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SUSTAINABLE HIV FINANCING IN ZAMBIA

Baseline Analysis and
Prospects for New Domestic
Resource Mobilization



This publication was prepared by Thomas Fagan and Wu Zeng of the Health Policy Project.



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Sustainable HIV Financing in Zambia

*Baseline Analysis and Prospects for
New Domestic Resource Mobilization*

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Abbreviations

AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
ARV	antiretroviral
BCC	behavior change communication
CHAI	Clinton Health Access Initiative
GRZ	Government of the Republic of Zambia
HIV	human immunodeficiency virus
HPP	Health Policy Project
HTC	HIV testing and counselling
LMIC	lower-middle-income country
MATCH	Multi-Country Analysis of Treatment Costs for HIV/AIDS
MCDMCH	Ministry of Community Development Mother and Child Health
MHS	Madison Health Solutions
MOH	Ministry of Health
NASA	National AIDS Spending Assessment
NASF	National AIDS Strategic Framework
NHA	National Health Accounts
OOP	out-of-pocket (expenditure)
PEPFAR	President's Emergency Plan for AIDS Relief
PLHIV	people living with HIV
PMTCT	prevention of mother-to-child transmission
PPPY	per person per year
SHI	social health insurance
STG	standard treatment guideline
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
VMMC	voluntary medical male circumcision
WHO	World Health Organization

Rationale

In the past decade, PEPFAR has committed significant technical and financial resources to the fight against HIV, working with local partners in target countries to promote prevention programs, increase the number of patients receiving antiretroviral therapy (ART), and strengthen national coordination and monitoring of HIV programs. As donor funding stagnates and developing economies grow, it is critical to identify long-term, sustainable sources of domestic funding for HIV to maintain and build upon the successes achieved by low- and middle-income-countries in partnership with PEPFAR.

In this context, PEPFAR has established the Sustainable Financing Initiative to work with seven target countries to mobilize non-donor, domestic resources and ensure transparency, accountability, and efficiency in the use of resources to help achieve an AIDS-free generation. This initiative will support countries to leverage new financial resources in the public and private sectors, with the goal of unlocking one billion dollars in new domestic financing for HIV across the target countries between 2016 and 2018.

To advance this goal, the Health Policy Project (HPP) has created a baseline assessment of the current state of HIV financing in three countries—Zambia, Uganda, and Mozambique—against which future achievements in domestic resource mobilization in each country can be measured. The assessment analyzes current resource commitments from all sources, both domestic and external, against projected resource need under UNAIDS’ 90-90-90 target, to determine future need for new domestic resources in each country. It also examines efficiency and equity in the use of funds, with the goal of maximizing the impact of financial commitments.

For the baseline assessment, HPP and USAID developed ten indicators across four strategic objectives: resource availability for HIV; domestic resource mobilization; efficiency in the use of funding; and equity in access and utilization of HIV services. The indicator measures and results for Zambia are summarized below. Where applicable, the HPP team included recommendations on data generation and policy action to improve domestic resource mobilization and efficiency and equity in Zambia’s HIV response.

**Table 1. Zambia Baseline for HIV Sustainable Financing Initiative
Performance Indicators and Data Gaps**

Indicator	Value	Sources
Funding for HIV		
1. Patients on ART (% of PLHIV) (2015)	824,099 (70%)	Spectrum (updated August 2015)
2. Resources Committed for HIV (FY 2015)	US\$533 million	HIV Financial Gap Analysis and Counterpart Financing Table (Global Fund, 2014) Approved Estimates of Revenue and Expenditure (MOF, 2013, 2015) NASA (2014) PEPFAR Dashboard (2015) Global Fund Dashboard (2015)
3. Projected HIV Funding Gap (2016-2020)	US\$334 million	Revised NASF Costing Summary (2014)
Domestic Resource Mobilization		
4. Government HIV Budget (FY 2015)	US\$129 million	Approved Estimates of Revenue and Expenditure (MOF, 2013, 2015) The Implications of Treatment Scale-Up Strategies on National Health Systems (CHAI, 2014b)
5. Private Sector Expenditure on HIV (2015)	US\$3.9 million	NASA (2014) Interview with private insurance provider (Madison Health Solutions)
Technical Efficiency		
6. Key HIV Service Unit Costs	ART: US\$416 HTC: US\$22	Revised NASF Costing Summary (2014)
7. Government HIV Budget Execution Rate	Programs: 64% Salaries: 72%	Planning and Budgeting – Technical Planning updates for MTEF 2016-2018 (MOH, 2015)

Indicator	Value	Sources
Equity of Access and Utilization		
8. Insurance Enrollment	Total Pop.: ~80,000 (0.5%) PLHIV: ~1,300 (0.1%)	Interview with private insurance provider (Madison Health Solutions)
9. Per Patient Out-of-Pocket Expenditure on HIV	—	Current data on OOP expenditure on HIV unavailable Pending sources: NHA (2011-2012); Household Health Expenditure Survey (2014)
10. Benefit Incidence of HIV Expenditure	—	No benefit incidence analysis has been conducted for Zambia

Methodology

To calculate the values for each indicator, HPP conducted secondary analysis of existing data sources as well as interviews with key stakeholders from government agencies, donors, implementing partners, and private sector organizations.

For estimates of resource commitment (Indicator 2) and expenditure, the National AIDS Spending Assessment (NASA) (2014) was used as a framework. HPP used the most recent data from publicly-available dashboards and budgets to update the baselines for major sources of HIV funding (i.e., those comprising more than one percent of total HIV funding). In some cases, changes were made to the NASA methodology, notably the inclusion of health systems costs (i.e., human resources, administration, supply chain, and infrastructure) in the estimate for the Government of Zambia (GRZ) HIV budget (Indicator 4). Estimates of GRZ expenditure on HIV for 2015, were calculated based on budget execution rates for the health sector (Indicator 7), reported by the Ministry of Health (MOH). For funding sources for which only NASA expenditure data were available (2012) resource commitments were assumed to be equal to expenditure. For all sources, commitments and expenditure were assumed constant from the most recently available year.

Unit cost estimates (Indicator 6) for ART, HIV testing and counselling (HTC), voluntary medical male circumcision (VMMC) and condoms are taken from the Revised National AIDS Strategic Framework (NASF) Costing Summary (2014). These unit costs are based on those calculated by the MOH and Clinton Health Access Initiative (CHAI) in the “National Facility-Based Anti-Retroviral Treatment Costing Study in Zambia” and synthesized in the “Multi-Country Analysis of Treatment Costs for HIV/AIDS” (MATCH) study. Although the NASF estimates are significantly higher than those derived by MATCH, this is explained by variations in the actual and recommended services provided, recent increases in health workers salaries, and the inclusion of program management and coordination costs incurred above the facility level in the NASF numbers. Accordingly, the HPP team elected to include the higher estimates provided by NASF in this report.

For current ART and prevention of mother-to-child transmission (PMTCT) coverage rates (Indicator 1), HPP used the most recent Spectrum files (updated August, 2015), provided by UNAIDS. Spectrum was also used for the gap analysis (Indicator 3), to calculate the total number of people living with HIV (PLHIV), number of patients eligible for treatment, and number on ART under two scenarios: 90-90-90, where 90 percent of PLHIV know their status and 90 percent of PLHIV who know their status are on ART, by 2020; and full coverage under the 2014 Zambia Standard Treatment Guidelines (STGs), by 2020. These projections were then incorporated into the existing NASF costing template to calculate total resource need under both scenarios.

To better understand the private sector contribution to HIV services (Indicator 5), HPP conducted interviews with key stakeholders in both the private and public sectors, but estimates of total HIV expenditure by private corporations (excluding insurance) are based on the those reported in the NASA. For insurance coverage (Indicator 8) and expenditure, HPP collected data from Madison Health Solutions (MHS), Zambia’s third largest insurance company. MHS provided estimates of current market share and number of clients of both themselves and their competitors.¹ The reported numbers were used to estimate current total coverage. MHS also provided data on the number of clients accessing HIV-related services, the total value of HIV claims, the average premium payment by risk pool, and estimates of overhead and medical loss as a percentage revenue. Based on these, HPP estimated the total number of clients accessing HIV services and total HIV claim value for the entire market, as well as the medical loss ratio.

Current estimates of out-of-pocket (OOP) expenditure for HIV (Indicator 9) were unavailable, although data from the National Health Account (NHA), 2007-2010 suggests that the total OOP contribution is low. The NHA, 2011-2012 and Household Health Expenditure Survey, 2014 are both pending final approval and may provide better data when available. In addition, no recent benefit incidence analysis (Indicator 10) of health or HIV expenditure has been conducted in Zambia, and therefore was not included in this report.

¹ HPP did not receive responses to requests for interviews with the two largest providers.



National HIV Response and Treatment Coverage

Indicator 1

% OF PLHIV

824,099 (70%)

Overview

Zambia is one of the countries hardest hit by the HIV epidemic. Adult (ages 15-49) HIV prevalence peaked at nearly 16 percent in the late 1990s and, despite high levels of donor funding, remains among the highest in sub-Saharan Africa at 12.5 percent (UNAIDS, 2015b). There are an estimated 1.2 million Zambians living with HIV, of whom more than 100,000 are children ages 0-14.

Although Zambia will experience approximately 55,000 new HIV infections in 2015, incidence has dropped sharply from 9.4 new infections per 1,000 in 2000 to 3.7 in 2015 (UNAIDS, 2015b). Over the same period, HIV-related deaths have declined by approximately two-thirds due to rapid scale-up of treatment. However, despite these achievements, HIV and AIDS remains the primary cause of both mortality and disability-adjusted life years in Zambia (WHO, 2013) (IHME, 2010).

Zambia's HIV epidemic is characterized by several key disparities in gender, location, and socio-economic status. Historically, the HIV prevalence among women has been, approximately, a third higher than among men. At 18 percent, the urban prevalence rate is twice that of rural areas. The two provinces (out of ten) with the highest population density, Lusaka and Copperbelt, which contain 34 percent of the population, account for 42 percent of the HIV disease burden. Additionally, there exists a strong positive correlation between HIV prevalence rates and both income and level of education, with those in the top two incomes quintiles twice as likely to be HIV positive as those in the bottom two and those with secondary or tertiary education more likely to be HIV positive than those with primary education or less. (MOH, 2014).

Due to the nature of HIV transmission, Zambia's HIV epidemic can be characterized as a generalized epidemic. An estimated 90 percent of new infections occur through heterosexual transmission, with the practice of concurrent sexual partnerships a key exacerbating factor in Zambia's HIV epidemic (PEPFAR, 2014). Although 11 percent of infections are associated with commercial sex work, other key populations including MSM, comprise only a small portion of the epidemic (less than one percent of new infections), even with high incidence rates—2.5 percent for MSM and four percent for sex workers (World Bank, 2015).

HIV Service Provision

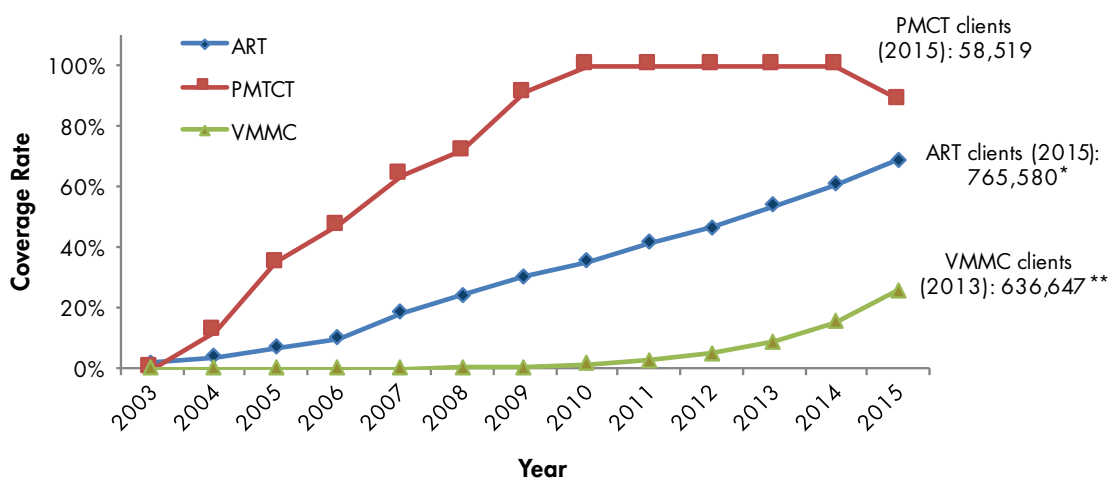
In the past decade Zambia has rapidly scaled up PMTCT and ART services. Zambia's PMTCT program, initiated in 2004, is considered a key achievement, reaching 100 percent coverage and nearly 60,000 mothers by 2010 (UNAIDS, 2015b) (World Bank, 2015). At the same time, ART expanded from approximately 50,000 clients in 2005 to an estimated 765,580 in 2015 (UNAIDS, 2015). VMMC has also recently been a key component of Zambia's HIV response, with 294,466 procedures conducted in 2013 (NAC, 2014c), and an ambitious target to bring the cumulative total to more than two million by 2017 (NAC, 2014a).

ART	633
PMTCT	1,800
VMMC	472

As of June 2015, there were 633 sites providing ART services, compared to more than 1,800 providing PMTCT services and 472 performing VMMC (Damisoni, 2015) (NAC, 2014c). GRZ aimed to scale up ART from 450 to 1,500 sites as part of a decentralization process initiated in 2013 (CHAI, 2014b). However, a shortage of health workers is one of the greatest limitations for the provision of HIV-related and general health services in Zambia.

The total number of health workers (including clinical and support staff) was only 18,373 as of December 2013 (CHAI, 2014b), despite the addition of approximately 4,000 new health workers between 2012 and 2013 (PEPFAR, 2014). This number represents significant growth above historical levels—Zambia had fewer than 13,000 health workers in 2008 (Ferrinho, 2011)—but still remains well below CHAI’s estimate of 28,047 health workers needed to meet health service demand by 2020 (CHAI, 2014b) and the MOH’s own target of 39,360 funded positions over the same time frame (MOH, 2013).

Figure 1. Coverage Rates of HIV Services



*This number excludes pregnant women receiving PMTCT services.

**2015 and 2014 VMMC numbers reflects national target rather than actual or estimated figures.

Sources: Spectrum (UNAIDS, updated August 2015); National AIDS Strategic Framework, 2014-2016.

Treatment Guidelines

Zambia’s own targets for treatment coverage are more ambitious than the UNAIDS recommended 90-90-90 scenario which outlines that, by 2020, 90 percent of all PLHIV will know their HIV status, 90 percent of all people with a diagnosed HIV infection will receive sustained antiretroviral therapy, and 90 percent of all people receiving antiretroviral therapy will have viral suppression (UNAIDS, 2014).

In 2014, Zambia adopted the new *Consolidated Guidelines for Treatment and Prevention of HIV Infection* which calls for lifetime triple combination ART for all HIV-infected children (0-14 years of age) regardless of CD4 cell count and adolescents and adults (ages 15+) with a CD4 cell count of 500 cells/mm³ or less. The guidelines also call for life-long ART for all HIV-infected pregnant and breastfeeding women (Option B+) as well as ART initiation for all HIV-infected sexual partners of pregnant and breastfeeding women and HIV-infected partners in serodiscordant couples. Patients co-infected with active

tuberculosis disease or hepatitis B virus with severe liver disease are also recommended for immediate ART initiation.² Under these guidelines, an estimated 90 percent of PLHIV are eligible for treatment (including PMTCT), compared to a target of 81 percent coverage under 90-90-90 (UNAIDS, 2015b). Under the previous guidelines (WHO Consolidated Guidelines 2010), Zambia was one of the first high-prevalence countries to achieve 80 percent ART coverage, surpassing 90 percent in mid-2013. At the current rate of scale-up, Zambia is estimated to achieve universal access to ART by 2020 (CHAI, 2014b).

Conclusions and Recommendations

Zambia's recent success in bringing the HIV epidemic under control through dramatic reductions in incidence has shifted the tide of HIV to care and treatment services. Despite only 55,000 people newly infected in 2015, 14 times as many people are on ART (UNAIDS, 2015). Lower mortalities rates among PLHIV due to ART scale-up have resulted in more patients living with HIV than ever before, and addressing the financial burden of ART will be a key priority for donors and GRZ going forward. Accordingly, current financial commitments for ART will have to be sustained in order ensure lifelong ART for current patients, while mobilization of new domestic resources will be necessary to continue scale-up efforts and achieve coverage targets.

² For calculations of ART coverage, pregnant women were excluded from both the total number of PLHIV and number of clients receiving ART (PMTCT).

Overview

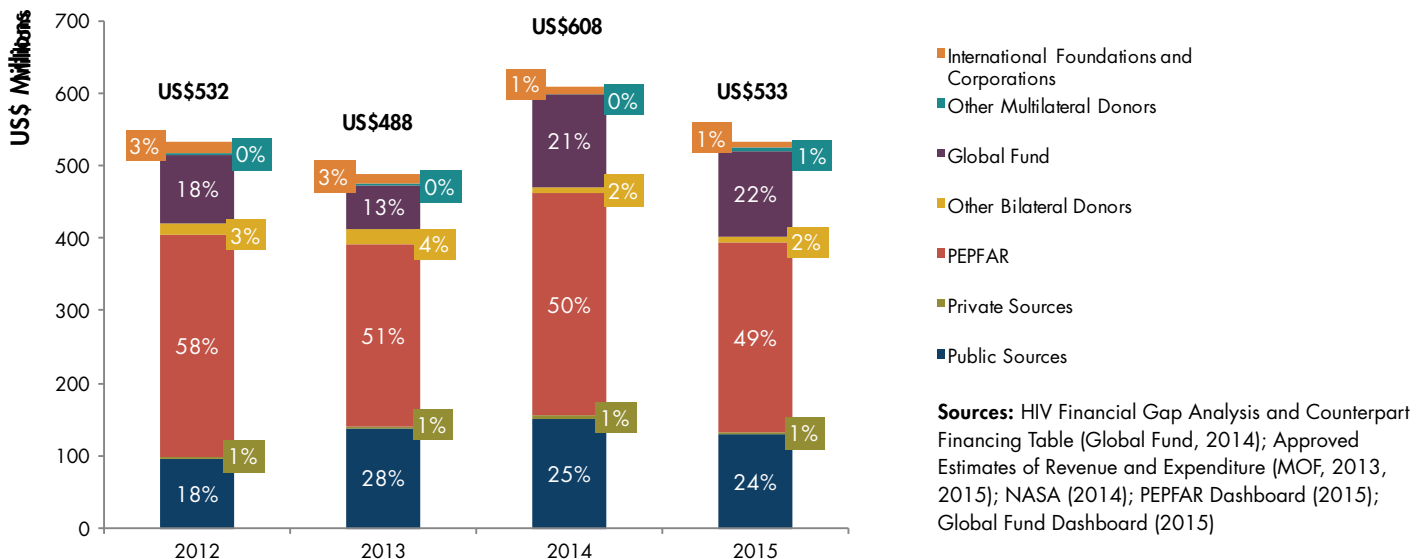
Despite Zambia’s reclassification in 2011 as a lower-middle income country (LMIC), it remains heavily dependent on external donors to finance its national HIV response. Donor funding per PLHIV in Zambia remains among the highest in Sub-Saharan Africa, ranking second among eight PEPFAR-supported LMICs and higher than eight of 10 low-income countries (PEPFAR, 2015; UNAIDS, 2015a).

The National AIDS Council, which coordinates the country’s HIV response, has recognized the need to seek out alternative domestic sources of funding to ensure the sustainability of HIV programs, and domestic funding commitments to HIV programs have increased significantly in recent years. Nonetheless, continued scale-up of HIV services, particularly to reach increasing treatment targets, have put a strain on existing resources. Significant new resources need to be mobilized to achieve these targets and ensure sustainability of funding in the face of a potential decline in donor support.

Resource Commitments

Donor funding commitments for HIV have on the whole plateaued between 2012 and 2015, despite significant annual variations in funding levels (Global Fund, 2015; National AIDS Council 2014; PEPFAR, 2015) (NAC, 2014b). Current donor funding makes up 75 percent of the total resource envelope for HIV of US\$533 million, with PEPFAR (US\$260 million) and the Global Fund (\$118 million) accounting for a combined 95 percent of donor funding and 71 percent of the total (Global Fund, 2015; PEPFAR, 2015). Domestic funding sources account for the majority of remaining funding, or an estimated \$134 million (25%), with the Government of Zambia (GRZ) contributing 96 percent (\$129 million) of total domestic resources through the general budget (MOF, 2015). Taken together, PEPFAR, the Global Fund, and the GRZ account for 95 percent of resources mobilized for HIV in Zambia in 2015.

Figure 2. Zambia HIV Funding Sources



Conclusions

Due to Zambia's continued heavy dependence on external funds to finance its HIV response, sustaining donor commitments will be imperative to ensure that recent gains in the scale-up of HIV services are preserved. At the same time, identifying and mobilizing new sources of domestic financing should be seen as a priority for continued scale-up. In addition, continued and reliable tracking of HIV funding commitments and expenditure is important to better understand the resource needs and gaps in the country's HIV response.

Overview

As a result of Zambia’s rapid scale up of key HIV interventions, there are more people on treatment and more people living with HIV than ever before. Although scale up of ART, PMTCT, and VMMC programs has been successful in reducing HIV incidence by half since 2005—and contributed to a 20 percent decline in HIV prevalence since the late 1990s—the number of PLHIV in Zambia is expected to continue to grow through 2025 (World Bank, 2015). Future funding requirements for ART are therefore “locked in” by current patient loads, and continued scale-up of treatment services will require additional funding above the current baseline (World Bank, 2015).

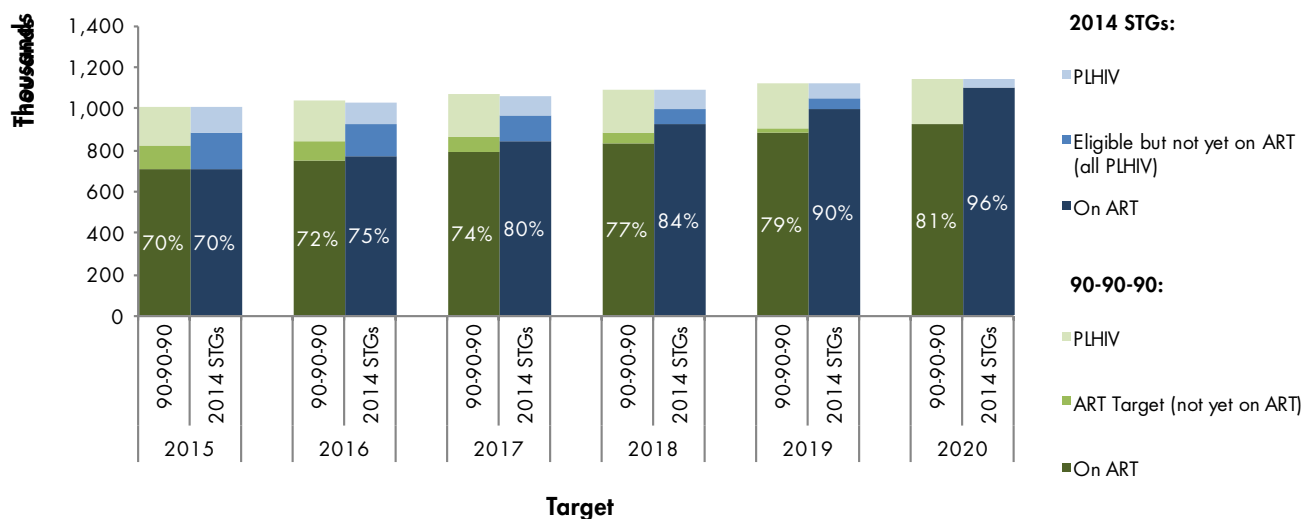
Scale-Up Target

Just as UNAIDS released its 90-90-90 treatment guidelines in 2014 (UNAIDS, 2014), Zambia adopted ambitious new standard treatment guidelines (STGs), based on the 2013 WHO guidelines, recommending ART initiation for all pediatric patients and adult patients with a CD4 count of 500 cells/mm³ or less (MOH and MCDMCH, 2014). Under the 2014 Zambia STGs an estimated 993 thousand PLHIV are eligible for ART in 2015, compared to 958 thousand under the 90-90-90 target. Reaching the 90-90-90 target of 81 percent of PLHIV on treatment will increase ART

	2015	2020
2014 Zambia STG	992,615	1,198,678
90-90-90	903,968	999,716

Source: Spectrum

Figure 3. Adult ART Coverage by Scenario

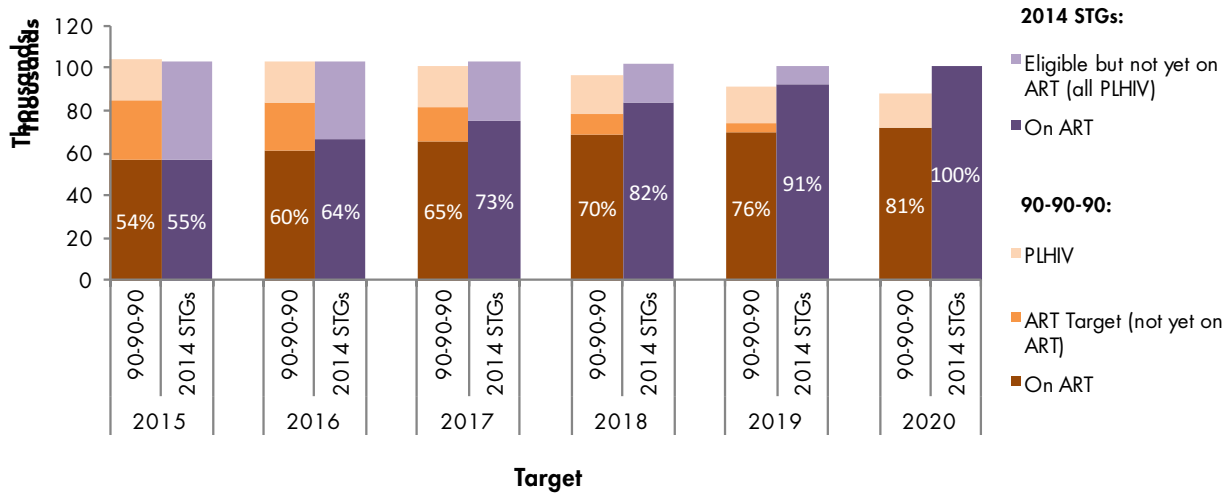


Sources: HPP Spectrum estimates; Revised NASF Costing Study (NAC, 2014)

³ Under 90-90-90 this number is equal to 81% of total PLHIV.

⁴ Number excludes pregnant women living with HIV.

Figure 4. Pediatric ART Coverage by Scenario



Sources: HPP Spectrum estimates; Revised NASF Costing Study (NAC, 2014)

patient volume to one million by 2020. By comparison, achieving universal access to ART under the 2014 STGs by 2020 will require 1.2 million patients on treatment (UNAIDS, 2015b).

Resource Need

Between 2016 and 2020, resources required are around US\$3 billion in order to achieve the 90-90-90 targets within the current National AIDS Strategic Framework. The annual resource requirement grows from US\$540 million in 2016 to US\$677 million in 2020. ART is the primary cost driver, increasing from US\$337 million to US\$413 million, corresponding to a 23 percent increase in patient numbers over that period. HTC costs will also increase—from US\$61 million to US\$118 million—as testing is scaled up to identify remaining PLHIV. Identifying 90 percent of PLHIV (excluding pregnant women) will necessitate an estimated 4.2 million tests annually (3.2 adult, one million pediatric), by 2020, with a cumulative total of 14.2 million tests over five years.⁵

In comparison, the resource requirement for the 2014 STGs is nearly one third higher, at approximately \$3.95 billion over 5 years, with an annual cost of \$1.07 billion in 2020. With 20 percent more patients on ART than under the 90-90-90 scenario, the cost of ART will grow to \$501 million by 2020. However, HTC costs balloon to \$422 million by 2020 to expand ART to 96 percent of PLHIV, as testing yield falls.⁶

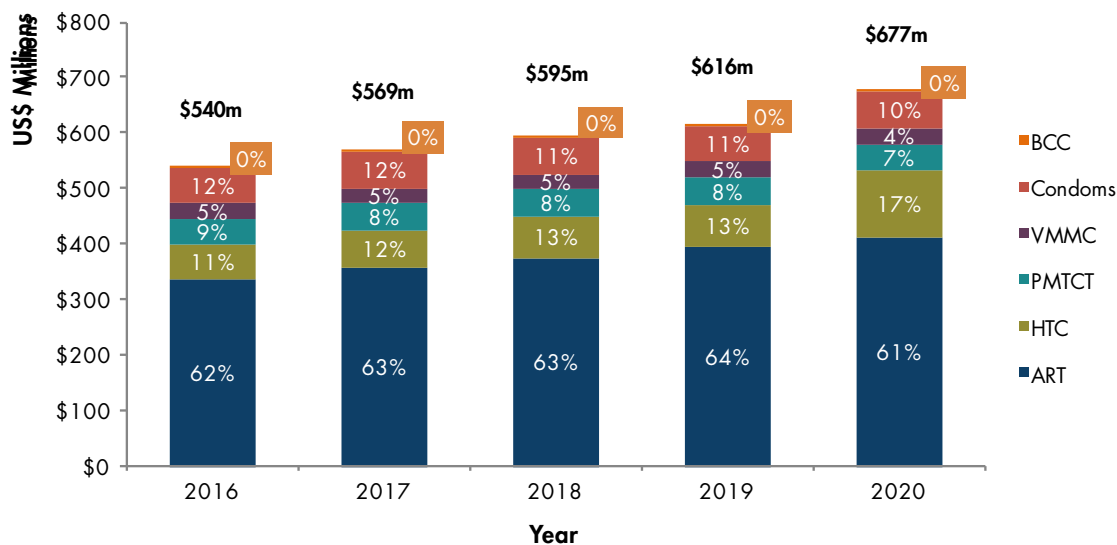
Under both scenarios, costs for all other interventions are assessed based on targets from the National AIDS Strategic Framework 2014-2016. For 2017-2020, all targets for PMTCT coverage, new male circumcision procedures, condom distribution,

⁵ HPP calculated the number of HIV tests required to identify 90% of PLHIV based on a testing yield equal to the ratio of unidentified PLHIV (total PLHIV minus number receiving ART) to the non-PLHIV population. A target of 90% was assumed for both the adult (excluding pregnant women) and pediatric population.

⁶ Under the 2014 Zambia STGs scenario it is assumed that all identified PLHIV with a CD4 cell count of 500 cells/mm³ or less are initiated onto ART, so that the target for the number of positive tests among the eligible population is the same as the ART target. By comparison, the 90-90-90 scenario requires identification of 90% of PLHIV while only 90% of those identified (81% of PLHIV) are initiated onto ART.

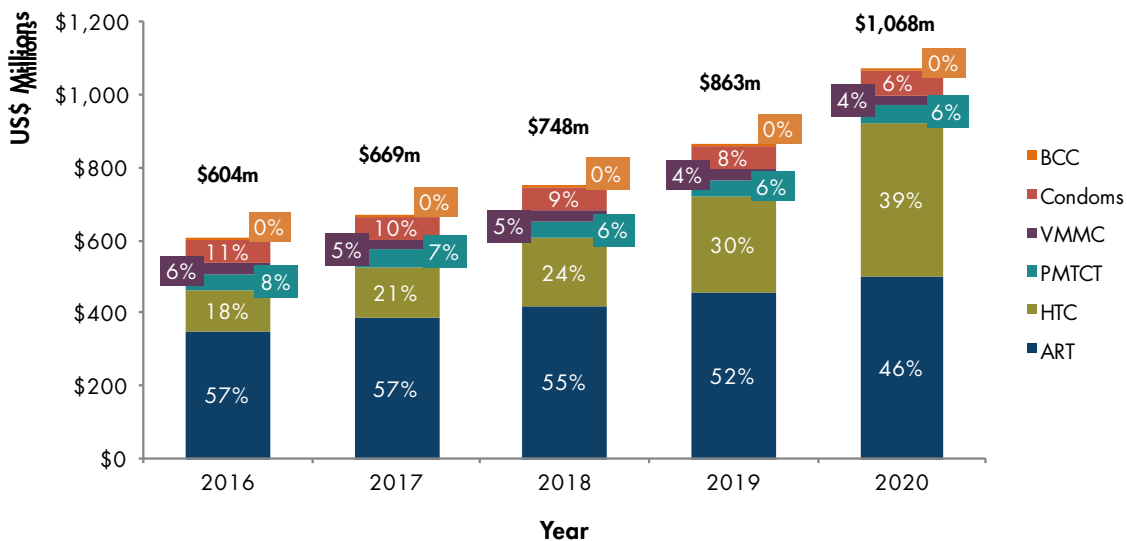
and behavior change communication (BCC) are held constant. Annual program costs are US\$48 million for PMTCT, US\$29 million for male circumcision, US\$66 million for condoms and US\$2 million for BCC. All programs include a presumed overhead (program coordination, monitoring and evaluation, community systems strengthening, etc.) cost of 29.5 percent.

Figure 5. Resource Requirement: 90-90-90



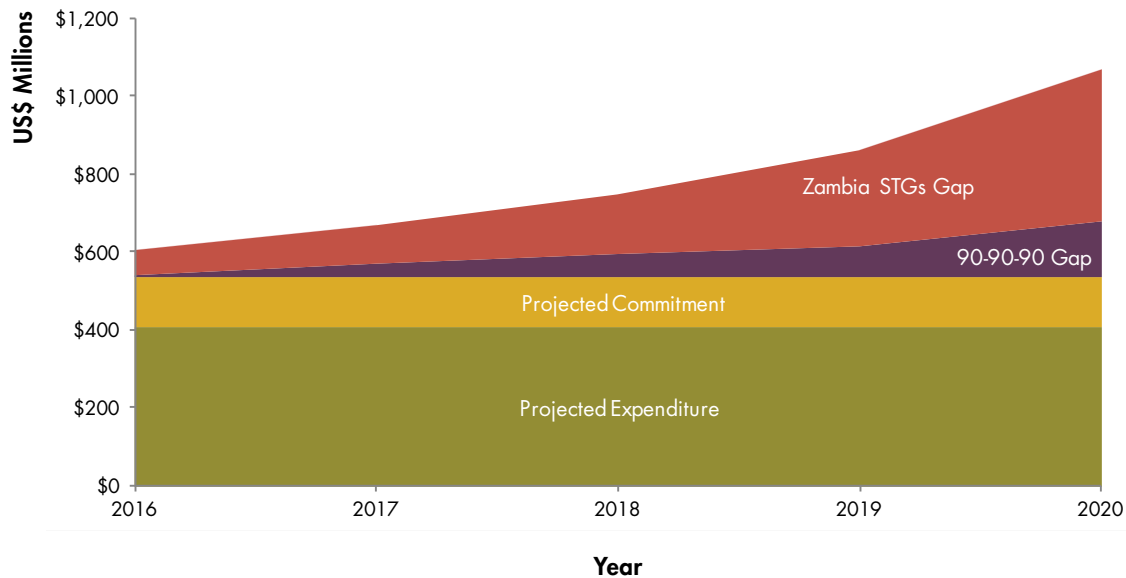
Sources: HPP Spectrum estimates; Revised NASF Costing Study (NAC, 2014)

Figure 6. Resource Requirement: 2014 STGs



Sources: HPP Spectrum estimates; Revised NASF Costing Study (NAC, 2014)

Figure 7. Financial Gap for HIV Services, 2016-2020



Sources: HPP Spectrum estimates; Revised NASF Costing Study (NAC, 2014); HIV Financial Gap Analysis and Counterpart Financing Table (Global Fund, 2014); Approved Estimates of Revenue and Expenditure (Ministry of Finance, 2013, 2015); NASA (2014); PEPFAR Dashboard (2015); Global Fund Dashboard (2015)

Resource Gap

Although available resources have roughly met the estimated resource requirement for the period 2014-2016, predictability and long-term availability of funding remain areas of concern for Zambia’s national HIV response, particularly in the face of increasingly ambitious scale-up targets. Funding commitments exceeded the estimated resource requirement by 33 percent in 2014, but fell by 12 percent in 2015, despite an increase of more than one-third in resource need.⁷ Current commitments continue to decline over the next two years, due both to a drop off in current Global Fund obligations and the absence of GRZ budget projections. The overall resource requirement falls in 2016—largely due to a decrease of two-thirds in VMMC programming—but then grows steadily through 2020 with the increased burden of additional patients on ART and expansion of HTC. HPP estimates that under the 90-90-90 targets, the resource requirement for 2016 is roughly in line with the value total committed resources for 2015, however a significant gap persists between projected expenditure and resources need. If expenditure remains flat, the annual gap between expenditure and need will grow from US\$132 million in 2016 to US\$268 million in 2020.

Conclusions and Recommendations

If donor commitments remain at 2015 levels, the five year, financial gap in available resources for HIV totals US\$334 million. This should be viewed as a target for the mobilization of new, domestic resources in order to finance the continued scale-up of ART and HTC to reach the 90-90-90 targets. At the same time, improving the utilization of committed resources must be made a priority in order to close the gap between resource need and expenditure for HIV.

⁷ Despite a surplus of committed resources for 2014, HIV expenditure (US\$423) still fell below estimated need by 8%.

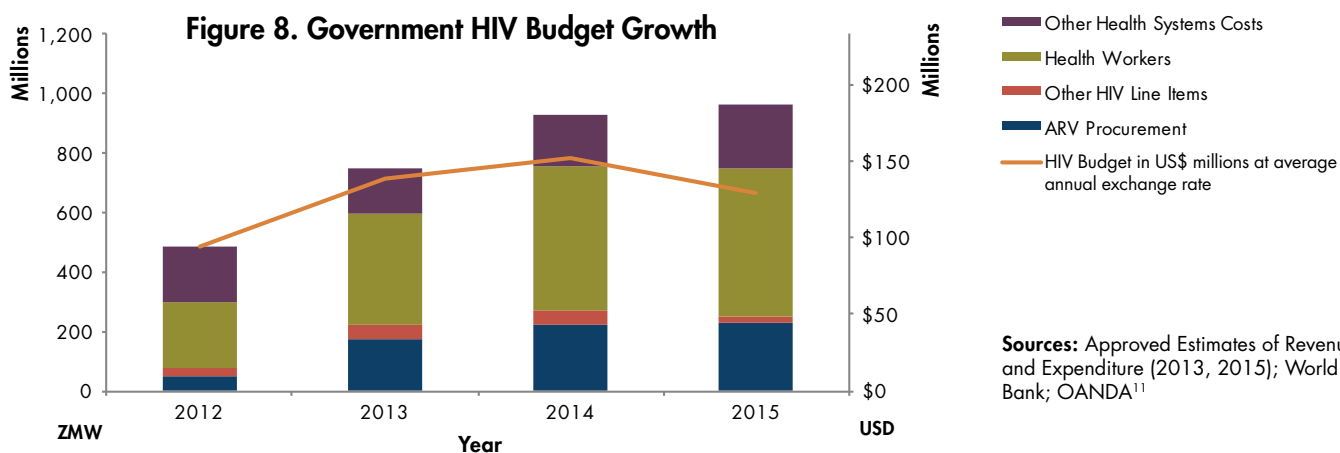
Overview

A more sustainable HIV response in Zambia will rely heavily on increased funding from the public sector, which makes up 86 percent of domestic non-OOP health spending in other lower-middle-income countries (WHO, 2013). As external financing for HIV plateaus, Zambia must ensure the continued provision of HIV services, while avoiding shifting the financial burden of these services onto individuals and households, in the form of OOP expenditure. To do so, the GRZ must mobilize additional public resources and find innovative mechanisms for financing the country's HIV response.

Historically, estimates of HIV expenditure in Zambia have cited a low contribution by GRZ to the national HIV response. The most recent NASA estimated the domestic public contribution at just five percent of total HIV expenditure for the period 2010-2012. However, these estimates do not account for the significant public sector contribution to health systems costs—specifically, human resources for health, administration, infrastructure, and supply chain costs—which support the provision of HIV treatment and services. HPP's analysis indicates that, when these costs are included, the public sector contribution to HIV services increases by as much as five fold when compared to previous and current estimates of HIV expenditure.⁸

Budget Allocation

Between 2012 and 2015 GRZ has significantly increased budget allocation for HIV-related commodities and services. In nominal, local currency terms, the total value of resources committed to HIV has doubled from 488 million Zambian Kwacha (ZMW) to 965 million ZMW (MOF, 2013; MOF, 2015).⁹ HIV-specific line items (i.e., those allocated 100 percent to the HIV budget) account for 26 percent (249 million ZMW) of the government contribution to HIV in 2015, compared to 16 percent (78 million ZMW) in 2012. ARV line items¹⁰ make up the vast majority of HIV-specific funding and have increased in nominal terms from 50 million ZMW in 2012 to 226 million ZMW in 2015.



⁸ HPP estimates the total GRZ budget for HIV, including health systems costs, to be US\$95 million in 2012, compared to NASA's estimate of US\$16 million. See figure.

⁹ All values in ZMW, with 2012 and 2013 totals converted at a rate of 1000 ZMK to 1 ZMW.

¹⁰ The MOH line item for ARV accounts for 99.9% of ARV funds, however the Ministry of Defense has a separate line item for ARV procurement.

¹¹ World Bank period average exchange rate 2012-2014; 2015 exchange rate calculated at mid-year (July 1) spot rate.

Health systems costs, which make up roughly three-quarters of the total HIV budget, were allocated to HIV at a proportion of 22 percent, based on the estimated health worker requirement to meet the 2010 WHO guidelines and the current health work force (CHAI, 2014b).¹² Health worker salaries make up the largest component of health systems costs, and have grown from 46 percent (223 million ZMW) to 52 percent (501 million ZMW) between 2012 and 2015. Administrative costs, both at and above the facility level, and administrator salaries above the facility level collectively make up 14 percent of the HIV budget. Development costs for infrastructure and training make up six percent and two percent of the HIV budget, respectively, while supply chain costs account for just 1 percent.¹³

Macroeconomic Instability

In real terms (inflation-adjusted), the increase in the HIV budget has been just 59 percent, to 777 ZMW, due to an average annual inflation rate of 7.5 percent between 2013 and 2015. In addition, the depreciation of the kwacha has further reduced the purchasing power of the HIV budget. Between 2012 and 2015 the kwacha lost nearly a third of its value against the US dollar, falling from 5.15 kwacha per dollar to 7.47 kwacha per dollar. As a result, the total dollar value of Zambia's HIV budget has only grown by 36 percent, from US\$95 million to US\$129 million between 2012 and 2015, and has declined sharply from a high of US\$151 million in 2014.¹⁴ Zambia's declining exchange rate will have serious consequences for its ability to procure tradable goods, particularly ARVs and other HIV-related commodities. Over three years, 40 percent of the growth in the budget for ARVs has been lost due to currency depreciation.

Although non-tradable goods may not be affected by currency depreciation, increasing costs of other inputs, principally health workers salaries, has also had a deflationary effect on the purchasing power of the GRZ's HIV budget. Between 2010 and 2012 the average nurse's salary rose in dollar terms by 27 percent from US\$9,676 to US\$12,263, or nearly 13 percent annually (MOH, 2012; NAC, 2014). A continuation of this trend would suggest that 80 percent of new funding for health care workers since 2012 has gone to salary increases for existing workers, rather than new hiring. This estimate may be conservative, as wage increases enacted in 2013 raised health workers salaries by as much as 200 percent, particularly for lower cadres (van den Broek, 2015). Wage levels have held steady since due to freeze on wages and hiring of civil servants in effect between late 2013 and May 2015 (Kuyela, 2015).

Management of Health/HIV Budget

In Zambia, the budget for health is managed primarily by the MOH and the Ministry of Community Development, Mother and Child Health (MCDMCH), formed in 2011. The two ministries operate in parallel, with MCDMCH managing level one and two facilities (health posts and rural and urban health centers) and MOH managing level three, four and five facilities (district, provincial, tertiary hospitals). Salaries and operating costs for facilities are managed by the respective ministry; however, MOH retains responsibility for procurement of drugs and medical supplies, including ARVs, as well as supply chain costs.

A small proportion of budget line items for health—less than half a percent of the total health budget—are managed by other, “non-health” ministries. These include line items for HIV mainstreaming disbursed across line ministries. In fact, 536 of 560

¹² The allocation of 22% was calculated by multiplying the estimated number of health workers required for full coverage under the 2010 WHO guidelines (CHAI, 2014b) by the estimated coverage under the guidelines (UNAIDS, 2015b) for the years 2013 to 2015 and dividing by the total estimated number of health workers (clinical and support staff) for each year. For all three years, the calculation was 22%. CHAI also estimated the health worker requirement under the 2013 WHO guidelines and “treatment for all” scenario, which was 4,561 and 4,657 respectively, compared to 4,569 for the 2010 WHO guidelines scenario.

¹³ The budget for supply chain was allocated based the value of ARVs in the budget is a proportion of total drug and medical supply procurement. For 2015 the allocation was 30%.

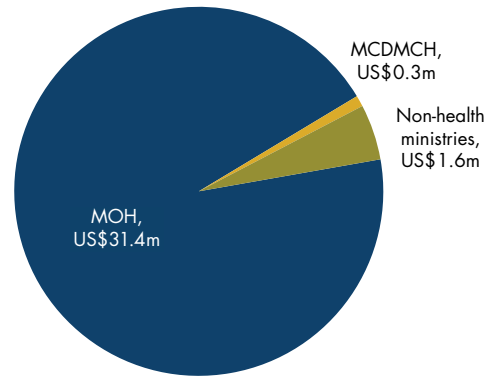
¹⁴ The Zambia kwacha has seen a continued and dramatic decline over the second half of 2015, with the November 1 exchange rate at 12.59 ZMW per US\$1. At this exchange rate, the GRZ's 2015 HIV budget is worth only approximately US\$77 million, which would amount to a decline of 19% in the USD value of the HIV budget since 2012.

HIV-specific line items are managed by non-health ministries, however, these account for only five percent of the total dollar value of line items for HIV. Additionally, line items for school health and nutrition programs, military healthcare costs (including procurement of ARVs) and health facility construction and rehabilitation, are managed by the Ministry of Education, Ministry of Defense, and Office of the President, respectively. These items have been included in HPP’s analysis, where relevant.

Conclusions and Recommendations

Despite significant growth in the nominal budget for HIV in recent years, domestic expenditure on HIV remains limited by macroeconomic instability and fiscal shortages. GRZ’s ability both to raise new revenues and to limit real increases in the prices of major cost components, particularly salaries and ARVs, will play a significant role in the effective mobilization of new resources for HIV. In the short-term, the focus must be on preserving the gains made in budget allocation for HIV between 2012 and 2015. Macroeconomic stability is critical to ensure the sustainability of current funding levels, while a thorough analysis of fiscal space for health and HIV should be undertaken to assess the viability future increases in the budget for HIV.

Figure 9.
Management of HIV Line Items



Source: Approved Estimates of Revenue and Expenditure (MOF, 2015)

Overview

Private sector spending on HIV services in Zambia, excluding OOP expenditure, comes primarily from employers, either as premium payments to private health insurance or through employer-operated clinics and hospitals. Although prepayment schemes make up just 1.5 percent of total health expenditure in Zambia, non-OOP sources of private health expenditure (including funds channeled through insurance schemes) total 13.9 percent of total health expenditure—compared to 2.3 percent and 7.9 percent respectively in other LMICs—highlighting the importance of Zambian employers in the direct provision of health services (WHO, 2013). The mining sector, specifically copper production, accounts for 10 percent of both gross domestic product and formal employment in Zambia, and is considered a major contributor to private health service provision. Both employers and third party insurers provide HIV-related care and services, and although their contribution to the overall response is small, they should be considered as areas for future linkages and expansion to ensure the sustainability of the national response. Hospital-based insurance schemes may be a further contributor to HIV services, although the lack of regulation and data on these schemes makes their contribution difficult to calculate and it is not included in the estimated total.

Private Insurance

Zambia has historically had low rates of private insurance coverage, with previous estimates indicating a decline in rates of utilization of all insurance products from 6.6 percent in 2005 to 3.9 in 2009 (Bank of Zambia, FinMark Trust Zambia, 2009) (FinMark Trust Zambia, 2009). Based on data provided by MHS,¹⁵ HPP estimates that, as of 2015, approximately 80,000 individuals are covered under private insurance schemes, with the vast majority participating in employer-sponsored plans (Jere, 2015). HIV is covered by most (if not all) insurance plans in Zambia as a chronic condition. Although it is difficult to estimate the number of HIV-positive individuals covered under private insurance schemes, 1.4 percent of MHS's clients accessed HIV care and treatment services through their plans from January to July 2015.¹⁶ The estimated annual HIV claim per client accessing HIV-related services is US\$584, which is 40 percent higher than the accepted unit cost of ART in public facilities. In comparison, HPP calculated the average monthly premiums for private insurance at 254 ZMW per month, or US\$424 per year, based on premium and expenditure estimates provided by MHS.

Higher costs would be expected at private facilities, due, in part, to higher costs for inputs, particularly ARVs. Various partners indicated that private facilities were required to procure their own ARVs and other HIV commodities, however MHS noted that this was difficult to verify and that it was possible facilities were receiving payment for commodities procured and distributed by the GRZ or development partners at no cost to the facility.

¹⁵ MHS is Zambia's third largest private health insurance provider with approximately 13,800 clients, including both primary beneficiaries and dependents. MHS representatives noted four major competitors with the largest two having a combined market share of approximately 40,000 clients. Accordingly, HPP estimated the total insured population to be approximately 80,000.

¹⁶ The sample provided by MHS included only clients covered through employer-sponsored "self-insurance" schemes. (More information on insurance schemes can be found in the section of this report titled "Insurance Enrollment.") Based on higher premiums paid by pure insurance clients, HPP calculated higher insurance payouts for these clients while maintaining a medical loss ratio for insurance providers of 56%. It is likely that these higher premiums are due to adverse selection among individual clients, who more likely to seek health care services, including PLHIV. HPP estimated proportion of clients seeking HIV services under pure insurance schemes due to the effect of adverse selection at 1.8%. Therefore, the proportion of all clients under both self- and pure insurance schemes is estimated at 1.7%. This calculation is included in estimates of total HIV expenditure.

In addition to third-party providers, some banks in Zambia, notably Barclays Bank and Standard Charter Bank, provide insurance for inpatient care free-of-charge to clients of their financial products (Standard Charter Bank, 2015). The number of clients covered by these products and the value of claim payouts is unknown. Although this coverage is unlikely to contribute directly to HIV expenditure, it does represent a potential source of innovative financing of healthcare in general.

Medical Loss Ratio

Although the private health insurance market in Zambia remains small, it is an area of potential growth for the mobilization of resources for HIV. HPP calculated that private insurers earn an estimated \$34 million in revenue annually. In comparison, total reimbursement for claims is estimated at US\$19 million, resulting in a medical loss ratio of 56 percent. This reflects high overhead costs, which were indicated to be greater than 30 percent of total revenues (Jere, 2015). However, based on the data provided by MHS, profits were also calculated to be high, at 13 percent of total revenue. Overall, the low medical loss ratio with high margins for both overhead and profit, suggests that there is room to further improve the efficient use of funds mobilized through private insurance schemes.

Employer-run Healthcare

Health insurance coverage through third-party providers is supplemented by the direct provision of health services to employees, families, and local communities by many large employers in Zambia through company-operated facilities. Across all industries, the 2014 NASA calculated total direct (excluding third-party insurance) HIV expenditure by private companies at US\$3,102,435 for 2012.¹⁷ The mining industry has historically been the largest provider of these services, however banking, hospitality, and sugar cane (Zambia Sugar) have also been noted for providing direct health services (Damisoni, 2015). Total employment within these industries is approximately 173,000, or 3 percent of Zambia's active workforce (Central Statistical Office, 2013) (Zambia Sugar, 2014).

Zambia's three largest mining operations, Mopani Copper Mines, Konkola Copper Mines, and Kansanshi Mining (majority owned by First Quantum Minerals) together employ 44,000 workers, or half of those in Zambia's mining sector (Konkola Copper Mines, 2015) (Glencore, 2015) (Mining Health Initiative, 2013). All three provide employees and families with some degree of health services, with the National AIDS Council citing First Quantum Minerals as a leading corporation in the provision of HIV services (Mulwanda, 2015). In addition, Mopani and Konkola both operate hospitals and clinics in Copperbelt Province, where the HIV prevalence is highest at 18.2 percent.

Conclusions and Recommendations

Zambia's private sector will need to play an expanded role in the financing and provision of HIV services for the country to transition from heavy donor dependence to a sustainable HIV response. Steady growth in private insurance coverage, currently estimated at two to five percent annually, may help to ease some of the burden on public and donor-supported facilities, but coverage would need to be dramatically scaled-up to become a significant funding source for HIV (Jere, 2015). USAID has previously supported the Comprehensive HIV/AIDS Management Program to better engage the private sector in the provision of health services; however, linkages with private corporations should be strengthened to both expand direct service provision from private employers, and ensure high-quality care.

¹⁷ HPP assumed this contribution to have remained constant from 2012 to 2015. It is included in the calculation for total private sector contribution.

ART: US\$416, HTC: US\$22*Overview*

For Zambia to be able to finance a larger portion of its HIV response, it will not only be important to mobilize more domestic resources for HIV, but also to reduce the cost of services through more efficient delivery and reduced prices for inputs. With the prioritization of funding—particularly domestic funding—for treatment, comprehensive and reliable estimates of ART unit cost are a critical component of ensuring the sustainability of HIV financing. In addition, as HTC continues to make up a larger portion of the total resource requirement for HIV (14 percent by 2020, under 90-90-90 scenario), improving data on testing costs and developing cost effective testing strategies will become increasingly important. The unit cost estimates presented in this section will provide a baseline for measuring efficiency gains in the cost of HIV service provision during the implementation of PEPFAR’s Sustainable Financing Initiative, 2016-2018.

ART

According to Zambia’s NASF, 2014-2016, the average cost of ART per person per year (pppy) is US\$416. Specifically, adult treatment costs range from US\$366 to US\$412 for existing and new patients, respectively, compared to US\$633 to US\$679 for pediatric patients. The cost variations are primarily driven by differences in ARV regimen and differences in service requirements for new patients as compared to existing patients.

The unit costs presented in the NASF are based on those collected in 2010 for the “National Facility-Based Anti-Retroviral Treatment Costing Study in Zambia” and synthesized in the MATCH study. However, the NASF costs demonstrate a significant increase over those calculated by the MATCH study, reflecting, in particular, the inclusion of additional overhead incurred above the facility level.¹⁸ In addition, adjustments have been made to reflect increases in health worker salaries since 2010 and changes in productivity. Laboratory costs presented in the NASF are based on normative costs of providing patients with the recommended testing under the 2014 Zambia STGs, and are significantly higher than the MATCH estimates, which reflect the cost of actual testing provided.¹⁹

In the NASF costing, ARVs remain by far largest cost component of ART provision, accounting for 38 percent to 43 percent of total cost for adult patients, and 54 percent to 58 percent for pediatric patients. TDF+FTC+EFV is the preferred triple combination ARV for non-complex adult patients, used in 76 percent of all cases, with an average cost of US\$133 pppy (excluding wastage). The average cost of the preferred regimen for first line pediatric treatment (13 percent of cases), ABC+3TC+LPV/r, is more than double at US\$317 pppy. The average regimen cost for all patients is US\$163 (NAC, 2014).

In comparison, MATCH estimates the average cost of ARVs across all patients to be US\$153. This discrepancy can be largely accounted for by a lower percentage of pediatric patients in the MATCH study – 6.7 percent compared to 14 percent in the NASF.²⁰

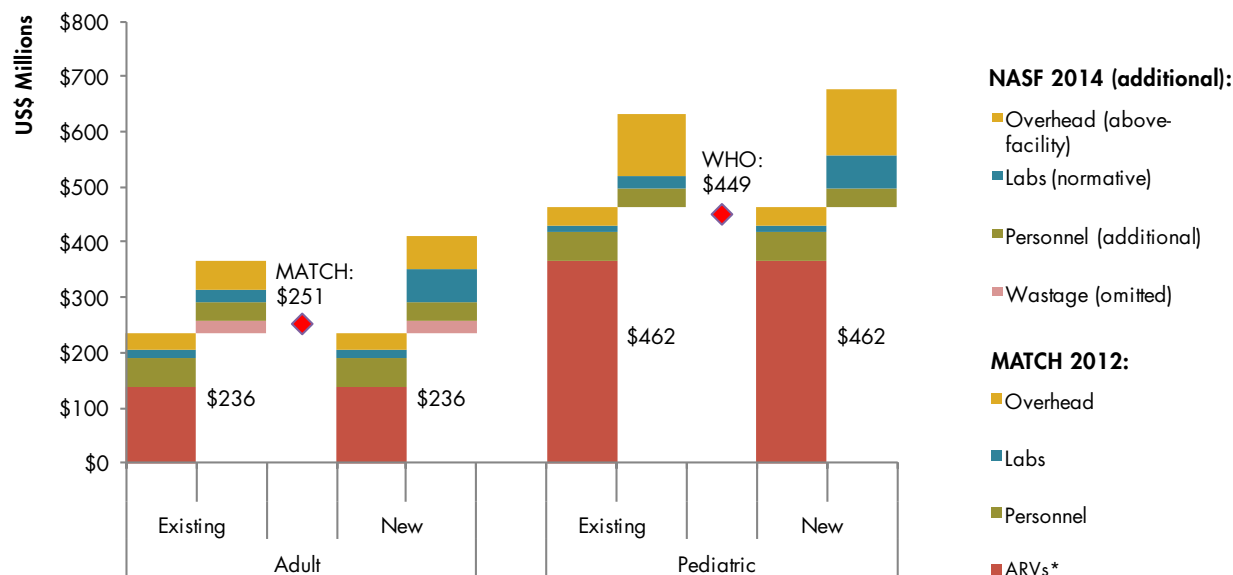
¹⁸ MATCH calculates “other” costs, including facility-level overhead, at US\$32 pppy. NASF estimates overhead costs (including facility-level) at 29.5 percent of the total cost for ARVs, personnel, and laboratory tests. For graphical purposes, HPP assumes above-facility overhead costs to be the difference between these values.

¹⁹ Zambia 2014 STGs recommend all patients receive one viral load and two CD4 tests annually, while new patients receive additional testing at initiation and a second viral load test within the first twelve months.

²⁰ NASF regimen and patient quantification is based on the *Zambia: National Annual Long Term ARV Forecast Report (2015-2021)*. For 2015, pediatric patients represent approximately 7.4 percent of all ART patients. However, costs for scale-up scenarios are calculated by patient type (adult or pediatric) rather than using an aggregate number.

The World Health Organization (WHO), the Inter-Agency Task Team on Children and HIV (IATT) and the United Nations Children’s Fund (UNICEF) estimate the average pediatric ARV costs with 2013 Zambia STGs at US\$362 (including wastage), compared to \$364 in the NASF (WHO, IATT, UNICEF, 2014). Although variation exists in the cost of other components between the WHO estimates and MATCH, total pediatric ART unit costs are closely aligned at US\$449 and US\$462.^{21 22}

Figure 10. ART Unit Cost Comparison



*See ART footnote²³

Sources: Revised NASF Costing Study (NAC, 2014)

HIV Testing and Counselling

The NASF 2014-2016 cites an average cost for HTC of US\$22 per client. Personnel is the largest cost component, ranging from US\$9 to US\$39 based on testing location, with an average cost per patient of US\$14. Laboratory costs, including test kits and quality assurance testing, are relatively low at an average of US\$3 per patient. Overhead costs, comprised primarily of coordination, trainings, and communication, are assumed at an additional 29 percent of direct service delivery costs (personnel and laboratory).

Component	Cost (\$)	Percentage (%)
Personnel	\$13.78	63%
Laboratory	\$3.14	15%
Overhead	\$4.88	22%
Total	\$21.80	100%

Sources: Revised NASF Costing Study (NAC, 2014)

²¹ MATCH unit costs for pediatric ART are estimated using pediatric ARV costs from the *Zambia: National Annual Long Term ARV Forecast Report (2015-2021)*.

²² WHO estimates include 10 percent supply chain costs for commodities and an additional 5 percent cold chain cost for syrups. NASF and MATCH estimates do not include supply chain costs.

²³ ART costs in the NASF include 15 percent wastage. For purposes of comparison with MATCH, these costs are presented separately for adult ART. In the WHO, IATT, UNICEF costing, wastage is assumed at 5 percent for tablets and 20 percent for syrups, compared to 15 percent across all regimens in NASF.

Other HIV Interventions

Other key HIV interventions costed for the NASF 2014-2016 include PMTCT , VMMC, and condoms. Unit costs for PMTCT are aligned with those for ART in terms of regimen and personnel costs, but have much higher testing costs, which account for 44 percent²⁴ of the average cost per patient of US\$742. The accepted overall unit cost for VMMC is US\$86 per patient, while the cost for condoms per unit is US\$0.62.

Conclusions and Recommendations

Controlling the cost for ART and HTC will be critical for ensuring the sustainability of Zambia's HIV response and achieving 90-90-90 scale-up targets. With significant reductions in the cost of ARVs and other commodities unlikely, particularly in the short-term (CHAI, 2014a), focus should shift to improving efficiencies in service delivery and reigning in human resources for health costs. Furthermore, realizing economies of scale in the cost of administration of HIV programs will help to lower the unit cost of ART and HTC, and reduce the long-term funding gap.

²⁴ Does not include early infant diagnosis (EID) testing.

Government HIV Budget Execution Rate

Indicator 7

Programs: 64%

Salaries: 72%

Overview

The mobilization of new funding for Zambia's HIV response in recent years has not translated to proportionate increases in total HIV expenditure. Although committed funds have largely met the estimated resource need in recent years, actual expenditure remains well below this target.²⁵ Low rates of disbursement and expenditure for committed funds, particularly in the public sector, are a significant barrier to meeting the resource needs for scale up under 90-90-90. Although development partners demonstrate relatively high rates of budget execution, domestic funding, particularly from the GRZ, suffers from low rates of utilization. For Zambia to achieve its continuing scale-up goals and make its HIV response sustainable, it must ensure that committed resource are made available and maximize their use in line with national priorities.

Budget Execution

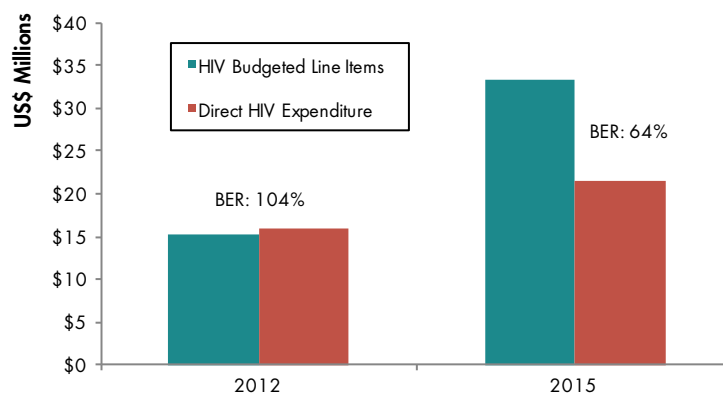
GRZ

Despite a doubling of the nominal budget for HIV between 2012 and 2015, expenditure grew by far less over that period. The most recent NASA calculated GRZ spending on HIV for 2012 to be nearly US\$16 million, compared to a total budget for HIV-specific line items of slightly more than US\$15 million (MOF, 2013). However, for 2015, budget execution for comparable line items has been only 64 percent (MOH, 2015). As a result, despite 120 percent growth in the value of these line items, corresponding expenditure has increased by only an estimated 35 percent in nominal terms.

The change in expenditure on health systems is more difficult to estimate, as these costs are not included in the NASA.²⁶ However, overall health budget execution rates for 2015 are low, at 72 percent for salaries and 64 percent for program costs (MOH, 2015). Of the total budget amount allocated to HIV in 2015 (See Indicator 4), the budget execution rate has been only 69 percent.

Development partners cited low and delayed disbursements as a primary cause of low budget execution rates for GRZ funds (Baxter, 2015). Revenue projections have fallen from 35.1 billion ZMW (US\$4.7 billion) to 33 billion ZMW (US\$4.4 billion) preventing budgeted funds from being available on schedule. At the same time, the GRZ sought significant external borrowing to fund 13.4 billion ZMW (US\$ 1.8 billion) in unanticipated expenditures, against the approved esti-

Figure 11.
Execution of HIV-specific Budgeted Line Items*



*See footnote ²⁷

Sources: NASA (2014), Approved Estimates of Revenue and Expenditure (MOF, 2013, 2015), MOH Planning and Budgeting Technical Update (May 2015)

²⁵ Estimated HIV expenditure for 2015 is 72% of committed resources.

²⁶ The NASA does not estimate the contribution of health systems costs to HIV. Line items for HIV were matched as closely as possible to expenditure categories included in the NASA.

²⁷ The budget and expenditure shown are for those line items allocated at 100% to HIV and do not include health systems costs.

mate of 46.7 billion ZMW (US\$6.3 billion). As a result, the budget deficit has increased from a projected 8.5 billion ZMW (US\$1.1 billion) to 20 billion ZMW (US\$2.7 billion) (Chikwanda, 2015). Improving tax administration and reigning in the ballooning budget to better align with available resources are crucial steps for the GRZ to improve its budget execution rate.

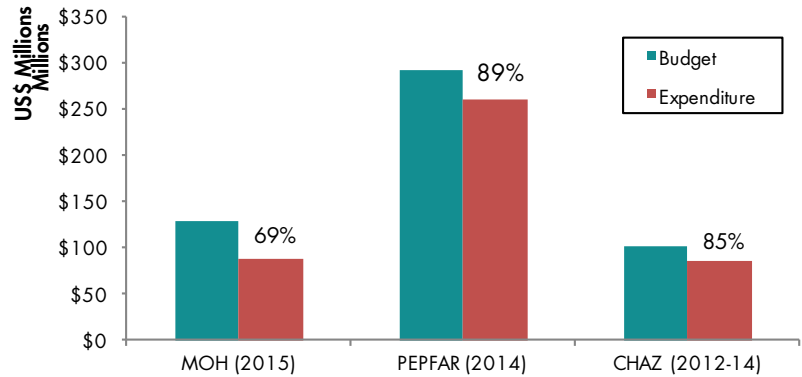
Development Partners

Other funders and agents in Zambia’s HIV response report significantly higher rates of budget execution than those for GRZ funds, although some variation exists. Churches Health Association of Zambia, one of two principal recipients for the Global Fund in Zambia (along with MOH/UNDP), cites an average budget execution rate of 95 percent for all Global Fund grants, with a lower rate of 85 percent currently under single stream financing. In contrast, PEPFAR reports an average budget execution rate of 81 percent since 2010, but demonstrates a strong upward trend, executing 89 percent of budgeted funds in 2014.

Conclusions and Recommendations

Increasing the utilization of available funds will be critical for closing the funding gap for HIV. With resource commitments for 2015 exceeding 98 percent of the estimated resource requirement—compared to a projected expenditure of just 71 percent of resource need—improved absorption and execution of funds should be the primary focus for GRZ and funding partners. Low budget execution of GRZ funds may be driven by a growing budget deficit and insufficient revenue collection to cover recent budget increases and will require improvements in tax administration and the budgeting process.

Figure 12.
Comparative Budget Execution



*See footnote ²⁵

Sources: PEPFAR Dashboard, Global Fund Dashboard, MOH Planning and Budgeting Technical Update (May 2015)

Insurance Enrollment

Indicator 8

Total Enrollment: ~80,000 (0.5%)

PLHIV Enrollment: ~1,300 (0.1%)

Overview

Both public and private insurance can play a central role in the provision of sustainable health and HIV services. Although services paid for through insurance schemes currently make up only a small portion of Zambia's HIV response, expansion of these schemes can help to shift some of the financial burden of HIV away from GRZ and better integrate the response within the health sector. In LMICs, social health insurance (SHI) accounts for five percent of total health expenditure while private insurance accounts for 2.3 percent, compared to one percent and 1.2 percent, respectively, in low-income countries (WHO, 2013). Increasing the pre-pay contribution to health spending in Zambia will ensure both sustainability and equity in the country's HIV response.

Social Health Insurance

Zambia does not currently have a SHI scheme in place, however, a national mandatory and contributory SHI scheme has been included in the *6th National Strategic Plan for 2011-2015*, the *National Strategic Plan for 2011-2015*, the *National Health Policy*, the *National Social Protection Policy*, and the *Medium Term Expenditure Framework (2015-2017)* with the goal of achieving universal health coverage (ILO, 2015). Implementation of the SHI is planned to coincide with presidential elections scheduled for November 2016 and to be rolled out in two phases. Phase 1 will enroll approximately 30 percent of the population, or 4.5 million people, by targeting public employees and salaried workers in the private sector and their dependents, as well as vulnerable (i.e., poor) populations. Phase 2 will extend enrollment to the majority of the population, which is employed in the informal sector. The GRZ acknowledges the deficit in current health funding in the general budget, and aims to finance the proposed scheme through a new payroll tax of 5 percent, which will be borne equally by employers and employees (van den Broek, 2015).

Private Health Insurance

Currently, health insurance coverage in Zambia is offered by five major private providers. Two types of products are available: "pure" third-party protection, available as an employer-based program or as for individual enrollees; and self-insurance schemes, only as an employer-based program, where the employer assumes the risk for claims. The majority of those enrolled in insurance plans participate in employer-sponsored plans. Client numbers provided by MHS suggest that enrollment is split roughly equally

**Table 5.
Private Health Insurance:
Key Indicator Estimates**

General Population	
Total PHI clients (% of pop.)	80,000 (0.5%)
Average annual premium	US\$424
Total annual PHI revenue	US\$33,914,911
Total annual claim reimbursement	US\$18,917,450
Medical loss ratio	56%
PLHIV	
# of clients accessing HIV care and treatment (% of PLHIV)	1,321 (0.1%)
Average annual HIV claim value	US\$584
Total annual HIV claim reimbursement	US\$770,879

Source: HPP calculations based on client, claims, and premium data provided by Madison Health Solutions.

between pure (57%) and self-insurance (43%). Annual premiums were estimated to be significantly higher for pure insurance schemes at US\$468, compared to US\$365 for self-insurance schemes. HIV is generally covered by both types of plans as a chronic condition, the average annual limit for which is approximately US\$1,100 (Madison Life Insurance Company Zambia Ltd, 2014).

Based on MHS's estimates of their and their competitors' enrollment, HPP estimated that approximately 80,000 are currently covered through private health insurance schemes, including spouses and children of those enrolled in employer-sponsored plans. Under MHS's self-insurance schemes, only 1.4 percent of clients had accessed HIV treatment services in the current fiscal year.

HPP estimates the proportion of the total insured population accessing HIV treatment through their plan to be 1.7 percent, taking into account higher premium rates and adverse selection among individual plan holders.²⁸ This equates to an estimated 1,321 individuals, suggesting that less than 1 percent of PLHIV receive HIV care and treatment through private insurance. It is important to note that this does not necessarily mean that less than one percent of PLHIV are covered by private insurance. Providers attributed low rates of HIV service utilization to the availability of cost-free services at public facilities and stigma attached to seeking care and treatment for HIV (Jere, 2015).

Hospital-based Insurance Schemes

Although the formal, third-party private health insurance market in Zambia is small, informal hospital-based schemes provide an additional source of risk pooling. These schemes are unregulated and the package of services varies by provider. They operate much like third-party insurance with individuals or families paying a premium for coverage for a defined package of services, however hospitals themselves, rather than a third-party insurer, assume the risk. In theory, this should reduce administrative costs and client premiums. Lower overhead costs are a key reason why coverage of these schemes is believed to be significantly higher than that of formal PHI. Estimates suggest that the total number of lives covered by this schemes may be as high as half a million, or 3 percent of the population. However, there is a lack of data around both the number of clients covered by and the number of facilities providing these types of risk pooling. A lack of regulation and standard package of services also makes it difficult to estimate the potential contribution of these schemes to HIV financing, and they are therefore not included in the estimates of this report.

Conclusions and Recommendations

Low rates of insurance coverage pose a challenge to the long-run sustainability and equity of access to HIV and health services in the face of declining donor resources. Zambia's proposed SHI scheme aims to rapidly provide financial protection to a large numbers of clients under a single risk pool, but will require GRZ to mobilize significant new domestic resources. In addition, the initial focus on public and formal sector employees may exacerbate inequities faced by under-served and vulnerable populations. Further analysis on the cost of the benefit package and on the scheme's benefit incidence is needed to better assess its viability and equity. The role of private insurance schemes in the promotion of universal health coverage—potentially through government subsidization of private insurance plans for formal sector workers and businesses (Jere, 2015)—as well as the role and contribution of hospital-based schemes, are also areas for further investigation.

²⁸ The medical loss ratio and HIV expenditure per client seeking HIV services was assumed to be constant. The total value of claims paid out under pure health insurance was calculated by taking the total pay-out of the self-insurance and increasing it proportionately by the difference in the average premium cost between pure and self-insurance products. Of the total claim payout, 4.1 percent was assumed to be attributable to HIV, based on the sample provided by MHS.

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For more information, contact:

Health Policy Project
Futures Group
1331 Pennsylvania Ave NW, Suite 600
Washington, DC 20004
Tel: (202) 775-9680
Fax: (202) 775-9694
Email: policyinfo@futuresgroup.com
www.healthpolicyproject.com