1,241,119	31,047	31,371	86,976	41,311	613,508	436,906
New infections (Spectrum'18)	48 227	2 658	2 706	12 531	5 552	12 052	12 731
TB cases	40,153						
TB/HIV	23,289						

Source: (ZAMPHIA, 2016, Spectrum 2018)

Appendix 3: Number of Persons On ART

Province	September 2018 Current on ART – Male (<15)	September 2018 Current on ART – Female (<15)	September 2018 Total Current on ART Children (<15)	September 2018 Current on ART – Male (15+)	September 2018 Current on ART – Female (15+)	September 2018 Total Current on Adults (15+)	September 2018 Current on ART - All
Central	2,837	2,988	5,825	40,096	61,512	101,608	107,433
Copperbelt	3,768	4,580	8,348	51,786	106,901	158,687	167,035
Eastern	1,929	1,838	3,767	28,513	50,520	79,033	82,800
Lusaka	6,976	9,955	16,931	89,637	157,512	247,149	264,080
Luapula	999	955	1,954	14,448	25,432	39,880	41,834
Northern	882	1,041	1,923	14,317	24,392	38,709	40,632
Muchinga	595	744	1,339	7,432	12,648	20,080	21,419
North-Western	832	855	1,687	9,273	18,204	27,477	29,164
Southern	4,032	3,779	7,811	43,185	66,802	109,987	117,798
Western	1,815	1,977	3,792	20,224	40,873	61,097	64,889
National	24,665	28,712	53,377	318,911	564,796	883,707	937,084

Source: (HMIS, 2018).

8.2. Spending tables and matrices

HIV Sources of Funding (US$, 2015-2017)

HIV Sources of Funding (USD)	Public funds	embedded HR costs	Private funds	External funds	Total HIV (US$)	Public FS %	Private FS %	External FS %
2012 (previous NASA)	15 842 677	Not incl. in 2012	3 086 850	263 633 551	282 563 078	5.6%	1.1%	93.3%
2015 (NASA)	27 489 649	25 809 120	1 691 430	326 323 782	381 313 981	14.0%	0.4%	85.6%
2016 (NASA)	24 963 066	23 252 203	1 701 232	299 499 512	349 416 013	13.8%	0.5%	85.7%
2017 (NASA)	35 406 630	30 476 404	1 923 653	410 741 696	478 548 382	13.8%	0.4%	85.8%

-8% 37%

HIV Sources of Funding (ZMW mill)	Public funds	Est. MOH embedded HR	Private funds	External funds	Total HIV (ZMW mill)
2012 (previous NASA)	85.39	Not incl. in 2012	16.64	1 421	1 523
2015 (NASA)	239.20	224.58	14.72	2 840	3 318
2016 (NASA)	257.42	239.78	17.54	3 088	3 603
2017 (NASA)	337.60	290.59	18.34	3 916	4 563

Annual growth in nominal amounts by source

	Public funds	Private funds	External funds	Total
2015 to 2016	-9%	1%	-8%	-8%
2016 to 2017	37%	13%	37%	37%

HIV Sources of Funding in Zambia (US$, 2015-2017)

	2015	2016	2017	2015 % share	2016 % share	2017 % share
Public sources (incl. est. MOH 'embedded' HR spend)	53 298 769	48 215 269	65 883 033	14%	14%	14%
For-profit institutions	1 662 223	1 690 346	1 797 685	0%	0%	0%
Not-for-profit institutions	29 207	10 886	125 968	0%	0%	0%
Euoropean Union	77 223	1 088 877	194 333	0%	0%	0%
Global Fund	93 215 482	60 970 084	89 008 715	24%	17%	19%
UN agencies (summed)	1 875 875	2 236 377	2 684 175	0%	1%	1%
International NGOs	2 492 403	4 378 353	4 408 517	1%	1%	1%
International for-profit organisati	43 904	51 355	63 494	0%	0%	0%
Government of Canada	-	-	78 906	0%	0%	0%
Government of Germany	24 583	98	-	0%	0%	0%
Government of Ireland	227 475	-	-			
Government of Netherlands	131 201	5 163	72 978	0%	0%	0%
Government of Norway	17 241	15 000	171 000	0%	0%	0%
Government of Sweden	1 123 297	898 286	618 625	0%	0%	0%
Government of Switzerland	6 145	-	-	0%	0%	0%
Government of United Kingdom	1 946 409	2 173 982	249 903	1%	1%	0%
Government of United States	225 142 545	227 681 936	313 016 050	59%	65%	65%
Other bilaterals			175 000			
Total	**381 313 981**	**349 416 013**	**478 548 382**	**100%**	**100%**	**100%**

HIV spending per programma area (US$, %, 2015-2017)

HIV spending in Zambia by Progamme Area (US$, 2015-2017)	2015	2016	2017	2015 %	2016 %	2017 %
Treatment and care (incl.est MOH HR contribn.)	256 199 147	227 682 291	271 852 896	67%	65%	57%
Prevention	66 938 527	68 540 651	111 801 353	18%	20%	23%
OVC	18 760 418	19 845 022	27 816 483	5%	6%	6%
Systems strgth, Prg Coord & Cap.bldg	31 936 267	26 665 583	57 325 175	8%	8%	12%
Social protection & social services	27 054	7 608	50 659	0.01%	0%	0.0%
Enabling Environment	7 407 778	5 571 229	7 137 951	1.94%	2%	1.5%
Research	44 790	1 103 629	2 563 865	0.01%	0%	0.5%
Total	**381 313 981**	**349 416 013**	**478 548 382**	**100%**	**100%**	**100%**

TB Sources of Funding (US$, 2015-2017)

TB sources US$	2015	2016	2017	2015 % share	2016 % share	2017 % share
Public sources	1 617 564	1 351 126	1 860 586	12%	9%	12%
Global Fund	3 055 527	1 419 405	3 860 159	22%	10%	24%
Government of United States	9 381 776	12 075 832	10 097 343	67%	81%	64%
Total	**14 054 867**	**14 846 363**	**15 818 088**	**100%**	**100%**	**100%**

TB sources ZMW (mill)	2015	2016	2017
Public sources	14.08	13.93	17.74
Global Fund	26.59	14.64	36.81
Government of United States	81.64	124.53	96.28
Total	122.30	153.10	150.82

HIV agents of funding (US$, 2015-2017)

	Public agents	Est. MOH embedded HR costs	Private agents	External agents	Total	Public FA % share	Private FA % share	External FA % share
2012 NASA	19 761 425		20 863 665	241 937 988	282 563 078	7%	7%	86%
2015	35 091 786	28 219 757	12 390 108	305 612 330	381 313 981	9%	3%	80%
2016	51 847 555	25 290 804	16 350 053	255 927 602	349 416 013	15%	5%	73%
2017	73 184 895	36 949 222	30 009 931	338 404 334	478 548 382	15%	6%	71%

HIV Funding agent	Govt agent	MOH agent for est. HR costs	Private for profit agent	Private not for profit agent	Bilateral country office	Multilateral country office	INGO agent	For profit internat. agent	Total (US$)
2015	37 502 423	25 809 120	1 701 326	10 688 782	226 770 725	76 017 921	2 803 285	20 399	381 313 981
2016	53 886 156	23 252 203	1 675 491	14 674 562	228 349 555	23 464 760	4 093 992	19 295	349 416 013
2017	79 657 713	30 476 404	1 881 900	28 128 031	313 247 542	20 692 183	4 445 344	19 265	478 548 382
FA % share (2017)	17%	6%	0%	6%	65%	4%	1%	0%	

HIV funding sources by agents (US$, 2015-2017)

2015 US$	Public agent	Private agent	External agent	Totals	% FS share
Public source	53 298 769	-	-	53 298 769	14%
Private source	-	1 691 430	-	1 691 430	0%
External source	10 012 774	10 698 678	305 612 330	326 323 782	86%
Totals	**63 311 543**	**12 390 108**	**305 612 330**	**381 313 981**	**100%**
% FA share	17%	3%	80%		

2016 US$	Public agent	Private agent	External agent	Totals	% FS share
Public source	48 210 120	5 149	-	48 215 269	14%
Private source	10 087	1 691 145	-	1 701 232	0%
External source	28 918 152	14 653 759	255 927 602	299 499 512	86%
Totals	**77 138 359**	**16 350 053**	**255 927 602**	**349 416 013**	**100%**
% FA share	22%	5%	73%		

2017 US$	Public agent	Private agent	External agent	Totals	% FS share
Public source	65 877 474	5 559	-	65 883 033	14%
Private source	11 320	1 896 562	15 771	1 923 653	0%
External source	44 245 322	28 107 810	338 388 563	410 741 696	86%
Totals	**110 134 117**	**30 009 931**	**338 404 334**	**478 548 382**	**100%**
% FA share	23%	6%	71%		

Provincial HIV spending (US$, 2015-2017)

	2015	2016	2017	2015 Provincial % share	2016 Provincial % share	2017 Provincial % share
Not disaggregated by province	237 323 097	230 145 799	193 755 317	62%	66%	40%
Lusaka Province	28 264 241	40 492 445	78 234 980	7%	12%	16%
Copperbelt Province	29 345 784	15 554 266	44 404 803	8%	4%	9%
Southern Province	17 537 213	18 996 515	46 628 509	5%	5%	10%
Eastern Province	14 493 380	8 403 643	26 288 468	4%	2%	5%
Central Province	15 375 621	8 466 254	26 838 881	4%	2%	6%
Western Province	8 088 078	5 221 312	16 121 918	2%	1%	3%
Northwestern Province	7 767 373	4 390 353	8 627 101	2%	1%	2%
National Spending	9 376 384	8 401 666	17 779 081	2%	2%	4%
Luapula Province	5 422 117	3 865 310	8 550 313	1%	1%	2%
Northern Province	4 491 931	3 005 146	7 012 520	1%	1%	1.5%
Muchinga Province	3 828 761	2 473 305	4 306 491	1%	1%	1%
Total	**381 313 981**	**349 416 013**	**478 548 382**	**100%**	**100%**	**100%**

Provincial HIV spending by source (US$, 2017)

Source of HIV funds	Lusaka Province	Southern Province	Copperbelt Province	Eastern Province	Central Province	Western Province
Public funds (incl est. MOH 'embedded' spend)	4 512	1 259	-	6 189	-	-
Private funds	297 935	76 042	139 411	5 309	-	97 757
Bilateral aid	74 247 594	40 029 254	42 188 229	24 399 231	26 538 430	15 364 063
Multilateral aid	3 014 968	4 938 111	1 981 044	1 856 609	300 451	660 098
INGOs & other external aid	669 971	1 583 843	96 119	21 130	-	-
Total	**78 234 980**	**46 628 509**	**44 404 803**	**26 288 468**	**26 838 881**	**16 121 918**

	Northwestern Province	National Spending	Luapula Province	Northern Province	Muchinga Province	Not disagg.by province
Public funds (incl est. MOH 'embedded' spend)	630	289 454	630	-	630	65 579 729
Private funds	1 096 858	-	-	-	-	210 341
Bilateral aid	6 713 629	703 978	7 732 005	6 657 273	3 798 717	66 010 059
Multilateral aid	812 992	15 456 694	817 678	341 605	507 144	61 199 828
INGOs & other external aid	2 991	1 328 955	-	13 642	-	755 360
Total	**8 627 101**	**17 779 081**	**8 550 313**	**7 012 520**	**4 306 491**	**193 755 317**

Agents to Providers in the HIV response in Zambia (US$, 2015-2017)

2015 US$	Public providers	Private providers (FP & NP)	External providers	PEPFAR IPs	Total 2015	% FA share 2015
Public agent	63 311 543	-	-	-	63 311 543	17%
Private agent	407 634	11 982 474	-	-	12 390 108	3%
External agent	73 662 109	4 719 818	2 087 858	225 142 545	305 612 330	80%
Totals	**137 381 286**	**16 702 292**	**2 087 858**	**225 142 545**	**381 313 981**	**100%**
% PS share	36%	4%	1%	59%		

2016 US$	Public providers	Private providers (FP & NP)	External providers	PEPFAR IPs	Total 2016	% FA share 2016
Public agent	77 128 272	10 087	-	-	77 138 359	22%
Private agent	1 895 710	14 454 343	-	-	16 350 053	5%
External agent	19 613 354	4 397 152	4 235 159	227 681 936	255 927 602	73%
Totals	**98 637 336**	**18 861 582**	**4 235 159**	**227 681 936**	**349 416 013**	**100%**
% PS share	28%	5%	1%	65%		

2017 US$	Public providers	Private providers (FP & NP)	External providers	PEPFAR IPs	Total 2017	% FA share 2017
Public agent	110 122 797	11 320	-	-	110 134 117	23%
Private agent	3 397 731	26 612 200	-	-	30 009 931	6%
External agent	17 921 721	4 642 802	2 820 048	313 016 050	338 400 621	71%
Totals	**131 442 249**	**31 266 323**	**2 820 048**	**313 016 050**	**478 544 669**	**100%**
% PS share	27%	7%	1%	65%		

Providers of services in the HIV response in Zambia (US$, 2015-2017)

HIV providers	2015	2016	2017	2015 % share	2016 % share	2017 % share
Public sector providers	137 371 979	98 612 078	128 042 420	36%	28%	27%
Parastatal organisations	6 405	24 288	902	0%	0%	0%
Public sector n.e.c	2 902	970	3 398 927	0%	0%	1%
Non-profit providers	15 221 553	17 184 183	29 496 082	4%	5%	6%
For profit private sector providers	896 147	1 677 399	1 770 241	0.24%	0%	0%
Private sector n.e.c	584 592	-	-	0.15%	0%	0%
Multilateral counry offices	2 087 858	4 235 159	2 820 048	0.55%	1%	1%
PEPFAR Implementing partners	225 142 545	227 681 936	313 019 763	59.04%	65%	65%
Total	**381 313 981**	**349 416 013**	**478 548 382**	**100%**	**100%**	**100%**

HIV programme area spending by source of funding in Zambia (US$, 2015-2017)

2015	Public sources	Private sources	External sources	Total	ASC % 2015
Prevention	461 981	1 064 288	65 412 258	66 938 527	18%
Treatment and care (HIV and TB)	51 946 478	404 967	203 847 702	256 199 147	67%
OVC	-	25 057	18 735 361	18 760 418	5%
Systems strengthening & Prg Coord	711 935	179 975	30 437 623	31 329 533	8%
Human Resource capacity building	-	17 046	589 688	606 734	0%
Social protection & social services	14 211	-	12 843	27 054	0%
Enabling Environment	164 164	98	7 243 516	7 407 778	2%
Research	-	-	44 790	44 790	0%
Total	**53 298 769**	**1 691 430**	**326 323 782**	**381 313 981**	**100%**
Sources % share	14.0%	0.4%	85.6%	100.0%	

2016	Public sources	Private sources	External sources	Total	ASC % 2016
Prevention	97 170	1 110 589	67 332 892	68 540 651	20%
Treatment and care (HIV and TB)	47 048 329	439 935	180 194 028	227 682 291	65%
OVC	-	1 249	19 843 773	19 845 022	6%
Systems strengthening & Prg Coord	930 000	133 677	25 125 175	26 188 851	7%
Human Resource capacity building	-	15 700	461 032	476 732	0%
Social protection & social services	5 148	-	2 460	7 608	0%
Enabling Environment	134 623	82	5 436 524	5 571 229	2%
Research	-	-	1 103 629	1 103 629	0%
Total	**48 215 269**	**1 701 232**	**299 499 512**	**349 416 013**	**100%**
Sources % share	13.8%	0.5%	85.7%	100.0%	

2017	Public sources	Private sources	External sources	Total	ASC % 2017
Prevention	1 945 656	1 178 736	108 676 961	111 801 353	23%
Treatment & care (HIV & TB)	63 531 295	587 965	207 733 636	271 852 896	57%
OVC	-	1 327	27 815 156	27 816 483	6%
Systems strengthening & Prg Coord	362 284	133 823	56 337 647	56 833 754	12%
Human Resource capacity building	-	21 204	470 217	491 421	0%
Social protection & social services	31 983	-	18 676	50 659	0%
Enabling Environment	11 816	598	7 125 538	7 137 951	1%
Research	-	-	2 563 865	2 563 865	1%
Total	**65 883 033**	**1 923 653**	**410 741 696**	**478 548 382**	**100%**
Sources % share	13.8%	0.4%	85.8%	100.0%	

HIV intervention spending by source of funding in Zambia (US$, 2017) – GAM financial matrix 8.1

Total HIV spending in Zambia (US$, 2017)	Public sources	Private sources	External sources	Total US$	Public %	Private %	External %
Prevention sub-total	**1 945 656**	**1 178 736**	**108 676 961**	**111 801 353**	**1.7%**	**1.1%**	**97.2%**
SBCC	3 358	215 493	791 701	1 010 552	0.3%	21.3%	78.3%
Comm-/social mobilization	69 460	241 542	1 548 659	1 859 661	3.7%	13.0%	83.3%
HTS	20 673	30 614	40 325 225	40 376 512	0.1%	0.1%	99.9%
Vulnerable/accessible pop interventions	3 605	-	79 499	83 104	4.3%	0.0%	95.7%
Youth in school (& not disaggreg.)	-	5 388	581 807	587 195	0.0%	0.9%	99.1%
Youth out-of-school	-	-	-	-			
Prevention for PLHIV	10 494	-	-	10 494	100.0%	0.0%	0.0%
Sex workers and their clients	-	-	3 429 011	3 429 011	0.0%	0.0%	100.0%
Men who have sex with men (MSM)	-	-	1 856 992	1 856 992	0.0%	0.0%	100.0%
PWIDs	-	-	106 034	106 034	0.0%	0.0%	100.0%
Workplace prevention	72 641	-	320 565	393 206	18.5%	0.0%	81.5%
Condom provision & marketing	-	4 892	1 215 876	1 220 768	0.0%	0.4%	99.6%
Prevention, diagnosis and treatment of STI	3 354	-	-	3 354	100.0%	0.0%	0.0%
eMTCT	1 756 827	-	25 511 612	27 268 439	6.4%	0.0%	93.6%
VMMC	5 244	-	20 584 984	20 590 228	0.0%	0.0%	100.0%
Blood safety	-	-	-	-			
Universal precautions	-	-	-	-			
Post-exposure prophylaxis (PEP)	-	-	-	-			
Prevention activities not disaggreg.	-	680 807	12 324 995	13 005 802	0.0%	5.2%	94.8%
Treatment sub-total	**63 531 295**	**587 965**	**207 733 636**	**271 852 896**	**23.4%**	**0.2%**	**76.4%**
TB/HIV integrated services	115	-	1 668 747	1 668 862	0.0%	0.0%	100.0%
ART	31 095 097	491 561	167 047 292	198 633 950	15.7%	0.2%	84.1%
Nutritional support for ART patients	-	-	19 777	19 777	0.0%	0.0%	100.0%
HIV-related laboratory monitoring	1 812 104	-	37 627 125	39 439 229	4.6%	0.0%	95.4%
Home-based care	147 575	96 404	9 266	253 245	58.3%	38.1%	3.7%
Out-patient not disaggreg.	-	-	220 063	220 063	0.0%	0.0%	100.0%
Treatment and care not disaggreg.	-	-	1 141 366	1 141 366	0.0%	0.0%	100.0%
MOH estimated embedded HR contribution	30 476 404	-	-	30 476 404	100.0%	0.0%	0.0%
OVC sub-total	**-**	**1 327**	**27 815 156**	**27 816 483**	**0.0%**	**0.0%**	**100.0%**
OVC Education	-	1 327	2 515 041	2 516 368	0.0%	0.1%	99.9%
OVC Basic health care	-	-	-	-			
OVC Community support	-	-	3 287	3 287	0.0%	0.0%	100.0%
OVC Social Services and Administrative costs	-	-	1 724	1 724	0.0%	0.0%	100.0%
OVC Services not disaggregated by intervention	-	-	25 295 104	25 295 104	0.0%	0.0%	100.0%
Systems strengthening & cap-building sub-total	**362 284**	**155 027**	**56 807 864**	**57 325 175**	**0.6%**	**0.3%**	**99.1%**
National planning, coord & PM	294 294	133 823	13 040 551	13 468 668	2.2%	1.0%	96.8%
Admin & transaction costs of managing funds	-	-	2 004 176	2 004 176	0.0%	0.0%	100.0%
M&E	49 517	-	9 308 987	9 358 504	0.5%	0.0%	99.5%
Operations research	-	-	7 827	7 827	0.0%	0.0%	100.0%
Serological-surveillance (serosurveillance)	-	-	2 263 972	2 263 972	0.0%	0.0%	100.0%
HIV drug-resistance surveillance	-	-	7 860 458	7 860 458	0.0%	0.0%	100.0%
Drug supply system improvements	-	-	3 396 829	3 396 829	0.0%	0.0%	100.0%
Upgrading and construction of infrastructure	-	-	107 077	107 077	0.0%	0.0%	100.0%
Health systems strengthening (ASC.04.99)	18 473	-	18 347 770	18 366 243	0.1%	0.0%	99.9%
Training	-	21 204	470 217	491 421	0.0%	4.3%	95.7%
Social protection & social services sub-total	**31 983**	**-**	**18 676**	**50 659**	**63.1%**	**0.0%**	**36.9%**
HIV-specific IGAs	-	-	2 414	2 414	0.0%	0.0%	100.0%
Social protection & services not disaggreg.	31 983	-	16 262	48 245	66.3%	0.0%	33.7%
Enabling Environment sub-total	**11 816**	**598**	**7 125 538**	**7 137 951**	**0.2%**	**0.0%**	**99.8%**
Advocacy	2 099	598	132 878	135 574	1.5%	0.4%	98.0%
Human rights programmes	-	-	675 294	675 294	0.0%	0.0%	100.0%
Women-focued programmes	-	-	-	-			
GBV reduction	9 717	-	6 311 810	6 321 527	0.2%	0.0%	99.8%
Enabling environment not disaggreg.	-	-	5 556	5 556	0.0%	0.0%	100.0%
Research sub-total	**-**	**-**	**2 563 865**	**2 563 865**	**0.0%**	**0.0%**	**100.0%**
Biomedical research	-	-	-	-			
Clinical research	-	-	876 483	876 483	0.0%	0.0%	100.0%
Social science research	-	-	279 483	279 483	0.0%	0.0%	100.0%
HIV research activities not disaggreg.	-	-	1 407 899	1 407 899	0.0%	0.0%	100.0%
Total HIV spending (US$)	**65 883 033**	**1 923 653**	**410 741 696**	**478 548 382**	**13.8%**	**0.4%**	**85.8%**

Prevention spending in Zambia (US$, 2015-2017)

HIV Prevention (US$)	2015	2016	2017	2015 %	2016 %	2017 %
HTS	17 192 011	17 635 166	40 376 512	25.7%	25.7%	36.1%
eMTCT	22 087 145	20 599 215	27 268 439	33.0%	30.1%	24.4%
VMMC	12 855 266	13 978 304	20 590 228	19.2%	20.4%	18.4%
Sex workers and their clients	2 322 933	1 394 778	3 429 011	3.5%	2.0%	3.1%
Men who have sex with men (MSM)	236 356	941 346	1 856 992	0.4%	1.4%	1.7%
PWIDs	228 002	123 960	106 034	0.3%	0.2%	0.1%
SBCC	578 375	707 621	1 010 552	0.9%	1.0%	0.9%
Comm-/social mobilization (incl. some DREAMS)	619 978	524 470	1 859 661	0.9%	0.8%	1.7%
Youth in school (& not disaggreg.) (incl.some DREAMS)	32 867	1 119 184	587 195	0.0%	1.6%	0.5%
Youth out-of-school	14 253	7 291	-	0.0%	0.0%	0.0%
Workplace prevention	212 679	41 116	393 206	0.3%	0.1%	0.4%
Condom provision & marketing	1 531 453	2 068 012	1 220 768	2.3%	3.0%	1.1%
Vulnerable/accessible pop interventions	-	3 514 634	83 104	0.0%	5.1%	0.1%
Prevention for PLHIV	844	387 342	10 494	0.0%	0.6%	0.0%
Prevention, diagnosis and treatment of STI	16 089	8 081	3 354	0.0%	0.0%	0.0%
Blood safety	1 294 704	1 072 383	-	1.9%	1.6%	0.0%
Universal precautions	790 475	983 087	-	1.2%	1.4%	0.0%
Post-exposure prophylaxis (PEP)	457 893	242 934	-	0.7%	0.4%	0.0%
Prevention activities not disaggreg.	6 467 204	3 191 727	13 005 802	9.7%	4.7%	11.6%
Total prevention spending	**66 938 527**	**68 540 651**	**111 801 353**	**100.0%**	**100.0%**	**100.0%**

HIV treatment & care spending in Zambia (US$, 2015-2017)

HIV Treatment and care activity, US$	2015	2016	2017	2015 %	2016 %	2017 %
TB/HIV integrated care	353 307	551 370	1 668 862	0.1%	0.2%	0.6%
ART	193 763 446	176 909 990	198 633 950	75.6%	77.7%	73.1%
Nutritional support (with ART)	102 640	42 506	19 777	0.0%	0.0%	0.0%
HIV-related laboratory monitoring	35 872 810	26 730 135	39 439 229	14.0%	11.7%	14.5%
Psychological & support services	362	-	-	0.0%	0.0%	0.0%
HBC	17 871	54 732	253 245	0.0%	0.0%	0.1%
Other outpatient care	279 591	134 009	220 063	0.1%	0.1%	0.1%
Estimated MOH HR embedded costs (unknown functions)	25 809 120	23 252 203	30 476 404	10.1%	10.2%	11.2%
Treatment and care not disaggreg.	-	7 347	1 141 366	0.0%	0.0%	0.4%
Total Treatment & care	**256 199 147**	**227 682 291**	**271 852 896**	**100%**	**100%**	**100%**

NB. These tables exclude the additional 'bridging' funding that GF committed for ARVs in 2016. Data was not obtained.

OVC spending in Zambia (US$, 2015-2017)

OVC spending in Zambia (US$, 2015-2017)	2015	2016	2017	2015 %	2016 %	2017 %
OVC Education	1 718 254	1 190 093	2 516 368	9.2%	6.0%	9.0%
OVC Basic health care	-	5 143	-	0.0%	0.0%	0.0%
OVC Community support	11 092 636	18 645 906	3 287	59.1%	94.0%	0.0%
OVC Social Services and Administrative costs	1 724	1 455	1 724	0.0%	0.0%	0.0%
OVC Services not disaggregated by intervention	5 947 804	2 425	25 295 104	31.7%	0.0%	90.9%
Total OVC	**18 760 418**	**19 845 022**	**27 816 483**	**100%**	**100%**	**100%**

Enabling environment spending in Zambia (US$, 2015-2017)

Enabling Environment (US$)	2015	2016	2017	2015 %	2016 %	2017 %
Advocacy	647 100	143 196	135 574	8.7%	2.6%	1.9%
Human rights programmes	2 816 399	2 970 262	675 294	38.0%	53.3%	9.5%
Women-focused programmes	96 115	91 769	-	1.3%	1.6%	0.0%
GBV reduction	3 750 838	2 270 195	6 321 527	50.6%	40.7%	88.6%
Enabling environment not disaggreg.	97 326	95 807	5 556	1.3%	1.7%	0.1%
Total Enabling environment	**7 407 778**	**5 571 229**	**7 137 951**	**100%**	**100%**	**100%**

Systems strengthening spending in Zambia (US$, 2015-2017)

HSS & PM	2015	2016	2017	2015 %	2016 %	2017 %
National planning, coord & PM	6 946 808	9 505 662	13 468 668	21.8%	35.6%	23.5%
Admin & transaction costs of managing funds	2 719 000	93 013	2 004 176	8.5%	0.3%	3.5%
M&E	5 235 097	6 135 077	9 358 504	16.4%	23.0%	16.3%
Operations research	-	22 140	7 827	0.0%	0.1%	0.0%
Serological-surveillance (serosurveillance)	622 366	477 583	2 263 972	1.9%	1.8%	3.9%
HIV drug-resistance surveillance	12 254	1 910	7 860 458	0.0%	0.0%	13.7%
Drug supply system improvements	-	1 894 288	3 396 829	0.0%	7.1%	5.9%
Upgrading and construction of infrastructure	35 031	72 573	107 077	0.1%	0.3%	0.2%
Training & human resource capacity strthg	16 365 711	8 463 337	18 857 664	51.2%	31.7%	32.9%
Total Systems strengthening & coordination	**31 936 267**	**26 665 583**	**57 325 175**	**100%**	**100%**	**100%**

HIV research spending in Zambia (US$, 2015-2017)

HIV Research (US$)	2015	2016	2017	2015 %	2016 %	2017 %
Biomedical research	10 590	-	-	23.6%	0.0%	0.0%
Clinical research	-	907 219	876 483	0.0%	82.2%	34.2%
Social science research	-	107 450	279 483	0.0%	9.7%	10.9%
HIV research activities not disaggreg.	34 200	88 960	1 407 899	76.4%	8.1%	54.9%
Total Research spending	**44 790**	**1 103 629**	**2 563 865**	**100%**	**100%**	**100%**

Ministry of Health HIV funding (US$, 2015-2017)

Sources of funding for MOH (US$, 2015-2017) (excl.PEPFAR)					
	2015	2016	2017	Total	ASC % share
Central public revenue	22 237 329	21 757 963	30 276 318	74 271 611	30%
Est. MOH embedded HR costs	28 219 757	25 290 804	36 949 222	90 459 782	36%
Global Fund	9 170 608	27 548 746	46 819 334	83 538 688	34%
UNICEF	-	646 653	-	646 653	0.3%
Total	**59 627 694**	**75 244 166**	**114 044 874**	**248 916 733**	**100%**

NB. This MOH table excludes PEPFAR funding to MOH. Only reflects public revenue, GF and UNICEF monies to MOH. It includes the additional estimated MOH embedded HR costs (from SHA keys = 9% of the MOH personnel budget).

MOH Intervention Spending (US$, 2015-2017)					
	2015	2016	2017	Total	ASC % share
HTS	71 170	1 552	829 887	902 609	0%
STI Prevention, diagnosis and treatment	-	8 081	3 354	11 435	0%
eMTCT	95 054	871 627	2 104 385	3 071 067	1%
VMMC	1 098 874	6 061	1 749 859	2 854 794	1%
Prevention with youth in school	-	70 196	-	70 196	0%
Blood safety	156 643	-	-	156 643	0%
Prevention activities not disaggreg,	47 868	2 476 040	88 877	2 612 785	1%
TB/HIV interventions	285 872	450 466	1 540 866	2 277 204	1%
ART	30 123 119	43 369 840	51 058 739	124 551 698	50%
Laboratory monitoring	-	-	1 812 104	1 812 104	1%
HBC	-	311	147 575	147 886	0%
Treatment and care not disaggreg.	1 617 249	1 416 914	5 654 148	8 688 311	3%
National planning, coordination & PM	94 580	2 198 673	7 189 854	9 483 106	4%
M&E	153 893	772 660	1 157 845	2 084 398	1%
HIV drug-resistance surveillance	5 920	1 175	7 858 772	7 865 867	3%
HSS	57 742	348 367	1 843 240	2 249 349	1%
Research	10 590	-	528 965	539 555	0%
Estimated MOH embedded HR costs	25 809 120	23 252 203	30 476 404	79 537 727	32%
Total	**59 627 694**	**75 244 166**	**114 044 874**	**248 916 733**	**100%**

PEPFAR HIV and TB spending in Zambia (US$, 2015-2017)

PEPFAR HIV activities in Zambia (US$)	2015	2016	2017	2015 %	2016 %	2017 %
HTS	12 984 685	16 240 745	38 497 545	5.5%	6.8%	11.9%
Sex workers and their clients	2 322 361	1 394 778	3 429 011	1.0%	0.6%	1.1%
Men who have sex with men (MSM)	236 356	941 346	1 856 992	0.1%	0.4%	0.6%
PWIDs	228 002	123 960	106 034	0.1%	0.1%	0.0%
DREAMS: Community moblisation for AGYW	-	-	875 273	0.0%	0.0%	0.3%
DREAMS: Prevention for AGYW in school	-	-	65 461	0.0%	0.0%	0.0%
DREAMS: Prevention of GBV for AGYW			6 311 810	1.6%	0.9%	2.0%
DREAMS: Human rights prgm for AGYW			570 000	0.0%	0.0%	0.2%
Prevention for vulnerable pops	-	3 514 634	-	0.0%	1.5%	0.0%
Condoms	1 480 098	20 912	1 086 710	0.6%	0.0%	0.3%
eMTCT	21 387 153	19 473 471	24 035 993	9.1%	8.1%	7.4%
VMMC	10 851 895	13 188 814	17 539 196	4.6%	5.5%	5.4%
Blood safety	1 026 944	1 072 383	-	0.4%	0.4%	0.0%
Universal precautions	790 475	983 087	-	0.3%	0.4%	0.0%
Post-exposure prophylaxis (PEP)	457 893	242 934	-	0.2%	0.1%	0.0%
Prevention activities not disaggreg.	5 713 161	-	12 223 298	2.4%	0.0%	3.8%
ART	100 170 011	111 785 198	128 158 820	42.7%	46.6%	39.7%
Laboratory monitoring	35 524 064	26 542 496	37 445 468	15.1%	11.1%	11.6%
TB treatment & prevention	9 381 776	12 075 832	10 097 343	4.0%	5.0%	3.1%
OVC Care & support	16 970 902	18 645 906	25 293 955	7.2%	7.8%	7.8%
National planning, coordination & PM	2 932 895	2 752 392	4 477 118	1.3%	1.1%	1.4%
M&E	4 507 964	5 109 487	8 098 058	1.9%	2.1%	2.5%
Serological-surveillance (serosurveillance)	622 366	477 583	2 263 972	0.3%	0.2%	0.7%
Advocacy	397 972	-	-	0.2%	0.0%	0.0%
Human rights programmes	2 811 568	2 921 800	-	1.2%	1.2%	0.0%
Prevention of GBV	3 725 780	2 250 010	-	1.6%	0.9%	0.0%
HIV research	-	-	681 336	0.0%	0.0%	0.2%
Total	**234 524 321**	**239 757 768**	**323 113 393**	**102%**	**101%**	**100%**

Sources of data: 2015 and 2016 = EA 2016 and 2016. 2017 = COP16 (with proportional split between interventions from EA2016)

The Global Fund HIV and TB spending in Zambia (US$, 2015-2017)

GF HIV and TB spending in Zambia (US$)	2015	2016	2017	2015 %	2016 %	2017 %
SBCC	25 059	17 219	100 509	0.0%	0.0%	0.1%
HTS	2 286 876	1 146 830	1 728 230	2.4%	1.8%	1.9%
Youth in school (& not isaggreg.)	-	109 728	-	0.0%	0.2%	0.0%
Condom provision & marketing	-	16 682	-	0.0%	0.0%	0.0%
eMTCT	439 466	641 101	1 432 907	0.5%	1.0%	1.5%
VMMC	1 556 681	105 304	2 345 781	1.6%	0.2%	2.5%
Blood safety	111 117	-	-	0.1%	0.0%	0.0%
Prevention activities not disaggreg.	47 868	2 519 906	88 877	0.0%	4.0%	0.1%
TB/HIV interventions	303 557	504 754	1 622 381	0.3%	0.8%	1.7%
ART	66 571 262	40 103 548	38 252 035	69.1%	64.3%	41.2%
Laboratory monitoring	-	11 348	-	0.0%	0.0%	0.0%
TB treatment & prevention	3 055 527	1 419 405	3 860 159	3.2%	2.3%	4.2%
Treatment and care not disaggreg.	-	-	1 141 366	0.0%	0.0%	1.2%
OVC Education	1 673 606	1 181 835	2 494 199	1.7%	1.9%	2.7%
National planning, coord & PM	4 263 986	6 769 087	11 417 839	4.4%	10.8%	12.3%
Admin & transaction costs of managing fun	2 669 451	36 857	1 789 851	2.8%	0.1%	1.9%
M&E	459 865	667 508	1 144 069	0.5%	1.1%	1.2%
HIV drug-resistance surveillance	-	-	7 858 772	0.0%	0.0%	8.5%
Drug supply system improvements	-	1 894 288	3 396 829	0.0%	3.0%	3.7%
Health systems strengthening (incl. HR cap-	12 783 569	5 235 480	13 616 006	13.3%	8.4%	14.7%
Advocacy	12 529	8 610	50 099	0.0%	0.0%	0.1%
Research	10 590	-	528 965	0.0%	0.0%	0.6%
Total	**96 271 009**	**62 389 489**	**92 868 873**	**100%**	**100%**	**100%**

Beneficiaries of HIV spending in Zambia (US$, 2015-2017)

NASA beneficiary broad categories	2015	2016	2017	2015 %	2016 %	2017 %
PLHIV	218 673 511	230 517 442	271 436 225	57%	66%	57%
Key populations (SW, MSM, PWID)	2 787 366	2 239 045	5 425 342	1%	1%	1%
Other key & vulnerable populations	42 926 321	40 640 336	66 305 030	11%	12%	14%
Accessible populations	949 179	966 604	1 067 956	0%	0%	0%
General population	85 859 557	53 325 666	91 731 318	22.52%	15%	19%
Non-targeted	30 118 047	21 726 919	42 582 512	7.90%	6%	9%
Total	**381 313 981**	**349 416 013**	**478 548 382**	**100%**	**100%**	**100%**

				% share within sub-category			Share of total spend 2017
NASF Key & Vulnerable pops	2015	2016	2017	2015 %	2016 %	2017 %	
PWIDs and their partners	228 002	123 960	106 034	0%	0%	0%	0.0%
Sex workers and their clients	2 323 008	1 394 778	3 430 333	5%	3%	5%	0.7%
Men who have sex with men (MSM)	236 356	715 159	1 856 992	1%	2%	3%	0.4%
OVC including vulnerable youth	18 764 543	19 867 641	27 833 956	41%	46%	39%	5.8%
Children born or to be born of women living with HIV (PMTCT beneficiaries)	23 880 263	20 577 463	37 874 010	52%	47%	53%	7.9%
Migrants/mobile populations	-	-	5 257	0%	0%	0%	0.0%
Prisoners	137 124	74 606	502 444	0%	0%	1%	0.1%
Children and youth (in or out) of school	425 885	641 650	371 246	1%	1%	1%	0.1%
(blood bank safety)	6 261	-	-	0%	0%	0%	0.0%
Other key populations not disaggreg.	138 130	121 820	121 345	0%	0%	0%	0.0%
Total	**46 139 572**	**43 517 077**	**72 101 618**	**100%**	**100%**	**100%**	

HIV Interventions labelled specifically for adolescent girls and young women in Zambia (US$, 2015-2017)

Interventions labelled for AGYW	2015	2016	2017	Total (US$)
SBCC	183 728	183 500	195 000	562 228
Communty mobilisation (incl. DREAMS)	-	-	875 273	875 273
HCT	-	6 980	-	6 980
Youth in-school	-	-	65 461	65 461
Risk-reduction and prevention activites	-	3 514 634	-	3 514 634
Prevention not disaggregated	-	-	11 318 912	11 318 912
National planning, coordination & prgm.manage	-	48 960	-	48 960
Training	-	1 674	-	1 674
Advocacy	442 432	102 240	-	544 672
Human rights programmes (incl. DREAMS)	2 812 039	2 923 471	570 000	6 305 510
AIDS-specific programmes focused on women	8 373	-	-	8 373
Programmes to reduce GBV (incl. DREAMS)	3 725 780	2 250 010	6 311 810	12 287 600
Research	34 200	972 019	876 483	1 882 702
Total for AGYW	**7 206 552**	**10 003 488**	**20 212 939**	**37 422 979**

Note that most spending was not labelled by gender. Refer to the previous table showing all the interventions for adolescents and youth (which included the above figures).

Youth HIV spending in Zambia (US$, 2015-2017)

Interventions for adolescents and youth (incluving OVCs) (	2015	2016	2017	Total (US$)
SBCC	332 884	514 460	358 131	1 205 475
Community/social mobilization	-	-	880 530	880 530
HCT	1 976	6 980	-	8 956
Risk-reduction and prevention activites	-	3 514 634	17 473	3 532 107
Prevention – youth in school	32 867	1 009 456	587 195	1 629 518
Prevention – youth out-of-school	14 253	7 291	-	21 544
OVC (all support types)	12 810 890	19 863 761	25 157 479	57 809 511
National planning, coordination & prgm.management	1 724	1 455	1 724	4 903
M&E	5 947 804	2 425	25 295 104	31 245 333
Upgrading and construction of infrastructure	90 541	239 211	9 747	339 499
Prog. management & admin	-	22 619	-	22 619
Training	2 585	-	27 705	30 290
Social protection services and social services not disagg.	261 246	309 585	212 931	783 762
Advocacy	1 540	-	-	1 540
Human rights programmes	462 031	102 240	1 522	565 793
AIDS-specific programmes focused on women	2 812 039	2 923 471	570 000	6 305 510
Programmes to reduce Gender Based Violence	8 373	91 769	-	100 142
HIV and AIDS-related research activities	3 725 780	2 250 010	6 311 810	12 287 600
Total for adolescents and youth (not disaggregated)	**26 506 533**	**30 859 367**	**59 431 352**	**116 774 633**

8.3. NASF Cost estimates

Estimated resources required for the NASF interventions (US$ million, 2016 prices)

NASF Intervention	2017	2018	2019	2020	2021	% over period
Maternal syphilis (diagnosis & treatment)	0.60	0.62	0.65	0.67	0.69	0.1%
Paediatric syphilis (diagnosis & treatment)	0.01	0.01	0.01	0.01	0.02	0.003%
Youth focused interventions	6.64	6.98	7.34	7.70	7.90	1.6%
Interventions for sex workers	0.48	0.50	0.51	0.53	0.55	0.1%
Cash transfers	3.33	4.39	5.92	6.52	7.78	1.2%
Interventions for MSM	0.02	0.03	0.03	0.03	0.03	0.01%
Community mobilization	4.91	5.73	6.60	7.53	7.80	1.4%
Condom provision	32.06	35.51	39.47	43.38	47.63	8.6%
STI diagnosis & treatment	6.87	7.75	8.68	9.67	10.71	1.9%
HIV testing services (HTS)	19.29	20.94	22.69	24.54	26.47	4.9%
VMMC	24.03	25.10	26.22	27.39	28.90	5.7%
PrEP	1.62	1.72	1.83	1.95	2.07	0.4%
PMTCT	2.98	2.99	2.92	2.82	2.73	0.6%
Mass media	7.31	8.48	9.74	11.07	12.48	2.1%
Blood safety	0.13	0.13	0.14	0.14	0.15	0.03%
ARV therapy	230.79	258.50	262.96	270.25	272.97	56.3%
Enabling environment	2.71	3.02	3.15	3.29	3.41	0.7%
Program management	8.81	9.80	10.22	10.70	11.08	2.2%
Research	2.37	2.64	2.75	2.88	2.98	0.6%
Monitoring and evaluation (8%)	27.11	30.16	31.46	32.93	34.09	6.8%
Strategic communication	7.79	8.67	9.04	9.47	9.80	1.9%
Logistics	4.07	4.52	4.72	4.94	5.11	1.0%
Laboratory (equip/strengthening)	6.78	7.54	7.86	8.23	8.52	1.7%
Total (US$ millions)	**400.70**	**445.75**	**464.91**	**486.66**	**503.86**	**100.0%**

Source: National HIV and AIDS Strategic Framework (2017-2021).

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