

Zambia

Country Operational Plan

(COP) 2016

Strategic Direction Summary

June 14, 2016

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Goal Statement

Along with the Government of the Republic of Zambia (GRZ), the U.S. President's Emergency Plan for AIDS Relief in Zambia (PEPFAR Zambia) has made tremendous strides in its path towards an AIDS-free generation. Since 2004, over 2 million people in Zambia are counseled and tested for HIV each year; new HIV infections dropped by 58%; more than 720,000 people are on life-saving anti-retroviral treatment (ART); and thousands of babies are born free from HIV each year because nearly 100% of women in high burden regions of Zambia have access to HIV prevention of mother-to-child transmission (PMTCT) services. In our 2015 Country Operational Plan (COP), PEPFAR Zambia aligned its resources to implement its programs in 23 scale-up districts¹ and 38 sustained districts, serving more than 80% of all HIV positive persons in Zambia. Our programming's focus also reached key populations (KPs), including adolescent girls and young women, and treatment activities were geared toward stronger linkages of HIV positive persons to care. Though these tremendous advances in prevention and care activities have saved countless lives, there is still more work to be done.

In 2014, the Joint United Nations Programme on HIV/AIDS (UNAIDS) identified *Fast Track* aims for countries to statistically reach epidemic control: 90% of all HIV seropositive persons know their status; 90% of those identified as HIV positive receive life-saving treatment; and 90% of HIV positive persons on treatment are virally suppressed. In collaboration with UNAIDS, the World Health Organization (WHO) released new guidelines in November 2015 furthering UNAIDS' initiative, by encouraging countries to adopt a policy to test and immediately treat HIV positive persons and to find alternate, community care opportunities to decongest health facilities.

With the Ministry of Health (MOH) at the helm, PEPFAR Zambia expects to reach UNAIDS' *Fast Track* goals through: strategic testing in high-burden areas to identify HIV positive persons (first 90); after testing, immediate initiation on treatment of HIV positive persons (second 90); and increased viral load (VL) testing, monitoring, and laboratory infrastructure support (third 90). Initially test and start will be executed in select districts, with national implementation by the end of FY17.

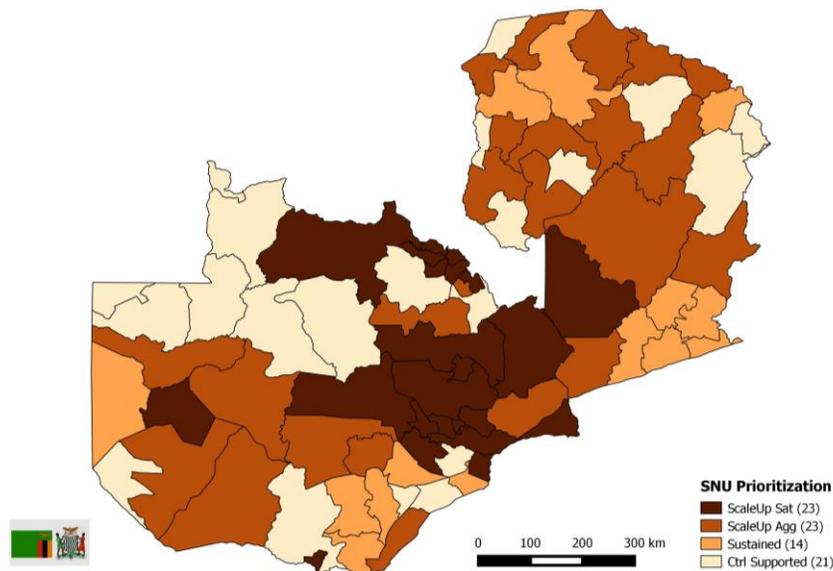
As Zambia moves steadily towards epidemic control, key changes reflected in COP16 to reach our goals include: greater national targets for HIV testing, treatment, and retention; increased districts in PEPFAR's scale-up categorization for better national coverage (Figure 1.0 depicts increase from 23 scale-up districts in COP15 to 46 scale-up districts in COP 16); and improved health systems strengthening activities to bolster capacity building.

¹ Data in this SDS is based on 81 districts rather than the total of number of 105. Due to redrawing of district lines there are now 105 districts; however, we only have epidemiological data for 81 (the data still covers the entire country).

PEPFAR Zambia reviewed its health systems strengthening efforts and focused its above-site resources to address three key gaps: VL testing and monitoring, community service delivery for ART retention and adherence, and improved supply chain management. Through impact funding, PEPFAR Zambia broadened its programming to provide: system support to reinforce Zambia’s VL monitoring through improvements in laboratory infrastructure and sample transport, expanded clinician training, and promotion of efficient power supply methods; differentiated models of service delivery, including community-based adherence approaches and task-shifting facility-based care to community health workers; and an advanced, community-based system to store and deliver antiretroviral drugs and HIV commodities to neighboring health facilities. These investments are described in detail in SDS Section 6.

PEPFAR Zambia expects to reach great heights in FY17. With the achievement of COP 16 targets, national and PEPFAR data indicate we will reach epidemic control in 40 scale-up districts out of the 46 and 11 sustained districts out of the 14 by the end of FY 2017, representing 80% national ART coverage². Once these targets are reached, Zambia will be the first country to reach the first two 90s nationally and one of the first nations to achieve an AIDS-free generation.

Figure 1.0: COP16 District Categorization



² Though there are a total of 46 scale-up districts, 40 districts will reach epidemic control by the end of FY17. Equally, though there are a total of 14 sustained districts, 11 districts will reach epidemic control by the end of FY17. Epidemic control (more than 80% of PLHIV reached) will be achieved in 51 districts across the country by the end of FY17.

1.0 Epidemic, Response, and Program Context

1.1 Summary statistics, disease burden and country or regional profile

Zambia is a lower, middle-income country (GNI: 3,690 per capita, PPP adjusted³) with an estimated population of 15,003,936 in 2016 (population demographics: 49% male, 51% female; 58% rural, 42% urban). According to the 2013 Demographic and Health Survey (DHS) released on March 30, 2015, 13.3% of persons aged 15 – 49 years are infected with HIV (11.3% among adult males, 15.4% among adult females; 9.1% rural adults, 18.2% urban adults).⁴ Detailed demographic and epidemiological data is presented in Table 1.1.1 and prevalence data is displayed graphically in Figure 1.1.1. Zambia's HIV epidemic remains generalized, with all districts having an adult prevalence of greater than 5%.

The HIV epidemic in Zambia is generalized, with heterosexual sex as the primary mode of transmission.⁵ Through Spectrum modelling data, HIV prevalence among children under 15 years is estimated to be 1.5%. Spectrum data for morbidity and mortality approximates the total number of deaths attributed to AIDS as 24,601 – 48% male and 76% adult. In Zambia, HIV disproportionately affects those living in urban areas and women. Forty-two percent of the population lives in urban areas; urban residents have an HIV prevalence of 18.2%, compared to prevalence of 9.1% in rural areas. Adult women have increased prevalence when compared to adult men in both urban (21% vs. 15%) and rural (9.9% vs. 8.1%) areas. The Copperbelt province has the highest prevalence (18.2%), followed by Lusaka (16.3%), Western (15.4%) and Southern provinces (12.8%). Muchinga and North Western provinces have the lowest prevalence, estimated at 6.4% and 7.2% respectively. Data indicate that most HIV positive individuals live in high population density areas. Disease burden is highest in densely-populated Lusaka, Copperbelt, and Southern provinces with populations of PLHIV of 435,088, 419,556, and 230,384 respectively.

To reach epidemic control, and in alignment with Sustainable Development Goal (SDG) number three, to ensure health and well-being for all, including a bold commitment to end the epidemics of AIDS, tuberculosis, malaria, and other communicable diseases by 2030, PEPFAR Zambia will focus on clinical treatment and core combination prevention interventions—specifically those reaching priority locations with elevated HIV burden, treatment gaps, and populations with the greatest unmet need. The PEPFAR ART program will increase the number of patients currently enrolled in ART from 820,488 (FY 2016 target) to 905,515 in 2017.

Detailed data regarding the cascade of HIV diagnosis, care and treatment is presented in Table 1.1.2. The national program retained 86% of those on treatment for at least 12 months during the last fiscal year (FY). Currently, 63% of people living with HIV (PLHIV) are on ART. The target for

³ World Bank, 2014 data.

⁴ This estimation is derived from EIA testing; field-based rapid testing preliminarily reported in August 2014 yielded a national HIV prevalence rate of 10.3%.

⁵ UNAIDS data estimated 90% of adult infections are attributable to heterosexual transmission.

2016 is 820,488(71% of PLHIV). The program has demonstrated great success in getting HIV positive pregnant women into treatment (95%); getting HIV positive children less than 15 years of age into treatment has been more challenging (46%). Similarly, HIV testing of pregnant women is high (79%), while HIV testing for children under 15 years of age stands at only 5%. Zambia does not yet have adequate size estimations of key populations. A protocol, just approved, should begin a robust system of surveillance resulting in population sizes that can be used for program planning in coming years.

Building on GRZ support for the WHO 2014 guidelines of treatment for all and alternative service delivery models, PEPFAR Zambia will support implementation of a quality, cost-efficient package of integrated HIV care and treatment services consistent with national policies and PEPFAR guidance; with the goal of expanding ART access in prioritized geographic locations and reducing morbidity and mortality amongst PLHIV.

PEPFAR Zambia acknowledges, however, that a great deal of work is required to achieve epidemic control. There is a need for more empirical evidence to better define the epidemic in Zambia. Some examples of data challenges include: 1) limited data on viral suppression; 2) limited estimates of pediatric HIV prevalence; 3) delay in availability of incidence data from the 2013 DHS⁶; variations in prevalence data from multiple data sources (e.g., electronic medical records (EMR), District Health Information System (DHIS), TB Survey); and 5) limited data on key populations (e.g., female sex workers (FSW) and men who have sex with men (MSM)).⁷ These gaps in data quality and availability create challenges in identifying specific areas and priority populations to reach epidemic control. However, the Zambia Population HIV Impact Assessment and the USG's interest in a co-sponsored GRZ evaluation plan will address most of these data gaps.

⁶ The most up to date national and provincial level estimates for prevalence and incidence will be available after the current HIA is completed.

⁷ While some targeted mapping and size estimations can tentatively guide PEPFAR Zambia in the size and location of high-risk populations, accurate HIV prevalence estimates among KPs will not be available until 2016 at the earliest.

Figure 1.1.1 District HIV Prevalence

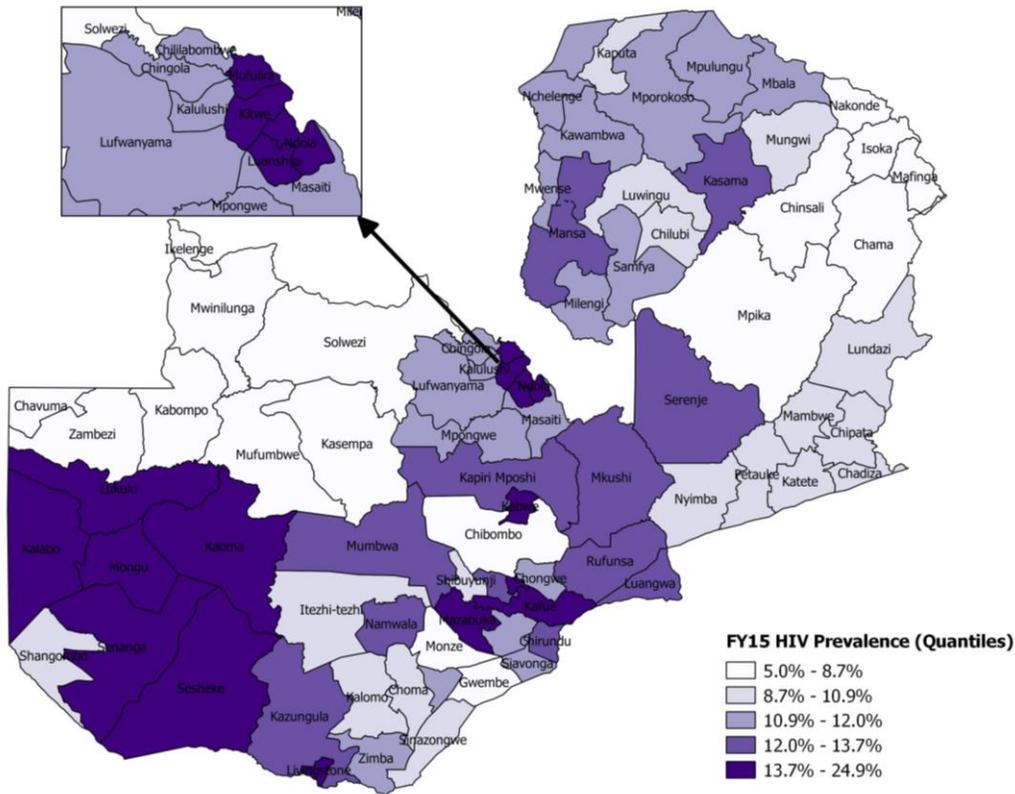


Figure 1.1.2 HIV Burden of Disease

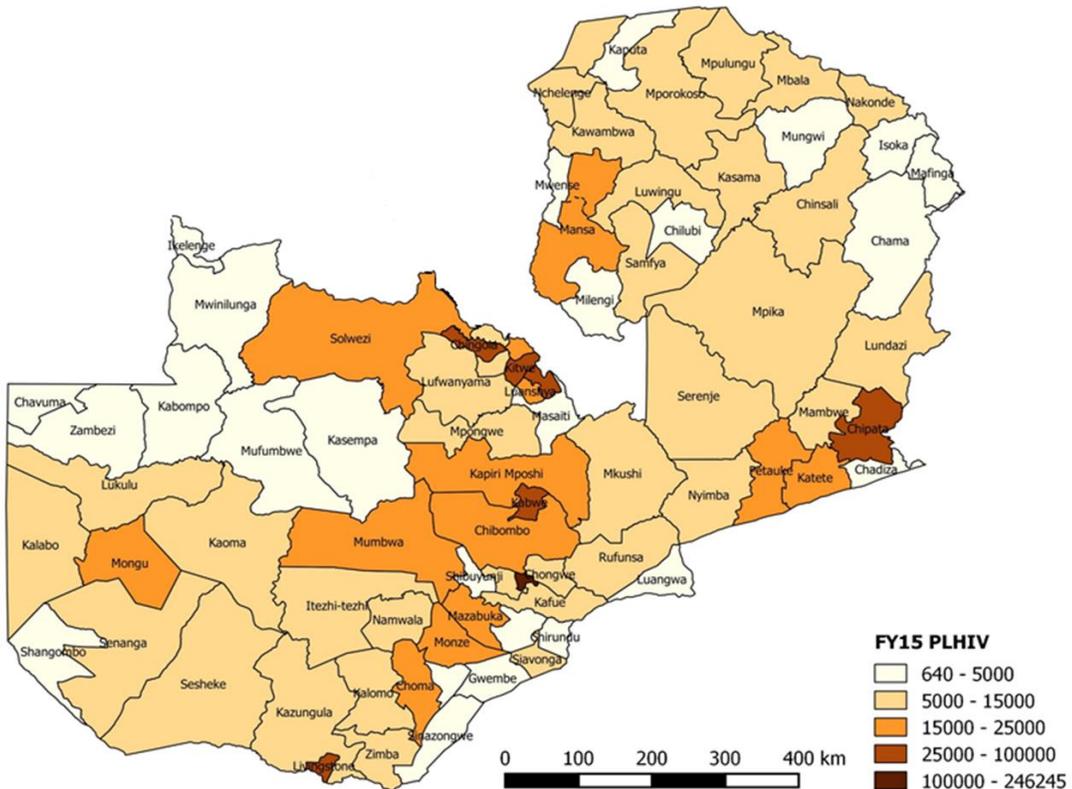


Table 1.1.1 Key National Demographic and Epidemiological Data											
	Total		<15				15+				Source, Year
	N	%	Female		Male		Female		Male		
			N	%	N	%	N	%	N	%	
Total Population	15,003,936		3,419,397	22.7%	3,426,899	22.84%	4,161,671	27.7%	3,995,969	26.6%	Population and Demographic Projections 2013 (2014 estimates)
Prevalence (%)		13.3%		1.47		1.48		15.4		11.3	DHS, 2013 [15-49], Total and 15+ HIV prevalence based on 2013 DHS EIA results. Under 15 based on Spectrum Projections point estimate 2014
AIDS Deaths (per year)	24,601		2,930		2,952		9,894		8,826		Spectrum, 2016
PLHIV	1,151,201		51,898		52,456		543,521		503,258		Data Pack COP 16
Incidence Rate (Yr.)				0.15		0.17		0.8		0.6	Spectrum, 2016
New infections (Yr.)	71,383										Spectrum, 2016, 2015 estimate
Annual births	742,695	4.95									Calculation based on 4.95% of the total population
% of Pregnant Women with at least one ANC visit	702,738	97.6	NA	NA			NA	NA			Calculation based on 97.6% of all expected pregnancies, DHS 2013
Pregnant women needing ARVs	57,535										Data Pack COP 16
Orphans (maternal, paternal, double)	1,328,000		N/A		N/A		N/A		N/A		NACMIS, 2010
Notified TB cases (Yr.)	42,716		1,425	3.3%	1,590	3.7%	14,941	35%	24,769	58%	NTP 2014
# of TB	20,334	49.8	NA	NA	NA	NA	NA	NA	NA	NA	Data Pack

cases that are HIV infected											COP 16
# of Males Circumcised	813,530	40			341,683	42			431,168	58	MoH 2014, 2007-2014. 2007-2011 (all ages); 2012-2014 (15-49), Data Pack COP 16
Estimated Population Size of MSM*	6,534	NA									Size estimate in six towns (Population Council 2014)
MSM HIV Prevalence	NA	NA									No survey with biomarkers has been done
Estimated Population Size of FSW	18,107	NA									Size estimate in six towns (Population Council 2014)
FSW HIV Prevalence	NA	NA									No survey with biomarkers has been done
Estimated Population Size of PWID	2,281	NA									Size estimate in six towns (Population Council 2014)
PWID HIV Prevalence	NA	NA									No survey with biomarkers has been done
Estimated Size of Priority Populations (specify)	-	-	-	-	-	-	-	-	-	-	-
Estimated Size of Priority Populations Prevalence (specify)											
<i>*If presenting size estimate data would compromise the safety of this population, please do not enter it in this table.</i>											

Table 1.1.2 90-90-90 cascade: HIV diagnosis, treatment and viral suppression (12 months)

				HIV Treatment and Viral Suppression			HIV Testing and Linkage to ART		
	Total Population Size Estimate (#)	HIV Prevalence (%)	Total PLHIV (#)	On ART (#)	Retained on ART 12 Months (#)	Viral Suppression 12 Months	Tested for HIV (#)	Diagnosed HIV Positive (#)	Initiated on ART (#)
Total population	15,003,936	13.3	1,151,201	721,016	77%	IQ	2,662,247	239,950	133,204
Population less than 15 years	7,113,232	1.47	104,422	47,927	78%	IQ	336,237	21,868	9,273
Pregnant Women	702,738	9	73,180	69,611	NA	IQ	555,292	60,048	57,535
MSM	6,534	NA	NA	NA	NA	NA	NA	NA	NA
FSW	18,107	NA	NA	NA	NA	NA	NA	NA	NA
PWID	2,281	NA	NA	NA	NA	NA	NA	NA	NA
Priority Pop (specify)	NA	NA	NA	NA	NA	NA	NA	NA	NA

1.2 Investment profile

Through PEPFAR, the U.S. government continues to be the largest contributor to Zambia's HIV response, contributing approximately 68% of HIV funding in 2015, with additional contributions from the Global Fund (GF) (16.0%)⁸, the GRZ (12%), and other (4.0%) (Table 1.2.1). By program area, PEPFAR contributed 100% of funding for community-based care, key populations, and orphans and vulnerable children (OVC) activities.

Quantifying GRZ funding for infrastructure, salaries, and other overhead costs remains a challenge; if these were to be quantified, GRZ's contribution would be greater than 12%. As in many countries, Zambia has seen a decline in overall donor activity in recent years, requiring the GRZ to take on additional fiscal responsibility. The GRZ increased budget allocations for key life-sustaining commodities (such as ARVs) from \$6M in 2010 to \$59.6M in 2014. As a result, GRZ's contribution towards key life sustaining commodities increased to 23% in 2015 (table 1.2.2).

However, from 2015 to date, Zambia experienced a turbulent financial situation resulting in the depreciation of the local currency. Although the budget allocations remained the same in Kwacha, available funds could not procure the same quantities of commodities which are purchased in U.S. dollars, resulting in stock imbalances such as stock outs for some key commodities.

Table 1.2.1 Investment Profile by Program Area (2015)

Program Area	Total Expenditure	% PEPFAR	% GF	% GRZ	% Other
Clinical care, treatment and support	\$224,556,597.00	60.00%	21.00%	19.00%	0.00%
Community-based care	\$25,083,294.00	100.00%	0.00%	0.00%	0.00%
PMTCT	\$19,884,237.00	99%	1%	0%	0%
HTC	\$15,223,448.00	79%	11%	0%	10%
VMMC	\$18,353,565.00	96.67%	0.05%	0.00%	3.28%
Priority population prevention	\$0.00	0.00%	0.00%	0.00%	0.00%
Key population prevention	\$11,609,463.00	100.00%	0.00%	0%	0%
OVC	\$22,010,010.00	100.00%	0.00%	0.00%	0.00%
Laboratory	\$19,463,919.00	85.69%	0.00%	10.34%	4.07%
SI, Surveys and Surveillance	\$19,549,491.00	63.38%	0.00%	0%	30.62%
HSS	\$48,655,394.00	27.88%	42.43%	13.38%	16.32%
Total	\$425,549,514.00	68%	16%	12%	4%

⁸Contributions from the Global Fund are anticipated to decline further in 2017. The majority of the New Funding Model resources were spent in the first two years.

Table 1.2.2 Procurement Profile for Key Commodities (2015)

Commodity Category	Total 2015 Expenditure	% PEPFAR	% GF	% GRZ	% Other
ARVs	\$100,978,069	32.0%	51.0%	17.0%	0.0%
Rapid test kits	\$7,115,566	73.5%	26.5%	0.0%	0.0%
Other drugs	\$5,472,247	81.7%	0.0%	18.3%	0.0%
Lab reagents	\$47,988,326	79.1%	9.0%	11.9%	0.0%
Condoms	\$433,872	55.4%	0.0%	0.0%	44.6%
VMMC kits*	\$1,696,306	100.0%	0.0%	0.0%	0.0%
Other sustaining commodities	\$33,380,033	21.4%	0.0%	61.9%	16.7%
Total	\$197,064,419	45.0%	29.0%	23.0%	3.0%

Table 1.2.3 USG Non-PEPFAR Funded Investments and Integration

Funding Source	Total USG Non-PEPFAR Resources	Non-PEPFAR Resources Co-Funding PEPFAR IMs	# Co-Funded IMs	PEPFAR COP Co-Funding Contribution	Objectives
USAID MCH	12,705,000	8,250,000	6	30,492,323	Maternal, newborn, and child health (MNCH) activities target Millennium Development Goals (MDGs) four and five; strengthening clinical capacity of provincial, district, and facility managers with mentorship and supportive supervision. Pre-service training in Emergency Obstetric and Neonatal Care (EmONC) targeting nurse clinical instructors in the midwifery schools and advocating for the integration of EmONC into the midwifery curriculum. Complement PEPFAR and FP activities, particularly through close provincial and district level collaboration. Saving Mothers, Giving Life (SMGL), in particular represents a nexus of activities (PEPFAR and MNCH/FP) to reduce maternal and newborn deaths in targeted districts.
USAID TB	4,337,569	4,000,000	1	3,653,747	Tuberculosis (TB) activities strengthen high-quality DOTS expansion and enhancement, address TB-HIV, Multidrug Resistant (MDR)-TB and the needs of poor and vulnerable populations in six high burden target provinces, engage all categories of care providers, and enable and promote operational research.
USAID Malaria	22,770,000	8,597,900	2	7,391,513	Malaria activities designed to reduce malaria mortality by two-thirds, malaria incidence by three-fourths, and malaria parasitemia in children under age five by one-half in four targeted provinces through Insecticide-treated bed nets (ITN) distribution, case management, delivery of intermittent preventive treatment to pregnant women, behavioral change interventions, development of policies and guidelines, and strengthening management capacity at a provincial and district level.
USAID Family Planning	12,500,000	11,490,000	9	67,127,971	Reproductive health (RH)/FP activities will increase modern contraceptive prevalence rates in all women of reproductive age by 2% annually from the second year as compared to the baseline through increased access to and improved quality of family planning services in targeted sites via a strengthened, community-based family planning service delivery system.
	3,775,000	3,700,000	3	7,835,908	Nutrition resources target Integrated Management of childhood illness, expanding immunization, Vitamin A supplementation, and de-worming activities. Training of health workers and community volunteers in child health and

USAID Nutrition					nutrition helps reduce under-five morbidity and mortality. Activities strengthen infant and young child feeding and are integrated with other Feed the Future activities that help vulnerable households improve food security through strengthened economic resilience and improved nutrition status in Eastern Province (one of the high burden targeted provinces for HIV prevention, care, and treatment activities). Nutrition activities are also designed in collaboration with other donors as part of the global Scaling up Nutrition Initiative. (USAID is part of the Cooperating Partner Nutrition Group (co-convened by DFID and UNICEF) that coordinates assistance for Zambia's work to address malnutrition. The group has helped develop a multi-stakeholder platform and a civil society umbrella group to address under nutrition).
NIH	o	o	o		No direct funding to CDC Country office.
CDC NCD	o	o	o		No direct funding to CDC Country office.
MCC	100,000		o		Strengthen capacity to collect surveillance data for opportunistic infection, primarily diarrhea, at health facilities by enhancing trained human resource in surveillance, laboratory capacity, and outbreak response in the Zambia. Water and Sanitation (Diarrhea Sentinel Surveillance) Surveillance Human Resource Enhancement. By the end of the first report period at least 1 quality assurance training in microbiology will be held with 30 Ministry of Health staff involved in diarrhea surveillance to promote quality in laboratory testing of diarrhea and reporting of surveillance data By the end of the first reporting period procure select laboratory equipment, media and reagents, and other laboratory consumables to enhance laboratory confirmation of pathogens causing diarrhea in patients presenting to select health facilities. Laboratory Sentinel Surveillance Enhancement. By the end of the first report period test at least 1,500 stool samples for patients (both under five and over years of age) presenting to health facilities with diarrhea By the end of the first report period document all cases meeting the case definition of diarrhea and forward these to the next level of the diarrhea surveillance system.
Peace Corps					Peace Corps receives ~ \$78,000 in SPA grant funding from USAID for malaria and MCH work (included in USAID information and not listed as a separate budget item.)
NIH					We are aware that the NIH has investments Zambia, but we do not know the amount.
Total	56,187,569	36,037,900	21	116,501,462	

Table 1.2.4 PEPFAR Non-COP Resources, Central Initiatives, PPP, HOP						
Funding Source	Total PEPFAR Non-COP Resources	Total Non-PEPFAR Resources	Total Non-COP Co-funding PEPFAR IMs	# Co-Funded IMs	PEPFAR COP Co-Funding Contribution	Objectives
ACT	Closes 9/30/2016					
DREAMS	16,248,416	Unknown	14,451,992	7	34,474,096	Reduce new HIV infections in AGYW by 40%
DREAMS Innovation	TBD/in process					
DREAMS Test & Start-Men	20,772,962	Unknown	20,772,962	10		
VMMC	2,649,150	Unknown	2,649,150	3	11,697,987	
Other Central Initiatives						
Other Public Private Partnerships						
Pink Ribbon Red (PRRR)	596,053	Unknown	596,053	3	22,893,233	Reduce cervical, breast cancer deaths
Saving Mothers, Giving Life (SMGL)	4,582,136	26,513,064	4,582,136	6	31,489,922	Reduce preventable maternal and newborn deaths
Strengthen CSA and GBV case handling (MOU between the GRZ, Global Health Alliance (Georgian Foundation)/ Zambia Society for Child Protection and The USG)	0	962,500	0	1	7,869,059	Establish reliable chain of evidence in gender-based violence (GBV) and child sexual abuse (CSA) cases Promote modern GBV, CSA prevention and available response systems; Prevent sexual abuse via ongoing advocacy
Total	44,848,717	27,475,564	43,052,293	30	108,724,297	

1.3 National sustainability profile

The PEPFAR Zambia team used a participatory process to complete the Sustainability Index and Dashboard (SID). A multi-stakeholder SID completion workshop was held in February 2016. Broad participation included representation from several host government ministries and departments, multilateral organizations, local and international non-governmental organizations, and civil society organizations⁹. After the workshop, the completed dashboard and questionnaires were circulated to stakeholders to validate findings and solicit further input.

The analysis identified strengths in some sustainability elements that may facilitate the attainment of epidemic control (Table 1.3.1). The analysis also revealed weaknesses in some priority elements, ranked on the basis of element score and criticality to sustained epidemic control (Table 1.3.2)

Table 1.3.1 Sustainability Strengths		
Element /Score	Description	Notes on Sustainability
Planning and Coordination (Score 7.73/10)		
	Zambia has a costed, multi-year national strategy, which is updated at least every five years (with key stakeholders) and includes critical components of prevention and treatment. The GRZ leads the development/revision of the National AIDS Strategic Framework (NASF) with active participation from civil society, businesses and corporate sector, and external agencies. Additionally, the GRZ routinely tracks HIV/AIDS activities of civil society organizations (CSOs) and donors, leads the process that convenes stakeholders, and develops joint operational plans with implementing organizations.	Effective planning and coordination are critical to the implementation and scale up of treatment and prevention programs and the achievement of 90-90-90 goals. The importance of the role of the MOH and the National AIDS Council (NAC) in this regard cannot be overemphasized. Host country leadership in planning and coordination will promote country ownership and sustainability of the national response. PEPFAR Zambia will continue to provide technical and financial support to the GRZ, as required, to further strengthen planning and coordination capacity.
Performance Data (Score 6.96/10)		
	The GRZ has structures, procedures and policies to assure quality of service delivery data. The country has harmonized complementary information systems that are managed by the host government with technical assistance from external agencies/institutions. Service delivery data are collected and reported at least quarterly.	The timely availability, analysis, use and dissemination of high quality HIV service delivery data is critical to the implementation and scale up of effective treatment and prevention programs and the achievement of 90-90-90 goals and sustained epidemic control. HIV service delivery data will be used the GRZ, PEPFAR and other stakeholders to inform decisions related to implementation of Test and START and new service delivery models.

⁹ A total of 57 people attended the meeting with representation from: Government of Zambia (ministries of health, finance, and defense; Medical Stores Limited; National AIDS Council Country Coordinating Mechanism, Health Professionals Council of Zambia; multilateral organizations (UNAIDS, UNDP, UNICEF, UNODC, GF); Local and international NGOs and Civil Society (CHAI, BMGF, NZP+, ZNARVS, BICC, ZATULBT, Bwafano, ZANERELA+, ERC); USG.

Table 1.3.2 Sustainability Vulnerabilities		
Element /Score	Description	Notes on Sustainability
Laboratory (Score 4.86/10)		
	The availability of high quality laboratory services is critical to scale up HIV services, including implementation of Test and START and achievement of the third 90. The SID analysis found that Zambia does not have adequate qualified laboratory personnel to achieve sustained epidemic control and in some cases laboratory infrastructure is poor and not appropriate (due to inadequate funded positions on establishment and inadequate resources for infrastructure improvement). Some (10-49%) lab services are financed by domestic resources and although regulations to monitor quality of laboratory and POC testing sites exist, they are partially implemented.	Main stakeholders that have invested in HIV lab services include the GRZ, PEPFAR, Global Fund, World Bank, and other bilateral cooperation initiatives. PEPFAR will support the placement of staff in provincial labs to strengthen viral load capacity, procure lab commodities and equipment, and provide backup power solutions for labs in high HIV burden areas. Sample transportation and result return systems will also be strengthened.
Service Delivery (Score 4.72/10)		
	Facility – community linkages are critical for HIV prevention, care and treatment scale up, including implementation of differentiated service delivery models and Test and START. The SID analysis found that the country’s design and implementation of community-based HIV services does not adequately support linkages between facility- and community- based services through formalized bidirectional referral services. Further, poor and inadequate facility infrastructure has impeded on effective facility linkage to community. Host country institutions provide minimal financing for delivery of HIV/AIDS services to key populations in high burden areas and HIV/AIDS services to key populations are primarily delivered by external agencies, organizations or institutions.	Stakeholders that have invested in HIV service delivery include the GRZ, PEPFAR, Global Fund, World Bank, and local non-governmental organizations such as Churches Health Association of Zambia (CHAZ). PEPFAR will strengthen facility-community linkages to facilitate the implementation of differentiated models of care and decongest health facilities.
Commodity Security and Supply Chain (Score 5.69/10)		
	The availability of life-saving antiretroviral (ARV) medications and other HIV commodities is essential for epidemic control and a sustainable national response. While the GRZ’s expenditure on ARVs steadily increased between 2010 and 2014, all HIV test kits are procured with external resources. The country’s economy took a downward turn in 2015 that has seen the local currency being depreciated by almost 50%. This has resulted in reduced purchasing power for ARVs and commodities, as well as the accumulation of an essential medicines debt of approximately \$66m. The country also faces challenges with storage space, and this is likely to be exacerbated by scale up of prevention, care and treatment services, including implementation of Test and START and new service delivery models.	Stakeholders that contribute towards commodity security and supply chain include GRZ, PEPFAR, Global Fund, World Bank, DFIID, SIDA and EU. The Global fund procures 29% of key commodities for the national response (Table.1.2.2). PEPFAR will continue to support commodity procurement, distribution and tracking at the point of service, as well as the expansion of storage space. With the significant investments that have been made in this area, it is likely that the sustainability score will increase in the medium- to long- term.
Human Resources for Health (Score 6.17/10)		
	An adequate number of trained and motivated health workers, with the appropriate skills mix, deployed to areas of greatest need (at facility and community level) is critical to implementation of Test and START and differentiated service delivery models to achieve 90-90-90 goals. Zambia is facing a critical shortage of health workers with approximately 40% of positions in the health sector establishment remaining vacant. The SID found that Zambia has an inadequate supply of health workers to enable the volume and quality of HIV/AIDS services needed	Several key stakeholders have invested in HRH, including the GRZ, World Bank, DFID, EU, and Clinton Health Access Initiative (CHAI). Given the importance of this element to achieving sustainability of the national response, continued investment is warranted despite the relatively high sustainability score. PEPFAR will continue to support PSE to increase the number of new health workers. This will include the training of community health assistants to facilitate the implementation of community ART

<p>for sustained epidemic control at the facility and/or community site level. Pre-service training institutions are not producing an adequate supply and skills mix of health care providers and the country's health workers are not adequately deployed to facilities and communities with high HIV burden.</p>	<p>programs. PEPFAR will also support strengthening of HR management capacity and the use of HR data for decision making.</p>
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1.4 Alignment of PEPFAR investments geographically to disease burden

Figure 1.4.1 shows 2015 PEPFAR expenditure per PLHIV and percent PLHIV by scale up district and depicts how resources have been targeted to districts with the highest percentage of PLHIV. The highest spending per PLHIV was \$427 in Luangwa district, followed by \$392 in Chirundu and \$305 in Kabwe. The lowest expenditure per PLHIV was in Chilanga (\$51), Kalulushi (\$42) and Serenje (\$34). In general, the more densely populated a district the lower the expenditure is per PLHIV (see Table 1.4.2). Although this is expected, the Zambia PEPFAR team is working directly with each district, focusing first on those with the highest cost per PLHIV, to make sure the activities are being done as efficiently as possible.

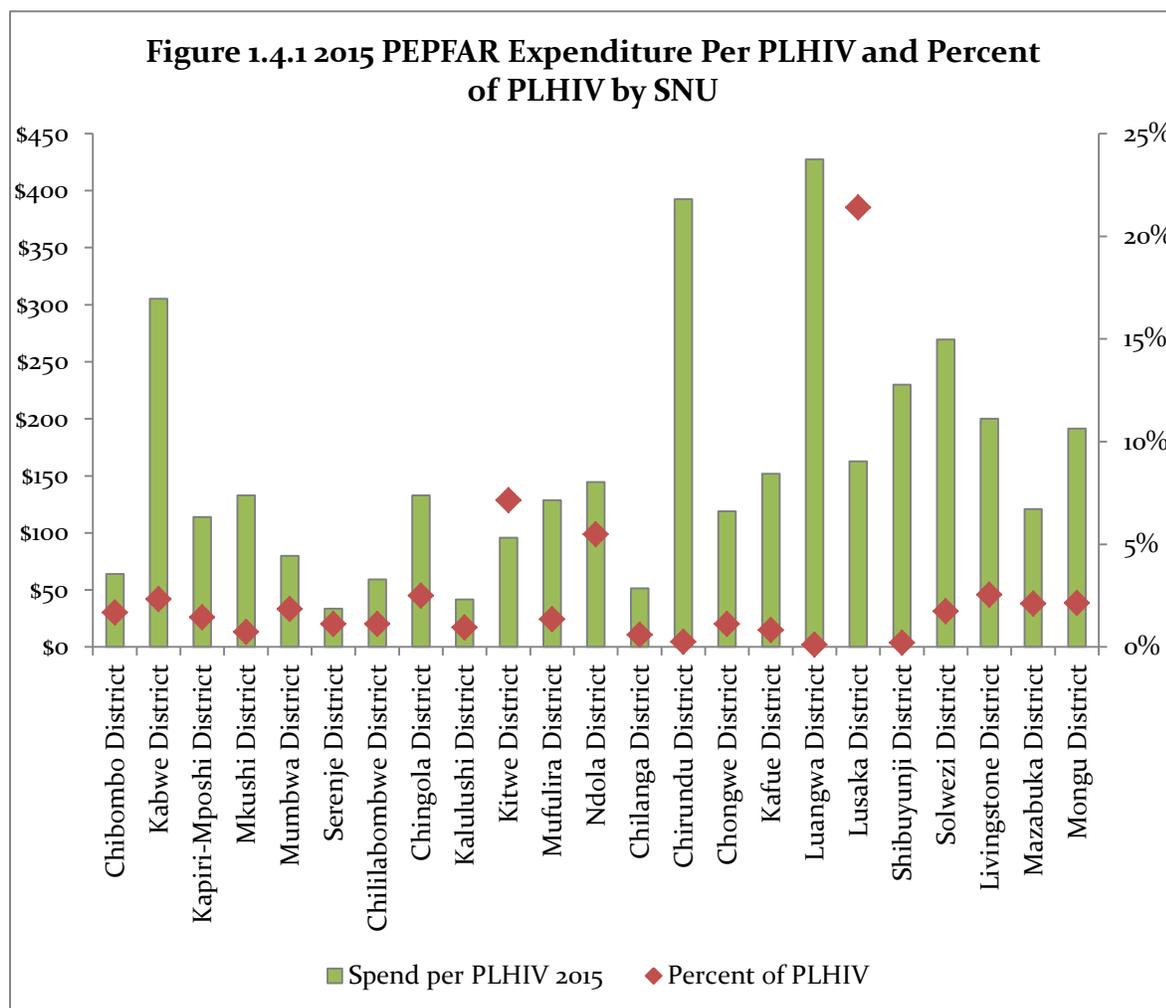
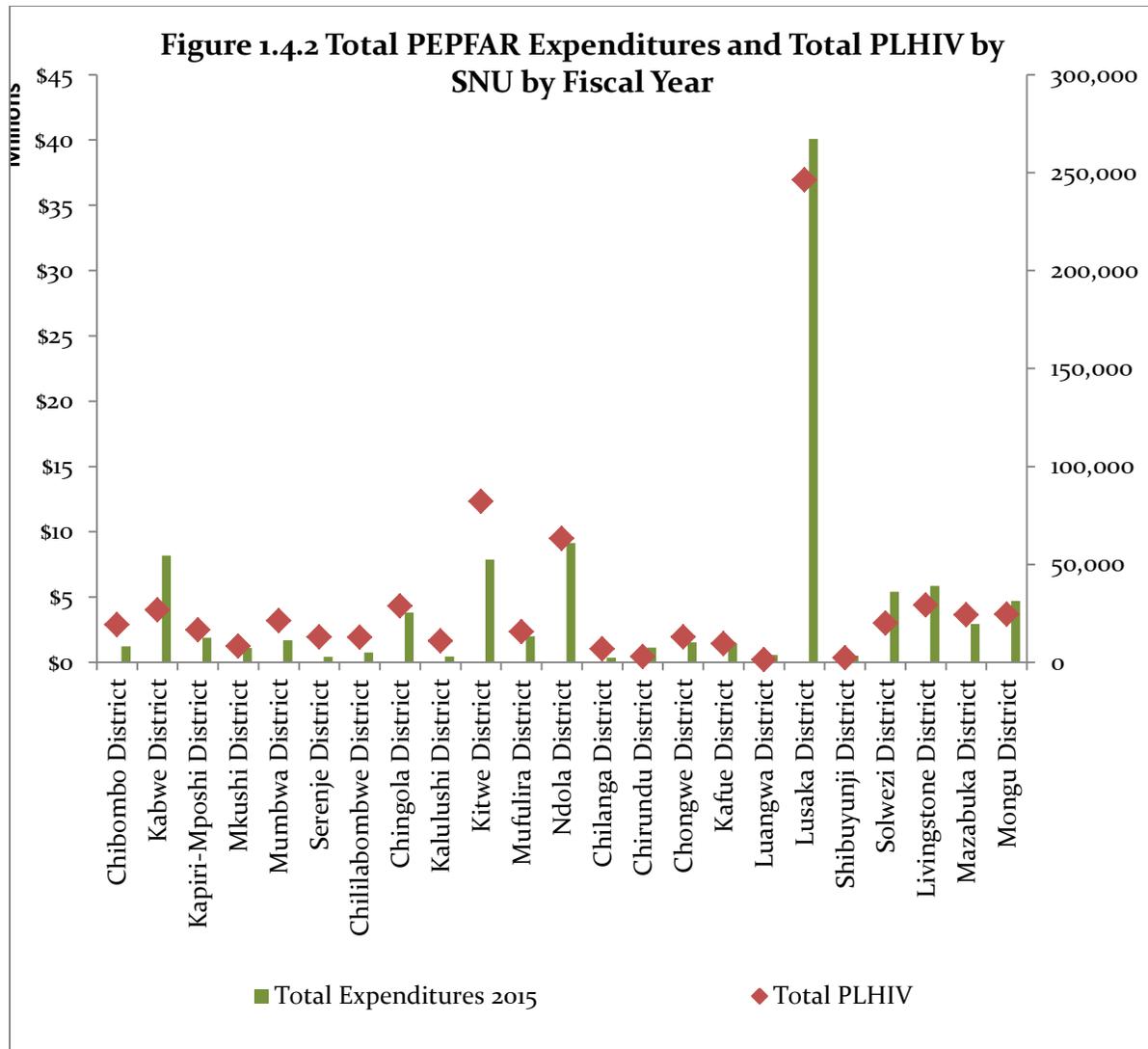


Figure 1.4.2 shows 2015 PEPFAR expenditures and total PLHIV by district in scale up districts. It depicts how PEPFAR resources have been aligned to disease burden. The highest expenditures occurred in Lusaka (\$40,081, 892), Ndola (\$9,128,948), Kabwe (\$8,171,401) and Kitwe (\$7,873,847) districts. These are the districts with the highest numbers of PLHIV. Other districts were resourced with less than \$5 million each and each of these had PLHIV numbers of less than 50,000.



1.5 Stakeholder engagement

PEPFAR Zambia held a large-scale stakeholder meeting in February 2016 to launch the COP 2016 development process and to solicit feedback on the initial draft of the SID. The meeting was attended by the GRZ, bilateral/multilateral partners (including Global Fund), and civil society. Participants received copies of the data pack, draft SID, and COP 2016 development process presentation in advance of the meeting.

Zambia's Health Permanent Secretary (PS), Dr. Peter Mwaba, joined PEPFAR Zambia's delegation to the D.C. Management Meeting in March 2016. PS Mwaba's participation created a platform to discuss Zambia's progress toward test and start (T&S), and helped establish an agreed way forward for COP 2016 funding (particularly the use of Impact Funds). T&S was also discussed with the Ministry of Finance in advance of the D.C. Management Meeting. At a technical level, PEPFAR Zambia met with GRZ technical experts to discuss funding, targets and priorities within their respective areas. GRZ also participated in Zambia's COP 16 review.

PEPFAR Zambia held a second large-scale stakeholder meeting in April 2016 to provide GRZ, bilateral/multilateral partners, and civil society with an opportunity to provide feedback on the draft COP. Participants received copies of the data pack and data presentation in advance of the meeting. Participants (and their larger constituencies) also had the opportunity to provide written feedback on the draft COP (through the review of technical priority presentations). The information presented at the stakeholder meeting is available on the U.S. Embassy in Zambia's website on a "Country Operational Plan 2016" page which is updated regularly. The SDS was circulated widely shortly after COP submission to OGAC.

PEPFAR Zambia also used existing platforms (Country Coordinating Mechanism (CCM) meetings, donor partner meetings, etc.) to provide updates on COP 2016 and solicit feedback from external partners. The Global Fund and UNAIDS also participated in Zambia's COP 2016 review.

Civil society participation included representatives from PLHIV, youth, local organizations, faith based organizations, women, people with disabilities, and key populations constituencies. Discussions with civil society focused on updates on geographic shifts initiated in COP15, updates on Zambia's progress towards 90-90-90, T&S (including community system strengthening), and opportunities for further strengthening meaningful engagement with civil society. Civil society participated in Zambia's COP 16 review meeting, and had the opportunity to self-select their representative (as civil society had requested prior to the D.C. Management Meeting). Further details on continued engagement are outlined in PEPFAR Zambia's Civil Society Engagement Strategy (attached with this submission).

PEPFAR Zambia will continue to engage with external stakeholders through the implementation of COP 16. This will include quarterly opportunities through the PEPFAR Oversight and Accountability Response Team (POART) process and around other key processes such as semi-annual progress report (SAPR), annual progress report (APR) and COP development.

2.0 Core, Near-Core and Non-Core Activities

For COP 16, PEPFAR Zambia carefully reconsidered the core, near-core and non-core decisions made for COP15, and made readjustments to better align them with 90-90-90 goals. Emphasis was placed on ensuring that core activities are directly relevant to achieving epidemic control through activities such as test and start, improved retention and adherence, viral load testing and elimination of gaps and bottlenecks; near-core activities were defined as those that bolster core activities, but may have less of a direct contribution to achieving 90-90-90. Highlights of changes include:

- Prevention added new core activities, including: scale up of viral load monitoring for HIV+ pregnant and breastfeeding mothers; support for the EID system; demand creation for VMMC; age-appropriate messaging and services to ensure a youth-friendly environment in HTC, VMMC and HIV prevention services including for adolescent boys and young men; supporting key populations to access PrEP, including HIV+ expectant and breastfeeding mothers, newborns and sero-discordant couples; and self HIV testing in communities.
- Treatment core activities expanded to include more focus on T&S, including a robust decentralized, reliable and efficient supply chain system for drugs and commodities, quality assurance and improvement systems and patient centered decentralized facility and community models of care and dispensations. Lab support system core activities include viral load monitoring, enhanced TB/HIV management using the 3Is approach (intensified case finding, isoniazid preventive therapy and TB infection control for people living with HIV) and the expansion of electronic medical records systems.
- Care and support adjusted core activities to include differentiated service models. Non-core activities will be phased out by the end of COP 16.
- OVC included activities that are directly relevant to HIV prevention among adolescent girls as core and added activities that support implementation of community-based care and treatment and households knowing their HIV status. Several near-core activities were moved into non-core due to their not being directly relevant to achieving 90-90-90. All non-core activities will be phased out by the end of COP 16.
- Strategic information reviewed activities in light of new guidance provided by OGAC to focus on supporting the use of electronic medical records for reporting and informing policy and decision making, as well as supporting the national level health information system and expanding surveillance of key populations for mapping and population size estimation.
- Health systems strengthening made targeted health infrastructure improvement a core activity because it includes support for alternative power sources, given the importance of an assured power supply to quality HIV treatment, VL monitoring and documentation; and retained in-service curriculum development and training support as core and pre-service training as near-core, due to high attrition rates at health facilities and a continued need to support the GRZ with training and mentoring for health workers, to build capacity in all levels of the health system.

A detailed breakdown of core, near-core and non-core activities is provided in Appendix A.

3.0 Geographic and Population Prioritization

PEPFAR Zambia used the following data sources to make geographic and population prioritization decisions for COP 16: 1) PLHIV estimates calculated by OGAC using small area estimation techniques based on the DHS 2013-2014 2) census projections from the 2010 Zambian national census 3) national HMIS data 4) PEPFAR FY 2015 results and FY 2016 targets, and 5) analyses that combined PLHIV estimates, census projections, and HMIS data to calculate coverage rates. PEPFAR Zambia considered the validity of each data source by comparing data over time (FY 2014 and FY 2015) and across sources (HMIS and PEPFAR), and all data were disaggregated to the district level for granular geographic decision making.

While Zambia currently has 105 districts (an increase from 81 districts due to changing geographical boundaries), many newly created districts do not yet have population estimates needed for accurate planning purposes. Therefore, for COP 16 PEPFAR/Zambia used 81 district divisions that fully cover the country. Of these 81 districts, 23 were prioritized as scale up to saturation districts in COP 15. These districts represent 61% of all PLHIV (697,904 individuals) in Zambia and run contiguously through the urban population centers of Zambia. This represents a slightly larger share of all PLHIV in Zambia than estimated during the COP 15 planning process and validates the geographic prioritization completed by PEPFAR Zambia for COP 15.

In COP16, PEPFAR Zambia is working towards epidemic control in each of these 23 districts by the end of FY 2017 with a full package of health system support, active case finding, and community activities. An additional 23 of the 81 districts were promoted from the sustained district category to the aggressive scale up category in COP 16. These districts represent an additional 20% of PLHIV in Zambia. In FY 2017 PEPFAR/Zambia will provide the same full package of health system support as in the 23 scale up to saturation districts and re-initiate active case finding and community activities that were slowed through the COP 15 pivot process to enroll an additional 46,000 individuals on ART.

An additional 14 districts are in the sustained category for COP16. These districts have already reached epidemic control (80% ART coverage) and PEPFAR/Zambia will continue to provide health system support down to the facility level to maintain existing ART coverage in these districts. These districts represent 14.5% of all PLHIV in Zambia.

The remaining 21 districts are centrally supported by PEPFAR. These districts represent approximately 6% of all PLHIV in Zambia and 5.6% of all individuals on ART. PEPFAR Zambia will continue to support ART for these individuals at the central level as well as strengthen provincial medical offices. Direct facility-level support in these districts ended in March of 2016.

4.0 Program Activities for Epidemic Control in Scale-up Locations and Populations

4.1 Targets for scale-up locations and populations

Given the geographic and population prioritizations made for COP 16, PEPFAR Zambia derived targets for all indicators by reviewing the data pack and updating the assumptions. The data pack, which contained APR 2015 results, expected FY16 targets, treatment cascade expectations, and site yield data analysis, projected FY17 targets indicating that Zambia could achieve epidemic control in 40 scale-up districts and 11 Sustained districts. Additionally, targeting requirements for the ACT Initiative and DREAMS Partnership were incorporated. Cost information from the PEPFAR budgeting allocation calculator (PBAC) and expenditure analysis (EA) tool was used to guide the resource allocation to support these targets, while also adjusting for program efficiencies gained over several years of program implementation.

Targets for current on ART and ART enrollment (newly initiated) were determined based on the coverage required to attain 85% saturation for both the adult and pediatric populations living with HIV/AIDS in scale up districts within the next fiscal year— as well as review of possible entry streams for ART from the pre-ART population, persons infected with TB, HIV infected pregnant women, and other priority and KPs. PEPFAR Zambia utilized the UNAIDS 90-90-90 framework in conjunction with epidemiologic data at the district level to set targets. Nationally, the PEPFAR ART program will enrol 222,333¹⁰ (HIV infected persons on ART and overall have a total of 905,515¹¹ (including 97,311 children) on ART; this represents 79% coverage by the end of FY 2017. Working towards the UNAIDS 90-90-90 goal, PEPFAR Zambia will contribute 905,515¹² of the national targets of HIV infected persons on treatment by end of FY 2017; this represents 79% coverage with an additional 6% covered by the Government of the Republic of Zambia resources. The implementation of test and start is expected to support the country's attainment of the ambitious treatment targets.

The targets included in Table 4.1.2, are based upon assumptions listed in the PEPFAR Zambia data-pack for the prevention, care and treatment cascade.

To reach epidemic control, Zambia will focus on core combination prevention in scale up districts with greatest treatment gaps and populations with the greatest need (i.e. pregnant women, youth, adolescent girls and young women (AGYW) persons with TB/HIV co-infection, and KPs). The HTS program is targeting 80% of the population in PEPFAR scale up districts through provider-initiated testing and counseling (PITC) for all patients in TB, sexually transmitted infections (STI), and antenatal care (ANC) clinics, mobile outreach, community mobilization and promotion of

¹⁰ PEPFAR Zambia Data-pack, excluding central support sites.

¹¹ PEPFAR Zambia Data-pack, excluding central support sites.

¹² PEPFAR Zambia Data-pack.

HTC. In all settings, strengthening linkages to treatment, care and support, and quality assurance for HIV testing will improve the HTC package. Overall targets for PMTCT are set with the assumption that universal HIV testing coverage and service utilization, which have been the trend over the last three years, will be sustained.

There are several challenges that must be overcome to meet these impressive targets. HTC and treatment targets rely on commodity assurance, adequate facilities, and the presence of a skilled, stable workforce. To reduce facility congestion, PEPFAR will provide new static and mobile treatment sites in scale up districts with high unmet need and engage in strategic use of facilities by transitioning stable patients to community sites for ongoing care so that health facilities are available for initiating and stabilizing new patients. Attrition or instability among health care workers may affect service delivery, thus these targets assume that national capacity will be built and maintained at levels that will result in program implementation that is both sound and of high quality.

Other major challenges relate to the gathering and use of data. Incidence and epidemiological data at the district or ward level do not currently exist, resulting in estimations being made at the national and provincial levels. However, it must be noted that in a country the size of Zambia, many districts are quite small and therefore data at the provincial level may be more appropriate, particularly when comparing program progress across countries.

To address some of the data challenges, PEPFAR Zambia is: 1) collecting epidemiological data at a more granular level; 2) training health workers on data verification (e.g., monitoring and evaluation, data analysis, and data use); 3) working with the National AIDS Council (NAC) to advocate for the release of key population (KP) data to inform health programming; 4) funding a special evaluation of combination prevention involving bio-behavioral, service utilization, and post-service scale-up assessments; and 5) conducting an HIV impact assessment.¹³

Table 4.1.1 ART Targets in Scale-up Saturation Sub-national Units for Epidemic Control

SNU	Total PLHIV	Expected current on ART (APR FY 16)	Target current on ART (APR FY17) TX_CURR	Newly initiated (APR FY 17) TX_NEW	ART Coverage (APR 17)
Chibombo District	19,209	7,029	13,119	7,143	85%
Chilanga District	6,758	5,406	0	0	85%
Chililabombwe District	12,738	4,135	10,441	6,926	85%
Chingola District	28,714	17,777	23,074	6,761	85%
Chinsali District	7,546	2,267	4,015	2,089	70%
Chirundu District	2,882	2,306	0	0	85%
Chongwe District	12,861	10,289	10,492	1,834	85%

¹³ This assessment is currently underway with expected completion of data collection in 2016 and will include children. As a result of this survey, PEPFAR Zambia is hoping to provide the first HIV prevalence estimates for pediatrics.

Itezhi-tezhi District	6,794	5,249	5,426	741	80%
Kabwe District	26,775	24,202	24,201	2,894	85%
Kafue District	9,516	15,308	20,955	1,699	85%
Kalulushi District	10,921	6,719	8,410	2,256	85%
Kaoma District*	14,734	4,703	7,826	5,229	70%
Kapiri Mposhi District	16,537	10,676	11,797	1,813	85%
Kaputa District	3,436	2,352	2,729	730	80%
Kasama District	13,607	12,783	12,783	1,347	94%
Kitwe District	82,224	39,006	66,797	33,644	85%
Livingstone District	29,183	22,399	24,757	5,378	85%
Luangwa District	1,302	1,832	1,832	275	85%
Luanshya District	18,360	12,625	14,585	3,853	80%
Lukulu District	6,387	2,977	4,157	1,627	80%
Lundazi District	10,703	8,734	8,734	937	82%
Lusaka Urban District	246,245	164,100	182,237	42,293	85%
Luwingu District	5,996	1,929	4,075	2,168	70%
Mansa District	19,312	9,150	15,135	7,357	80%
Mazabuka District	24,185	19,348	17,950	4,769	85%
Mbala District	6,809	3,846	5,013	1,745	80%
Mkushi District	8,277	7,466	7,467	584	85%
Mongu District	24,512	19,610	14,060	2,942	85%
Mpika District	8,911	7,129	7,129	1,069	80%
Mpongwe District	6,427	2,389	2,390	358	70%
Mpulungu District	9,304	3,648	6,370	2,750	70%
Mufulira District	15,586	10,913	10,912	1,638	85%
Mumbwa District	21,155	1,317	6,617	5,497	85%
Nakonde District	6,321	4,922	5,050	483	80%
Namwala District	13,512	8,267	8,267	96	80%
Nchelenge District	11,059	6,995	8,755	2,809	80%
Ndola District	63,171	54,118	54,118	8,119	85%
Nyimba District	6,715	3,531	5,280	2,279	80%
Rufunsa District	5,067	4,054	4,054	608	80%
Samfya District	12,640	5,109	9,338	4,996	80%
Senanga District	13,104	4,988	4,988	1,226	70%
Serenje District	12,901	3,556	3,731	341	85%
Sesheke District	11,789	7,394	9,329	3,044	80%
Shibuyunji District	2,221	2,230	2,230	175	85%
Sinazongwe District	3,988	3,197	3,197	43	80%
Solwezi District	20,031	11,027	16,906	7,533	85%
Total	920,425	589,007	690,728	192,098	

*These districts with less than 85% coverage were previously classified as sustained and in COP16.

Table 4.1.2 Entry Streams for Adults and Pediatrics Newly Initiating ART Patients in Scale-up Districts			
Entry Streams for ART Enrollment	Tested for HIV (APR FY17)	Identified Positive (APR FY17)	Newly initiated (APR FY 17) TX_NEW
Adults			
Clinical care patients not on ART	-	-	115,934
HIV+ TB Patients not on ART	24,496	14,943	13,490
HIV-positive Pregnant Women	460,442	31,595	34,796
Other priority and key populations	100,000	13,300	11,970
Pediatrics			
Clinical care pediatrics not on ART	-		
HIV Exposed Infants	60,760	2,250	2,250
Provider Initiated Testing	715,298	13,988	13,988
Total	1,360,996	76,076	192,428

This includes data from scale-up to saturation and aggressive scale-up districts.

Table 4.1.3 VMMC Coverage and Targets by Age Bracket in Scale-up Districts				
Target Populations	Population Size Estimate (SNU's)	Current Coverage (date)	VMMC_CIRC (in FY17)	Expected Coverage (in FY17)
Males 15-29 (Scale-Up)	1,441,046	20%	138,680	36%
Total males (Scale-Up)	5,205,255	10%	231,133	18%
Males 15-29 (All SNU)	2,030,117	27%	184,906	28%
Total males (All SNU)	7,709,518	14%	308,177	13%

Notes: Expected Coverage (in FY17) is equal to cumulative # of circumcised men end of FY16 plus FY17 VMMC target over the estimated male population
Population size is estimated number of males 15-29 and all ages for both scale up none scale up districts from data-pack

Total/Average

Table 4.1.4 Target Populations for Prevention Interventions to Facilitate Epidemic Control

Target Populations	Population Size Estimate	Coverage Goal (in FY17)	FY17 Target
PP_PREV (scale-up SNU's)	6,814,110	18%	1,257,067
KP_PREV (scale-up SNU's)	6,814,110	0%	13,258
PP_PREV (All SNU's)	15,588,936	9%	1,463,462
KP_PREV (All SNU's)	15,588,936	0%	13,458

Notes: Coverage Goal(in FY17) is equal to FY17 target over estimated population

Population size estimate is the estimated total population of all ages for both scale up none scale up districts from data-pack (Indicator table column (BF)

Table 4.1.5 Targets for OVC and Linkages to HIV Services

District	Estimated # of Orphans ¹⁴	Target # of active OVC (FY17 Target) OVC_SERV	Target # of active beneficiaries receiving support from PEPFAR OVC programs whose HIV status is known in program files (FY17 Target) OVC_KNOWNSTAT*
Chibombo	26,001	17,239	8,620
Chilanga	-	3,843	1,922
Chililabombwe	15,540	6,287	3,144
Chingola	44,883	18,903	9,452
Chirundu	-	3,099	1,550
Chongwe	20,595	14,279	7,140
Kabwe	25,242	25,483	12,742
Kafue	21,387	13,087	6,544
Kalulushi	14,183	3,330	1,665
Kapiri Mposhi	29,558	9,949	4,975
Kitwe	88,723	30,139	15,070
Livingstone	16,323	24,290	12,145
Luangwa	3,800	4,045	2,023
Lusaka Urban	130,497	58,530	29,265
Mazabuka	43,273	19,408	9,704
Mkushi	14,272	4,148	2,074
Mongu	28,034	3,002	1,501
Mufulira	28,806	9,298	4,649
Mumbwa	16,852	10,445	5,223
Ndola	91,037	31,727	15,864
Serenje	16,308	8,957	4,479
Shibuyunji	-	3,162	1,581
Solwezi	22,504	896	448
Chinsali District	10,837	122	61
Luanshya District	27,124	2,254	1,127
Lundazi District	25,506	53,764	26,882

¹⁴ This column only provides data for orphans and not for vulnerable children.

4.2 Priority population prevention

To reach epidemic control, Zambia will implement a robust program that will ensure attainment of the 90-90-90 goals. The program will focus on core combination prevention activities in priority districts with the highest treatment gaps and populations with the greatest need of treatment services. The target coverage levels for priority prevention were flat-lined at the APR 15 achievement level partner capacity and to cover for demand creation and prevention of new infections. The target increase also reflects the need to reach specific priority populations, namely adolescent girls and young women (AGYW) and men, to link them to other services. The target for HTC represents a 7% increase and is proportional to the number of HIV infected persons who need to be identified and enrolled in HIV care and treatment; the target for female sex workers (FSW) represents a 79% increase from last year, while the target for men who have sex with men (MSM) is increased by 500% due to a new KP project targeting MSM. The targets for KPs were low in FY 2016 due to limited implementing partner capacity. Despite there being size estimations for key populations for some areas of the country, coverage levels for KP services are currently unknown.

The COP 16 prevention program aims at improving HTS with the goal of testing 80% of the population with unknown status in PEPFAR focus sites, primarily through expansion of community-based counseling and testing. Mobile testing will be conducted in focus SNUs and hotspots with community mobilization and demand creation. Index client testing in the community and at the homes of PLHIV will be carried out. This will be complimented by provider-initiated testing and counseling (PITC) for all patients at health facilities, including-patient departments, TB corners, STI clinics, MCH, and ANC clinics. Testing for clinical populations such as presumptive TB patients, child malnutrition patients and children at under-five clinics will also be scaled up. In addition, activities will focus on reaching adolescents and men who are hard to reach through interventions such as targeted adolescent friendly services and after hours testing. Strengthening linkages to treatment, care and support, and quality assurance for HIV testing will improve the HTS package. Gender-based violence (GBV) interventions will be prioritized in areas with high GBV prevalence. The overall targets for PMTCT represent a 2% increase from the previous year. Pregnant women who have been missed in the past, including those not delivering in health facilities, will be targeted. The COP 16 VMMC target is 11 % higher than for COP 15 and the program will focus on reaching 15 to 29 year old males with quality services and ensuring that HTS services are provided for all males to be provided with VMMC services.

For COP 16, the program will focus on reaching targeted groups in priority geographic locations that with known evidence of high HIV prevalence or incidence, including people living with HIV, families of HIV index cases, AGYW, boys and men, couples, KPs, and other vulnerable and high risk populations such as prisoners, migrant workers, miners and the military in all scale up districts. Increased focus will be on AGYW and their male partners, FSW and MSM. Key populations and men will be reached through mobile service provision and tailored services such as after-hours services, workplace programs, and health fairs.

PEPFAR Zambia will support implementation of comprehensive prevention packages that emphasize and improve functional HIV treatment and care referrals/linkages for newly identified HIV positive clients. The program will also implement targeted community sensitization, condom promotion and post-GBV care. Health and community workers will be trained on gender, sexual diversity and provision of adolescent and youth friendly services to improve service uptake and delivery. Across PEPFAR priority areas, the USG will target AGYW (beyond what is proposed for DREAMS) to reduce their risk of HIV and ensure they receive HTS, combination prevention activities, and linkages to family planning and post-GBV services. In central support sites, PEPFAR Zambia will provide periodic targeted technical assistance to the provincial and district levels and overarching QA/QI and commodities at the national level. Transition of prevention activities from PEPFAR implementing partners to GRZ in centrally supported districts will be completed in FY 17. Peace Corps' contribution in centrally supported districts represents 8% (3,261) of 40,234 total targets.

The core HIV prevention package includes:

- Demand creation activities at all levels to increase uptake for VMMC services including communication of key VMMC and prevention messages
- Quality VMMC services targeting men ages 15-29 through static and mobile sites
- Scale up of PMTCT Option B+ with emphasis on retention in care for mother-baby pairs
- Strengthened uptake of EID and linkage to treatment for infected infants
- Condom promotion and distribution
- Provision of STI screening and treatment
- Targeted interventions reaching high risk populations
- Community systems strengthening for increased access to ART and adherence, care & support, VMMC and PMTCT services
- Age-appropriate messaging and services to ensure a youth-friendly environment in HTS, VMMC and HIV prevention services, including for adolescent boys and young men
- Integrated social behavior change communication in PMTCT, HTS, VMMC, stigma/discrimination reduction, and other programs, including girls' empowerment
- Lubricant procurement and distribution for key populations
- Institutionalization of M&E systems, both electronic and paper-based; strengthened M&E services for all prevention programs
- Activities that decrease stigma and discrimination

Results from SIMS have been used to identify programmatic gaps and solutions.

Recommendations have focused on strengthening linkages between facilities and communities, documenting prevention activities, and improving referral systems.

Key populations interventions will be evidence-based and will employ innovative techniques for reaching these populations and increasing their access to HTS care and treatment programs. In

FY 15 a peer-based recruitment strategy was initiated that increased uptake of services by KPs. Other methods to identify key populations include social network strategies and epidemiological targeting. Innovations will include tapping into social media to reach unidentified high-risk networks, including young KPs. A holistic peer approach will be adopted that spans the entire HIV continuum of care. A human rights framework will underlie all interventions to ensure an environment is created that is conducive to KPs being able to access HIV prevention care and support services.

The gender and GBV program will strategically target locations and populations with highest disease burden within scale up districts. The gender activities are in line with PEPFAR's Gender strategy and the Zambia gender analysis, which encourages integration of gender issues and equality throughout the continuum of prevention, care, treatment and support. The Zambia Health and Wellbeing survey (also known as the Violence Against Children survey [VAC]) of 2014 provided evidence on sexual, emotional and physical violence against children in Zambia and, together with regional data, provided insight into sexual partners of adolescents and young people.

Services provided under the GBV program have been classified as core and will be implemented in one stop centers (OSCs) and the post-violence care center at the national reference hospital. Services provided include counseling, medical services and examinations, HTS, post exposure prophylaxis (PEP), and legal support. Activities will strengthen GBV coordination efforts in the community and the capacity of service providers to better manage GBV cases, engage boys and young men, and increase community awareness of GBV. All OSCs will be transitioned to the government by FY17 to ensure sustainability.

4.3 Voluntary medical male circumcision (VMMC)

From inception, the USG-supported program has supported over 72% (837,606 /1,166,378) of all male circumcisions in Zambia. For COP 16, the PEPFAR VMMC program will continue to prioritize high HIV burden provinces, focusing on those with high unmet need and males 15-29 years of age for maximum impact. The Department of Defense (DoD) program will continue to target increased access among the military countrywide.

The National VMMC target of 1,949,000 circumcisions by the end of 2015 was not achieved. Zambia met 63% of its target and, in light of this, a new target has been set of 1,759,536 circumcisions for 10-49 year olds, with a focus on 15-29 year olds, to be reached by 2020. This will be included in the Zambian national VMMC plan for 2016-2020, expected to be launched in May 2016.

In March 2015, a report was produced following a WHO consultative meeting providing guidance on tetanus risk mitigation approaches and surveillance for VMMC country programs. Zambia has adopted the 'clean care' approach at facility and individual level comprising rigorous surgical skin

preparation for all circumcisions, including device methods, and good personal wound care education, as its tetanus risk mitigation strategy.

COP15 central funds aim to reach an additional 43,452 males through routine VMMC service delivery. In COP 16, active promotion of new VMMC devices (Prepex and Shang Ring) is expected to contribute to an increase in uptake and utilization of VMMC services. In DREAMS zones, VMMC implementing partners will provide VMMC services to males 15 – 29 years of age, and older men most likely to transmit HIV through partnerships forged with the implementation of the DREAMS package.

The core VMMC program strategies for COP 16 include:

- Targeted demand creation, including engaging community health workers to support community mobilization and sensitization;
- Training, mentorship and supportive supervision;
- Provision of the WHO recommended VMMC package;
- Service delivery through the use of static and mobile models with extended hours;
- Linkages to care and treatment for HIV infected clients;
- Strengthening quality assurance and response to adverse events;
- Institutionalizing M&E;
- Implementation of WHO pre-qualified male circumcision devices; and
- Private sector engagement efforts in prioritized geographic areas with the highest disease burden.

VMMC investments are consistent with the core framework and have been found efficacious for epidemiologic control. COP 16 activities will strengthen VMMC commodity supply chain management to ensure achievement of the set targets, to include HIV rapid test kit logistics management at all levels in priority areas.

As part of the transition and country ownership plan for sustainability, COP 16 will provide technical support to the development of an in-service training curriculum for early infant male circumcision (EIMC) for selected medical personnel. Areas with lower HIV prevalence will receive national-level PEPFAR technical assistance for quality assurance activities, promulgation of policy, and training of trainers.

SIMS identified several areas requiring strengthening, resulting in improvements in areas such as HCT referrals to care and treatment, clinical follow up, adverse events prevention and management (most mobile/outreach sites lacked the pediatric component for emergency resuscitation), and documentation.

Anticipated challenges include increased and sustained demand creation throughout the year, utilization of services among late adopters and seasonality of demand for services.

4.4 Prevention of mother-to-child transmission (PMTCT)

Zambia adopted the WHO Option B+ in 2013 through the implementation of consolidated treatment guidelines that support both the PEPFAR and MoH policy statement on the need to end pediatric HIV. In support of this national policy, USG Zambia's PMTCT program will support comprehensive PMTCT services with a goal of attaining virtual elimination of mother-to-child transmission (eMTCT) with an MTCT rate of less than five per cent within the prioritized geographic locations.

The program will support expansion of efforts to reach all pregnant and breastfeeding women with early HIV testing, care and lifelong ART (including retention and viral suppression), and optimizing access to testing and care services for HIV-exposed infants (including retention through the cascade and linkage to treatment for infected infants). Using the maternal and child care services platform, support will also be provided for Family Planning/HIV integration with key priorities such as expanding contraceptive options mix for women of reproductive age (including adolescents), ensuring access, and health systems strengthening.

Current PMTCT program challenges include: limited health care worker capacity; limited infant diagnosis capacity, including access to EID, EID testing uptake, results return, and documentation of final diagnosis; poor 12-month retention with an increasing number of children infected in the breastfeeding period; weak cohort monitoring systems for tracking mother-baby pairs along the PMTCT cascade of care; weak community support systems; and limited quality assurance systems for HIV rapid testing.

The following strategies will be employed to ensure attainment of virtual eMTCT of HIV: a) maximizing early and accurate maternal and infant HIV case identification, b) decentralization of ART services to improve access and ensure optimal coverage, c) optimizing VL monitoring and viral suppression of PBFW, d) strengthening community-based support groups as a platform for enhancing adherence and retention in care, e) service integration (such as ART/antenatal, expanded program for immunization/ early infant diagnosis, family planning/HIV service integration) and f) improving monitoring and evaluation systems. Specific activities related to these strategies are detailed in the core service packages.

Key activities include:

- Quality HIV case identification among PBFW and HEIs; including re-testing of HIV negative PBFW
- Increasing initial attendance rates and repeat antenatal care visits through community outreach programs, and coordinating with community-based reproductive health workers
- Increasing deliveries in facilities with skilled attendants
- Scaling up of viral load monitoring for all HIV positive PBFW
- Providing and increasing adherence to treatment for HIV positive PBFW

- Strengthening mother-baby follow up at community platforms to ensure adherence to ART and enhancement of retention in care and adherence of mother-baby pairs
- Improving the uptake of EID and linkage to treatment for infected infants
- Strengthening the EID system (supplies, specimen transportation, improve turnaround time for results)
- Adopting a holistic approach for PMTCT within the context of a safe and healthy pregnancy, delivery and postpartum care, including family planning and partner testing
- Promoting an enabling environment for increased male involvement through PITC for expectant couples attending ante-natal services to improve disclosure among couples
- Supporting enhanced program monitoring and evaluation (including real time monitoring) that includes retention on ART and documentation of infant outcomes up to final outcomes post-exposure

4.5 HIV testing and counseling (HTS)

In 2014, the Ministry of Health developed an HIV Testing and Counselling National Implementation Plan, with a goal of achieving 50% coverage among Zambians aged 15 – 49 years who receive an HIV test in the last 12 months and know their results by 2015 (a revised Implementation plan, which will be in line with the National HIV/AIDS Strategic Framework is still being drafted). The current plan is in line with COP 16, which aims at saturating the priority districts with 80% HTS coverage. PEPFAR's support to the HTS National Implementation Plan will support efforts to reach the 90-90-90 goal.

To derive the COP 16 HTS target of 1,1435,214 the PEPFAR Zambia team analyzed site yield data, COP 16 treatment targets, and epidemiological data, i.e. districts with the highest disease burden for HIV regarding the number of PLHIV. The team also considered how central initiatives like ACT, DREAMS and the Test and Start program would increase the need for HTS.

The key HTS package of services will include:

- Quality HIV testing and counseling services to individuals, couples and families and to key and other priority populations in priority geographical locations;
- Support for community linkages/systems to ensure timely access to HTS (and early diagnosis);
- Risk reduction packages; and
- Linkages to VMMC for HIV negatives.

Other services in the HTS package include:

- Strengthening linkages to treatment, care and support in all settings;
- PITC for all patients in TB, STI and ANC clinics;
- Testing of families of index patients;
- Enhanced monitoring of the completion of linkages to other services; and
- Incorporation of QA/QI systems for HIV rapid testing.

In FY 2015, 2,443,873 people were tested across all priority provinces in Zambia. Through COP 16, PEPFAR Zambia is continuing its geographical pivoting to areas with the highest disease burden. PEPFAR Zambia will provide targeted testing to reach those most likely to be HIV positive (high yield). In view of these changes, PEPFAR Zambia has held discussions with GRZ for USG partners to shift their efforts to areas with the greatest needs and hotspots in the country. All PEPFAR Zambia partners will have transitioned out of the no/low yield geographical areas by the end of FY 2016. In COP 16, only core and near core HTS activities will be funded by PEPFAR Zambia; non-core activities will be transitioned to GRZ and other donors operating in those areas.

A combination of targeted facility PITC for all patients in outpatient, TB, STI and ANC clinics, community-based and other HTC strategies will be prioritized for rapid and efficient scale up in priority areas. Outreach mobile testing in high burden districts and hotspots, community mobilization and promotion of HTS will also be employed. In all settings, strengthening linkages to treatment, care and support will be a priority.

Robust HTS will be provided to priority populations with an aim to reach 80% of HIV-infected individuals who do not know their status. For those with an HIV negative result but are at risk of HIV infection, programs will support re-testing and provision of risk reduction messaging.

The HTS strategy will cover 80% of the population in scale up districts but the testing will be targeted. Priority will be given to PITC in outpatient, inpatient, TB, STI and ANC clinics. Testing of male partners of women who are found to be HIV positive in PMTCT settings, as well as partners of index clients in communities will also be a priority. Survivors of GBV will also be targeted with HTS to ensure those who are HIV positive are enrolled into care and treatment.

Special strategies will be employed to reach populations that are harder to access such as key populations and men. These strategies include outreach at men's working places with targeted messaging, after-hours and weekend testing and health fairs which may encourage men to test with their families as other services will be offered such as cervical cancer screening, VMMC, non-HIV testing and advice for conditions such as diabetes and hypertension. Mobile onsite rapid HTS will be provided for the hard-to-reach populations.

As mentioned in section 4.2 Key populations will also be reached through a peer-based approach where voluntary members of organizations that convene key population will reach out to other members to build trust and ultimately facilitate access to HIV testing and care. This has proved effective in increasing KP reach in COP 14 and 15. Peer counselors will also follow up with those who refuse testing and link those who test positive to care. Social media and messaging systems will also be used to access these groups. For those with an HIV negative result but are at risk of HIV infection, programs will support re-testing and provision of risk reduction messaging.

The community platform will play an important role in increasing uptake and sustainability of services. PEPFAR Zambia will work with community health workers to ensure that vulnerable and at-risk children and families are identified and are accessing HIV testing, linked to and retained in treatment. Patient tracking systems will be strengthened to ensure there is no loss-to-follow-up for those who are identified. Community health workers will work with facilities to ensure that those affected by HIV are linked to supportive socioeconomic and prevention services.

The key challenges anticipated in meeting targets include the possibility of commodity stock outs considering the expected increase in numbers of people who will access HTS through targeted testing. Commodities are delivered at district level and not at facility level and logistical challenges may occur when moving these commodities from the district to the facility level, which would result in delays in delivery. An additional challenge is that most community programs lack access to test kits which are ordered through facilities, especially in cases where health care workers feel stock is insufficient. These challenges can be overcome with good planning and participating in quantification and forecasting meetings. Another anticipated challenge is that of lay counsellor attrition rates, which can be overcome by engaging GRZ in discussions on the need for policy guidance on working with community volunteers.

Through SIMS visits, PEPFAR Zambia noted that space for conducting HTS is a challenge, compromising confidentiality. To address this challenge, PEPFAR staff members have engaged the government in discussions on how adequate space can be availed to the HTS program. SIMS visits also showed that in some facilities there are no standard operating procedures (SOPs) for those conducting HTS. PEPFAR Zambia has the Ministry of Health to ensure SOPs are available at all sites where HTC services are offered. The PEPFAR Zambia team also found that the linkage from HTC to treatment and care services is not optimal. However, PEPFAR Zambia anticipates enhanced enrollment into care and treatment with the implementation of Test and Start.

4.6 Facility and community care and support

The major programmatic shift in FY17 for both facility and community care will be an intensified focus on the roll-out of Community ART. In response to MOH protocol to move at least 87,000 stable patients into community care and treatment; PEPFAR Zambia will leverage the OVC program platform to support Community ART Groups for families as well as adolescent support groups for young PLHIV. The Zambia Family Program is aiming to support over 1,000 CAGs with an emphasis on families. CAG members will also be linked to support groups that cover a range of health and social service supports. Additional Community Health Workers will be trained and given a stipend to support both the CAGs and support groups. A newly developed training program developed as part of the ACT initiative has been endorsed by MOH to ensure a standardized approach to training community volunteers in support of 90-90-90. Piloting commenced in March 2016. Referrals of stable patients from facilities to communities will be orchestrated by District Medical Officers and jointly planned between facility staff and neighborhood health committees. PEPFAR Zambia will support placement of a full-time para-

professional in several health facilities to facilitate and manage the process. Community NACS will be re-aligned to reinforce Community ART.

PLHIV will receive a standard package of care that includes regular monitoring for HIV progression, condom provision and non-clinical services. This includes pre-ART services in health facilities.

For scale-up sites core care activities will include:

- Positive Health, Dignity and Prevention;
- Prevention and management of opportunistic infections;
- Integrated TB/HIV services;
- Nutrition assessment, counseling and support (NACS) services;
- Linkage, engagement and retention of patients in care and strengthening referral mechanisms and other systems of linking clinical and social services;
- Regular clinical and laboratory monitoring including CD4 and viral load testing;
- Case management of children and adolescents made vulnerable to or by HIV and AIDS;
- Community level child protection plus GBV prevention and referrals to other services;
- Social protection via group-based household economic strengthening and cash transfers, and
- Market-based vocational training and job placement as part of workforce development.
- Monitoring of HIV-infected patients (lab and clinical)
- Adherence counseling
- Treatment of opportunistic infections
- Prophylaxis to prevent TB reactivation

Pediatric Care & Support

In COP 16, the pediatric care and support program will provide comprehensive pediatric HIV care services targeted at priority geographic locations to a reduced number of children due to funding reductions from COP14 level. Resources from the Accelerating Children's HIV/AIDS Treatment (ACT) Initiative will be additive to the level funding for pediatric care and support. Most ACT funding is focused on treatment services versus care services. PEPFAR Zambia HIV services will include ensuring early identification of HIV infected children and enrolment into care and treatment. The core package of services will rely mostly upon ACT initiative funding to include:

- Scaling up EID and linkage to appropriate care and treatment.
- Appropriate clinical staging and laboratory monitoring to guide pediatric care and treatment.
- Promoting a comprehensive package of pediatric HIV care and treatment, including antiretroviral treatment, treatment of malnutrition and life-threatening infections, and pain and symptom management, all within a family-centered context

- Developing and implementing strategies to decrease loss to follow-up through health facility- and community-based retention strategies.¹⁵
- Implementing of consolidated pediatric treatment guidelines and recommendations as well as alignment with the OVC Minimum Standards, National Plan of Action for Children, and forthcoming GRZ standards for vulnerable children.
- Training, mentoring, and supervision of health care workers to provide high quality pediatric care and treatment services.¹⁶
- Providing psychosocial support for children and their families, including the promotion of adherence and timely disclosure. School-based psychosocial support will include teacher support for children.
- Providing targeted prevention efforts and age-appropriate psychosocial support for HIV-infected adolescents, including vocational training, intensive adherence support, and coping with stressors.
- Strengthening of GRZ monitoring and evaluation systems, including data collection for central reporting and data feedback for site level quality improvement.
- Strengthening of systems to link CBOs with government health services for under-five, child and adolescent health programs, including ART and PMTCT services. Programs will emphasize the needs of children living with HIV by helping families and communities identify children and adolescents living with HIV and ensuring immediate access to ART for those under 15 years.
- Training, mentoring and support of CBOs to improve technical capacity in HIV prevention, care and support to scale-up evidence-based activities, including prevention with positives counseling by community caregivers, stigma education, alcohol education, Safe From Harm and other proven interventions.

4.7 Tuberculosis and HIV

Tuberculosis continues to be one of the major health problems of Zambia. Though notification rates have declined from 51,179 in 2006 to 48,616 in 2010 and 41,366 in 2015, the disease remains a challenge to the public health sector. The majority of TB cases appear in young adult population groups aged 15-45 years-- the same age group affected by HIV/AIDS. Among TB patients, counseling and testing for HIV rates increased from 22% in 2006 to 78% in 2010 to 95% in 2015. The TB and HIV co-infected rates have been ranging between 59% and 64% from 2010 to 2015. Among the TB and HIV co-infected patients, 35% had been initiated on ART in 2006. This percent increased to 42% in 2010 and 78% in 2015.

Zambia conducted a national TB prevalence survey from 2013-2014. According to the results of the survey, the prevalence of bacteriologically confirmed MTB was at 638/100,000 in the adult

¹⁵Bi-directional referral networks between the community and facility will also be strengthened for pediatric ART. Programs will leverage the ability of CBOs to follow up with PLHIV at the household level, promoting retention in care.

¹⁶CBOs will improve quality delivery of HIV prevention information, such as implementing multi-dose, integrated prevention interventions and expanding HTC opportunities for families through strengthened referrals to HTC services.

population. However, the current notifications by the national TB program by routine surveillance show the notification rate for bacteriologically confirmed TB for the same period in the same age group at only 173/100,000 population. The World Health Organization estimates the prevalence of TB at 338/100,000 population. The national TB prevalence survey diagnosed 90% of TB patients who were not identified prior to the time of the survey. This finding showed that there are more TB cases not diagnosed and put on treatment in Zambia. The prevalence of bacteriologically confirmed TB was higher in males at 833/100,000 population.

The challenges raised by the APR results and SIMS visits include: weak implementation of Isoniazid Preventive Therapy among PLHIV and lack of a documented TB infection control plan in most health facilities.

PEPFAR Zambia will implement the following core activities in scale up sites for epidemic control:

- 90% of PLHIV know their status: All TB and presumptive TB patients will be tested and counseled for HIV. This will require orientation, training, mentoring and technical support through supervision of health care workers in counseling and testing activities. The sites will have coordinated TB case finding among PLHIV and prisons. Partners of TB patients who are co-infected will be tested for HIV.
- 90% of PLHIV on ART: All HIV+ TB patients will be initiated on ART. This will require proper coordination, linkages and referral systems between TB and ART programs. Selective minor renovations will be done on some facilities to accommodate integration of TB and ART services. Community workers will be hired to help in the referral systems of patients from one program to the other, thus reducing loss to follow up. The gene Xpert MTB/RIF will be used in sites to identify HIV+ TB patients and PEPFAR support will help ensure procurement of sufficient cartilages and other relevant supplies. Transport systems to collect sputum from the catchment area satellite facilities to the hub will be supported.
- 90% of people on ART with viral suppression: The sites will scale up Isoniazid Preventive Treatment among illegible PLHIV, thus preventing PLHIV from developing active TB disease. This will require orienting and trained health workers in the proper screening of PLHIV to rule out TB disease in the patients; making Isoniazid tablets and data collecting and reporting tools available in the sites; initiating ART earlier to reduce TB associated mortality; and, implementing TB Infection control measures to prevent TB transmission to PLHIV.
- The sites will establish and strengthen TB/HIV coordinating bodies and quarterly data review meetings. Data associates will be hired to ensure data quality, collection and reporting on time.

Implementing partners will train, mentor and orient government health staff and community workers to facilitate transitioning and ownership of the activities at the end of the project period.

4.8 Adult treatment

The main goal of the HIV treatment program in Zambia is achievement of an AIDS-free era by 2030. Starting FY 2015, PEPFAR Zambia has rapidly scaled up HIV treatment services in 325 high volume sites in 46 priority districts (Zambia has 105 districts) to provide HIV treatment to at least 80% of people living with HIV/AIDS in those sites while ensuring that individuals on HIV therapy in 326 sustained (moderate volume) sites are retained on a core package of HIV treatment services as well.

In 2015, the Zambian PEPFAR program provided HIV treatment services to 720,000 adult patients, with 75% of these receiving services in priority districts. Interventions included: a) provider training and on-the job mentorship, b) secondment of critical staff to the Ministry of Health, c) procurement of drugs, medical supplies and equipment, d) limited renovations to improve work space, and e) on-going support for quality improvement and quality assurance focused on patient outcomes.

The program also continued to implement evidence-based strategies such as: a) the 'test and start' strategy for pediatric patients, patients with TB and HIV co-infection, pregnant and breast feeding HIV-infected women, and HIV-infected partners in discordant sexual partnerships; b) piloting the 'test and start' strategy for all individuals identified with HIV regardless of their CD4 status in three priority districts; and c) piloting decentralized (differentiated) models of service delivery in select districts to down-refer stable HIV-infected clients on HIV treatment to communities for continued care.

PEPFAR Zambia's COP 2016 has been informed by a) Zambia's goal of achieving an AIDS-free generation by 2030, b) the data-driven PEPFAR pivots of focusing on sites with the highest burden of HIV and the greatest need for HIV services, c) the anticipated policy shift to "test and start" by October 2016, and d) PEPFAR Zambia's various analyses, including the gender and the site improvement and monitoring system (SIMS) analyses. With COP 2016 funding, the Zambian program will continue to focus HIV treatment services in scale-up sites and sustained sites based on detailed analyses of multiple data sources conducted in 2015 and some additional analysis being conducted during this COP 16 planning process. The program will continue to consolidate key strategies started in prior years such as: a) the "test and start" strategy for pediatric patients, individuals with TB and HIV co-infection, HIV infected pregnant and breastfeeding women, and HIV-infected individuals in discordant partnerships, b) expanding access to viral load services to increase the proportion of HIV-infected individuals accessing routine viral load from one percent in 2015 to 25 percent by the end of 2017, and c) working with the Zambian Government to ensure increased funding for HIV treatment services from the Zambian treasury. PEPFAR Zambia plans to have 905,515 individuals on HIV treatment by the end of 2017.

As stated above, the program started supporting pilot studies to decentralize HIV care by down-referring stable patients on HIV treatment to community systems. In FY2016, the program will scale-up differentiated (decentralized) models of HIV care across the 46 priority districts, with a

goal of achieving a down-referral of at least 91,428 stable HIV-infected individuals on HIV treatment by the end of 2017. The program will build quality improvement and quality assurance ‘safeguards’ into these differentiated models to assure good surrogate (viral loads, etc.) and clinical (adherence to treatment, retention on treatment, and reduced morbidity and mortality) outcomes.

Zambia has at least one viral load platform in each of the 10 provinces. The platforms operate at 10 percent of their capacity due to: a) lack sufficiently trained technologists, b) insufficient supply of reagents, c) unreliable specimen transport system, d) recurrent power outages, and inadequate work space for performing viral loads. In FY 2016 PEPFAR Zambia will aim to maximize the utilization of the viral load platforms by: a) validating the use of dried blood spots as specimens for viral testing, b) renovating eight viral load laboratories in priority districts to improve space, c) recruiting lab technologists and/or training health care in viral load work, d) strengthening the logistics system for lab supplies, e) installing solar energy generating systems to power viral load platforms, and e) building a viral load data repository. The aforementioned activities will increase access to viral load testing for HIV-infected individuals on treatment from one percent to 25 percent in by the end of 2017. PEPFAR Zambia will also conduct drug resistance tests for clients on 2nd line therapy failing to achieve optimal viral suppression according to national guidelines

As mentioned above, Zambia has been piloting the “test and start” strategy for all HIV-infected individuals, regardless of their immunologic status, in three districts since FY 2015. In FY 2016, PEPFAR Zambia will support the Zambian Government to adapt WHO 2015 guideline and scale-up the “test and start” strategy beginning with priority districts. PEPFAR Zambia will specifically support the following activities: a) adapting and disseminating the 2015 World Health Organization treatment guidelines, b) procurement of drugs, lab supplies, and equipment, c) improving the logistics systems for drugs and lab commodities, d) provider training and mentorship, and e) renovating infrastructure to reduce congestion and improve infection control.

The Zambian policy allows prescribers of HIV treatment to prescribe and dispense HIV treatment drugs for three months for all stable HIV-infected patients on treatment. However, this is only practiced for 30 percent of stable patients due to: supply chain bottlenecks and prescriber attitudes. PEPFAR Zambia will support the GRZ to implement this policy effectively by supporting the expansion and decentralization of storage capacity to support the supply chain and also support for decentralized models of drug dispensing. Further, PEPFAR Zambia will work with the Government towards adopting a six-month prescription for stable patients.

4.9 Pediatric treatment

Specific to pediatric HIV treatment, the PEPFAR Zambia program will have two overarching objectives: 1) to rapidly increase the number of children and adolescents on HIV treatment from 48,000 in 2015 to 97,311 by the end of 2017 and to 2) ensure that children and adolescents on HIV treatment are retained on treatment.

Activities aimed at rapidly increasing children on treatment will include:

- Case identification through provider-initiated counseling and testing for HIV (PICT) through other platforms offering health services and adult index patient linked family testing,
- Quality improvement of early infant diagnosis (EID) services by improving the supply chain for EID commodities and reducing the results turnaround time, and
- Improving linkage rates to care for HIV-infected children from 50% in 2015 to 90% by the end of 2017 through improved recording, use of technology, and use of community models.

Activities to ensure that children and adolescents are retained on HIV treatment will include:

- Implementation of community adherence models,
- Assignment of electronic health record-based “unique identifiers” to patients to better track them,
- Improving results turnaround time,
- Creating a viral load data repository for patient management, and
- Using Short Messaging Systems to remind patients about their reviews.

PEPFAR Zambia will optimize monitoring children on HIV treatment by scaling-up viral load testing alongside other types of monitoring such as clinical and CD4 monitoring. PEPFAR Zambia will support access to viral load testing from 1% in 2015 to 25% for all individuals on HIV treatment. Specific to viral load testing for HIV-infected children on HIV treatment, PEPFAR aims to support 100% access for children by the end of 2017. Quality of care standards will continue to be based on current national guidelines and will be integrated with the Site Improvement Monitoring System (SIMS) as a tool for tracking service quality and informing improvements.

Over and above the core strategic direction described above that is targeted at the scale-up sites from which the PEPFAR program will draw 80% of its target results, the program will implement the following activities: a) provider training and on-the job mentorship, b) secondment of critical staff to the Ministry of Health, c) procurement of drugs, medical supplies and equipment, d) limited renovations to improve work space, and e) on-going support for quality improvement and quality assurance focused on patient outcomes.

4.10 Orphans and vulnerable children (OVC)

Zambia’s OVC platform was one of the first to respond to the geographic pivots by moving out of non-priority provinces at the end of 2014; with one exception being Eastern province, where a high volume of OVC are receiving care. This early pivoting makes it possible for OVC programs to be more responsive to the 90-90-90 in scale-up and sustained districts. Zambia has already achieved epidemic control in 10 out of 23 scale-up districts; to cater to the larger population, the OVC portfolio will retain its presence in both scale-up and sustained districts. However, no new

OVC will be added in sustained sites. All sustained sites in Eastern province will phase out by October 2017 along with remaining centrally supported sites which currently represent less than 6% of the target volume.

Test and start will be promoted through increased accessing of home testing and index case tracking via links to facilities. Verified referral systems will be improved and tracked. More OVC and their families will be encouraged to know their HIV status and, if positive, to participate in adherence support groups focused on families. The addition of a dedicated early childhood development program will increase emphasis on finding pediatric cases as well as supporting mommy-baby pairs through community interventions. Current baseline for status known among OVC beneficiaries is 25%. The goal in FY17 is 50%. Experience gained through ongoing programming will be applied to improve the in-home screening of children for HIV testing referrals.

As described in section 4.6, the OVC platform will play a key role in supporting Community ART Groups (CAGs) as well as linked support groups. To date, achievements in community-based care, treatment and support have been too low to affect de-congestion in health facilities. The network of households in the OVC program provide access to more families who, once suppressed viral load is confirmed, can be encouraged to enter a CAG and support group. This includes specialized groups for adolescents that will build on successes realized by implementing the Positive Connections curriculum in Copperbelt province as well as applying a community version of clinical activities for young PLHIV. OVC programs will use a GRZ-endorsed checklist for monitoring PLHIV stability to detect early warning signs of a compromised viral load. This is part of a newly released community volunteer training manual to be used by all HIV/AIDS programs. The training resulted from ACT funding and was a multi-organizational, consensus building effort.

The OVC program will receive referrals from high volume ART facilities. Case management, based on the Child Status Index to track progress, is undertaken by all OVC programs that provide more than one service over the course of 12 months. Other programs receiving HKID funds, such as GBV prevention and care, do not see the same OVC throughout a quarter. A clinical-care partner will share initial results on piloting placement of para-professional case workers to support clinical and community care linkages, especially community ART for families. Training in child safeguarding will continue to reach another 150 entities including GRZ social welfare staff and civil society.

In COP 16, PEPFAR will initiate support to the GRZ social cash transfer program. In keeping with the evidence that cash *plus care* has the greatest impact on child wellbeing, the OVC program will seek out households in scale-up sites that receive cash. PEPFAR Zambia will bolster the existing program by providing short-term cash incentives to destitute households participating in CAGs that include an HIV positive pregnant woman, mommy-baby pairs, and/or adolescent girls. The *plus care* component will include the menu of services and support outlined in the OGAC OVC

guidance and will be provided based on scores from the Child Status Index. School block grants will be available in these areas, especially in the DREAMS zones. For households that are struggling economically, a graduated, matched savings approach, which has been linked to improved adherence and viral load suppression, in part due to improved nutritional status, will be implemented to support economic resiliency.

In COP 16, parenting programs will continue and cover children from birth to 18 in and beyond the DREAMS zones. A module on parenting children and adolescents living with HIV will be included. Case finding and adherence will feature prominently in the early childhood development (ECD) curriculum. The new ECD award will support existing pre-schools and day-care centers in low-resourced areas within scale-up districts to meet standards of ECD, and include HIV sensitivity and parenting outreach. Home-based nurseries in scale-up sites will benefit from training in ECD principles and good practice. Formal outreach to expand private sector engagement will be a core activity. Mining companies support day-care centers and pre-schools near market areas which are areas with high HIV prevalence and HIV exposed infants. The ECD program will establish a compliance monitoring system and incentives for implementing quality programming. Preventing and responding to neglect, violence and exploitation of children and adolescents will be part of the ECD program both for day-care centers and parenting programs.

Social service workforce development remains a priority investment for long-term sustainability. PEPFAR will align activities with GRZ social protection structures at district and ward levels. Activities will migrate to oversight and monitoring by District Welfare Assistance Committees, Area Coordinating Committees (ACCs), and Community Welfare Committees (CWACs), the same structures that administer the Social Cash Transfer program noted above. PEPFAR will no longer have a cadre of volunteers identified as its own. Instead, volunteers will be associated with ACCs and CWACs in terms of accountability for serving the most vulnerable and provision of coordinated services. Technical support and direct funding will be provided to the GRZ social welfare program to increase their capacity to manage and coordinate activities for OVC. This includes measurable capacity building to existing government structures at the community, district and provincial levels to improve their ability to identify, refer and provide case management for OVC and their families.

PEPFAR Zambia will provide technical support to the Ministry of Defense to strengthen their capacity to manage and coordinate OVC activities which reach children in and around the military bases. Services and support provided are in alignment with the standards and actions implemented by other OVC programs funded by PEPFAR.

SIMS visits to date have identified several areas for improvement. First, SIMS visits found gaps in case management by CBOs newly engaged in PEPFAR programs. This was resolved by adding job-aids to assist volunteers post-training. Second, support for girls to successfully transition to and complete secondary school was not being well covered. Participation in DREAMS will

increase emphasis in this area. Lastly, timeliness of post-rape care was identified as an additional issue needing improvement. The GBV program receiving HKID funds and DREAMS will increase emphasis on the timeliness issue.

5.0 Program Activities in Sustained Support Locations and Populations

5.1 Package of services in sustained support locations and populations

Treatment

The core package of services provided in sustained support districts is focused on ensuring that all the individuals currently on ART in those districts are maintained on treatment, remain adherent to their therapy and retained in care. Passive enrollment of HIV infected clients will be ongoing. In addition, implementing partners are advised to ensure that service and data quality standards are met and maintained and that the latest guidelines as prescribed by the MOH are adhered to. This includes ensuring all required lab and clinical monitoring continues, and capacity building in the face of guideline revisions or for attrition and maintenance of both electronic and paper based medical records.

The approach to quantifying expected volume of beneficiaries in sustained areas was based on the decision to maintain those currently receiving care with PEPFAR support. With regard to calculating the required resources for activities in sustained districts, this was based on the decision to sustain current service delivery packages in those districts without scaling up the number of beneficiaries. For centrally-supported areas, support is at the MOH level and relates to the central procurement of drugs and commodities. Service delivery will not be supported in central support districts.

Table 5.1.1 Expected Beneficiary Volume Receiving Minimum Package of Services in Sustained Support Districts

Sustained Support Volume by Group	Expected result APR 16	Expected result APR 17	Percent increase (decrease)
HIV testing in PMTCT sites	120,116	129,530	7.84%
HTS (only maintenance ART sites in FY 17)	240,257	192,002	-20.08%
Current on ART	162,723	214,787	32.00%
OVC	125,791	88,508	-29.64%

For targeting purposes, all military sites were lumped together into one, and classified as a sustained district.

5.2 Transition plans for redirecting PEPFAR support to scale-up locations and populations

Prevention of Mother to Child Transmission

In COP 16, the PMTCT program will be implemented in both scale-up and sustained districts, given the global target of ending pediatric HIV by 2020. Direct service delivery activities will be implemented in the scale-up districts with a full package of services that includes demand creation, whereas in sustained districts, the same package of service delivery will be implemented with active case finding. The targets for PMTCT in both scale-up and sustained districts have been set using a 75/25 level of effort respectively.

In centrally supported districts, the USG has had discussions with GRZ on the transition plans and it has been agreed that the PMTCT sites will still be supported with PEPFAR commodities and technical assistance to the provincial medical offices on a semi-annual basis. It is anticipated that all PMTCT direct service delivery will be transitioned out to the centrally supported districts by end of FY16.

Treatment

The transition of PEPFAR-provided treatment services and support away from non-priority areas and populations began in COP 15 and will continue in COP 16, after which decisions will be re-evaluated for subsequent implementation periods. During the meeting in Washington it was well noted by OGAC leadership that with Zambia's rapid control of the HIV epidemic in priority districts we need to plan for the complex process of shifting resources to attain country-wide control in COP 17 and beyond. Through quarterly review of our POART data, the MOH, other cooperating partners, civil society representing PLHIV and implementing partners have been involved in the process of focused application of resources and are aware of the rationale.

Orphans and vulnerable children

Two transition scenarios will occur in FY17: centrally supported districts phase-outs and project closeouts. Supplemental documents are included with the SDS with details on both scenarios. The overall process of implementing actions due to PEPFAR pivots and the implications on services and support to beneficiaries was discussed with national government as part of COP15. The concern focused on any decrease in country funding level or overall number of children being served. As these will not change, emphasis was placed on working with provincial and district government officials to explain the shifts. Approximately 22,000 children living in centrally supported districts will be affected. Implementing partner staff has already initiated discussions with beneficiaries, community volunteers and local government structures on the process that will need to unfold between now and September 2017.

For sustained districts, transition plans will be developed after PEPFAR Zambia has determined which sustained districts will be re-categorized as scale-up districts. This will need to happen before planning for COP17. Once it has been decided, the remaining sustained districts will be put into transition mode. Transitioning of these remaining sites will be facilitated by no new

targets being added and increased focus on building resiliency for beneficiaries to leave the program. As OVC graduate or leave programming in sustained sites, the targets will be added in scale-up sites.

6.0 Program Support Necessary to Achieve Sustained Epidemic Control

6.1 Critical systems investments for achieving key programmatic gaps

Analyses conducted by the PEEFAR Zambia team revealed a number of sustainability vulnerabilities and programmatic gaps that must be addressed for the country achieve sustained epidemic control. The Sustainability Index and Dashboard (SID), which was completed through a participatory process with key stakeholders, revealed vulnerabilities in four sustainability elements: Laboratory; Service Delivery; Commodity Security and Supply Chain; and Human Resources for Health (Table 1.3.2). Additionally, with OGAC guidance, the team conducted a Systems and Budget Optimization (SBOR) analysis and identified three key programmatic gaps in the clinical cascade that threaten the achievement of 90-90-90 goals. These programmatic gaps are: 1) inadequate community systems to improve treatment adherence and retention; 2) inadequate supply chain infrastructure; and 3) limited viral load capacity and infrastructure. Based on these findings, PEPFAR Zambia has refocused its site level and above-site systems investments to address these key gaps and facilitate the achievement of epidemic control in 51 districts by the end of FY 2017 (Section 3.0).

PEPFAR Zambia proposes to use impact funds that have been included in the COP 2016 budget to address the three key gaps that pose threats to achieving 90-90-90. These resources will be used to fund activities that will complement other systems investments. Specifically, the impact funds will be used to improve the efficiency of existing viral load infrastructure and maximize capacity by training and hiring new laboratory technicians, installing back-up electrical systems, upgrading cold chain capabilities, improving sample and result transport systems, and developing a data warehouse to collect national level VL information. The funds will also be used to improve the supply chain by purchasing pre-fabricated regional and localized storage containers as part of a hub-and-spoke system, and vehicles to move commodities between hubs and facilities. Finally, the impact funds will be used to improve community adherence and support the community ART model by training and hiring community level workers, equipping them with data collection and patient monitoring tools, contracting with private pharmacies, and hiring retired health care workers.

PEPFAR Zambia proposes to use game changer funds to bring solar power to 93 facilities in order to address the negative impacts of limited access to electricity. This includes the negative impact on the quality of services (which impacts treatment adherence), lab capacity, cold chain, etc. Sites were selected based on: high number of PLHIV on treatment, MOH existing electrification plan, inconsistent or no electric grid, role in electronic information systems and role in rapid scale-up of test and start.

Through these game changer funds, PEPFAR Zambia will support access to viral load testing from 1% in 2015 to 25% for all individuals on HIV treatment, decrease loss to follow up and improvement treatment retention (from 77% to 85%), and strengthen treatment results by increasing ARV availability and proportion of stable clients receiving three to six-month scripting of ARVs from 30% to 50%. The PEPFAR Zambia team will collect retention and adherence data at baseline levels, and collect follow-up data to assess the benefits that solar power availability will have on retention and adherence.

PEPFAR will continue to work closely with and leverage resources of key stakeholders, including the GF and GRZ that fund 16% and 12% of the national response, respectively (Table 1.2.1). It should be noted, however, that GF resources are expected to diminish in 2017 and the GRZ contribution has significantly reduced due to depreciation of the local currency. PEPFAR Zambia took this into consideration during the planning process to ensure that efficiencies are maximized across the program and that investments will result in sustained impact in high disease burden locations and populations.

Tables 6.1.1, 6.1.2 and 6.1.3 provide further details on how PEPFAR Zambia proposes to address the three key programmatic gaps. Activities resourced by impact funds are shaded in grey.

Table 6.1.1 Key Programmatic Gap #1: Poor treatment and adherence for all populations							
Key Systems Barrier	Outcomes expected after 3 years of investment	Proposed COP/ROP16	Budget Code(s)	Activity Budget Amount	Associated Implementing Mechanism ID	Relevant SID Element and Score (if applicable)	
Few established community ART programs	Multi-pronged community C&T methods available in all PEPFAR priority districts. All eligible patients receiving ART at the community level.	Train 250 community HIV mobilisers who promote ART adherence, PMTCT services and acceptance of HIV counselling and testing at community	OHSS		17425	Service Delivery (4.72)	
		Build the capacity of 20 community structures (Neighborhood Health Committees) through training in developing, implementing and monitoring community action plans.					
		Strengthen community-facility dialogue and linkages by supporting quarterly meetings between facilities and communities to facilitate roll out of differentiated models of care and ultimately improve adherence and retention.	OHSS		17449		Service Delivery (4.72)
		Establish community-based ART services in 30 Zambia Defense Force (ZDF) ART delivery points	OHSS		10984		Service Delivery (4.72)
		Train 510 community health workers (CHWs) to distribute ART at community level to stable ART clients	HTXS		10225, 10227, 14420, 14421		
Train health care providers in four PEPFAR-supported provinces in supportive supervision techniques for community-based ART services Strengthen linkages between facility-based ART and community-based ART programs							
Establish adolescent community ART program in 30 Zambian Defence Force (ZDF) sites.	OHSS			10207	Service Delivery (4.72)		

		Create and strengthen referral tracking system to link post-test adolescent clients to HTC and service providers by providing referral tools and establishing feedback loops.				
Insufficient patient health record systems	Smart Care installed in all ART facilities. All HIV patients have established EMR profiles and SmartCards. National data warehouse established to link individual health information systems.	Support implementation of country-wide electronic medical records through system development, equipment procurement, facilitator deployment, and equipment support and maintenance in 46 model sites;	HVSI		10219	Performance Data (6.96)
		Train 92 health care providers in the use of data to make decisions at site level;			10225	
		Enhance system for efficient procurement of site level M&E reporting tools and EMR;			10227	
		Continue to expand, support and provide leadership in routine and ad hoc surveillance and survey activities relating to the electronic medical records and national data warehouse through quarterly data analysis workgroup meetings;			10236	
		Further develop and maintain existing electronic medical record system through quarterly data analysis workgroup meetings;			CIDRZ follow-on	
		Transition EMR activities to GRZ by building ICT unit's (of the MOH) capacity and empowering the unit to take leadership through dialogue and training.			13731	
Support installation of Solar panel systems; provision of Batteries and UPS devices, Inverters systems at sites with EMR	14220					
					14421	
					17513	

		Procurement of SmartCare computers, UPS and printers for MCH, Lab, pharmacy and ART clinics for 54 ZDF sites.	OHSS		14420, 14421, 10225, 10227	Performance Data (6.96) Service Delivery (4.72)
		Procurement of SmartCare computers, UPS and printers for MCH, Lab, pharmacy and ART clinics for 54 ZDF sites. Support training, recruitment, deployment and supervision community health assistants to facilitate roll out of community ART services in 10 scale-up districts. Support Quality Improvement Unit at MOH to employ quality improvement principles and develop quality improvement competencies at the subnational level to improve ART adherence and overall health service delivery.	HTXS		14507	Performance Data (6.96) Service Delivery (4.72)
Too few qualified community health assistants	All PEPFAR priority districts are fully staffed with CHAs	Support 200 CHWs in ZDF service delivery points to participate in the Ministry of Health CHA training	OHSS		17425 17513	Human Resources for Health (6.17)
		Mobilize, train and involve community health assistants to implement community ART in selected sites	OHSS		10984	Human Resources for Health (6.17)
Too few MOH staff with skills necessary to use data to evaluate programs and institute changes	All subnational MOH health offices (District and Provincial) have at least one staff with demonstrated competency in quality improvement and using data for decision making	Recruitment of CHWs (553), Recruitment of unemployed Health care workers (75), Subcontracting of Private pharmacies/private medical practitioners (15), Training, mentoring and support supervision (3 sessions), procure Tablets/ phones, data collection and reporting tools (850), provide PPE, anthropometric equipment, transport, job aids, etc (43)., Storage bags/containers, Cool boxes or cool bags (553).	OHSS		10207	Human Resources for Health (6.17)

			HTXS		11627, 10224, 10225,14420, 14421, CIDRZ-follow on, FBO-TBD	Human Resources for Health (6.17)
TOTAL						

Table 6.1.2 Key Programmatic Gap #2: Insufficient Supply Chain						
Key Systems Barrier	Outcomes expected after 3 years of investment	Proposed COP/ROP16	Budget Code(s)	Activity Budget Amount	Associated Implementing Mechanism ID	Relevant SID Element and Score (if applicable)
Insufficient domestic funds to buy ARVs	As the Zambian economy improves in 2-3 years, local currency appreciation may be possible, resulting in increased proportion of ARVs and commodities procured by GRZ.	Provide cost-effective and reliable procurement services (warehousing and distribution) through strategic sourcing for key health commodities to MOH to meet 45% of the GRZ national target.	OHSS		18159 (GHSC-PSM)	Commodity Security and Supply Chain (5.69)
	Cost effective and reliable procurement services for key health commodities provided.	Increase by 10 the number of vendors and manufacturers eligible for USG funded procurement to reduce lead time				
		Track national supply plans using PipeLine software (including GRZ, UNDP, USAID, etc.) to ensure stock arrives in country when needed.				

Facility level electronic stock management system is not fully rolled out	eLMIS installed in all ART facilities	Strengthen data quality within the eLMIS system through roll out of eLMIS to 300 facilities; training of 600 facility staff members in eLMIS; and training of supervisors in using data from eLMIS system to make key and informed supply chain decisions for commodity forecasting and quantification at facility, district, provincial and national level.	HTXS		EQUIP/181160 (AIDSFree)	Commodity Security and Supply Chain (5.69)
	Ninety percent of facilities capture data in eLMIS system system.		HTXS		181160 (AIDSFree)	
	Integrated data repository for logistics reports created and interoperable with existing systems					
	Data center for lab information established and interoperable with existing systems for viral load vigilance and surveillance to monitor progress toward the third 90.	Install eLMIS in 32 ZDF service delivery points; Train laboratory and pharmacy assistants from the 32 ZDF units in eLMIS.	OHSS		10984	Commodity Security and Supply Chain (5.69)
Insufficient storage space, transport and distribution capacity at localized levels	Ninety percent of facilities have adequate storage space to meet storage requirements.	Procure and install 10 storage in the box units at selected facilities with inadequate storage space in priority districts.	HTXS		18159 (GHSC-PSM)	Commodity Security and Supply Chain (5.69)
		Procure and install 5 warehouse in a box (WIB) units in selected priority districts. WIBs to be installed in proposed areas will service facilities in priority PEPFAR districts.				
		Conduct an assessment to understand storage capacity requirements at the district and health facility level.				
		Strengthen operational efficiency and supply chain management capacity at the central medical stores through training of staff in warehouse management, procurement, forecasting and quantification.				

		Strengthen in-country logistics and supply chain systems where they exist, developing and implementing logistics systems where they don't exist to ensure un-interrupted supply of key health commodities to health facilities through training of staff in warehouse management, procurement, forecasting and quantification.				
		Procure 13 delivery vehicles to support last mile distribution of Health commodities from regional hub to service delivery points.				
		Improve infrastructure to allow for adequate and appropriate storage space	OHSS		11627	Commodity Security and Supply Chain (5.69)
Last mile distribution network is still incomplete	Last mile distribution network completed; Improved stock availability at service delivery points	MSL is fully equipped to deliver all HIV related commodities Ninety percent of facilities stocked according to designed max - min inventory control system				Commodity Security and Supply Chain (5.69)
	No stock outs of any HIV commodities at any facility	Develop policy for logistics management	OHSS		10984	
TOTAL						

Table 6.1.3 Key Programmatic Gap #3: Viral Load Infrastructure

Key Systems Barrier	Outcomes expected after 3 years of investment	Proposed COP/ROP ¹⁶	Budget Code(s)	Activity Budget Amount	Associated Implementing Mechanism ID	Relevant SID Element and Score (if applicable)	
Current VL machines not being used at full capacity	All VL machines are utilized at maximum capacity (50,000-90,000 tests per year depending on the type of VL machines) All adults PLHIV on treatment are receiving annual VL test, and all pediatric receiving VL tests every 6 months	Establish referral linkages between ZDF ART sites, MOH VL labs and Maina Soko Military Hospital (MSMH);	HLAB			Laboratory (4.86)	
		Support ZDF ART sites with transportation to make referrals to MOH and MSMH VL labs	OHSS		10984		
		Support Laboratory Scientists and Technologists at MSMH to participate in VL machine maintenance training at the Africa Center for Integrated Laboratory Training in South Africa					
		Train laboratory staff in viral load equipment use and maintenance	HLAB			Laboratory (4.86)	
		Provide standard operating procedures (SOPs) to all supported laboratories Quarterly technical support and onsite mentorship	OHSS		14507		
		Offer Biomedical engineering courses to lab technicians to ensure all lab equipment is functional and in full use.	HLAB			10207	Laboratory (4.86)
		Improve laboratory infrastructure at Maina Soko and 6 other VL labs to serve priority districts	HTXS			11627, 17479	Laboratory (4.86)
		Establish viral load data warehouse (1)	HTXS			EQUIP	Laboratory (4.86)
		QA, and support to Laboratories.	HLAB			10984	Laboratory (4.86)
Support scale up of viral load testing	HLAB,			18159 (GHSC-PSM)	Laboratory (4.86)		

		Procurement of one viral load platform and backup reagents Training HCWs Support for courier system Cold chain support VL sample storage Targeted lab renovations.	HTXS		17413 17399 17513 10236	
Weak sample transport systems	Electronic VL test results system established VL results received within policy timelines (specific to each lab's standard operating procedures (SOP))	Train ZDF staff in collection, packaging and transportation of DBS specimens and maintaining a separate tracking system for VL shipment documentation. Integrate lessons from the PCR DBS courier system and the "Mwana" text message technology and incorporate into military and other GRZ VL programs to enable the efficient transportation of specimens and reduced turnaround time	HLAB OHSS		10984, 10225, 10227, 14420, 14421	Laboratory (4.86)
		Procurement of motorbikes, cooler boxes, invertors, biohazard bags, batteries, solar panels, freezers, helmets Establish 3 hubs for strengthening EID and viral load testing Introduce Courier System for delivery of DBS and viral load samples to referral centers to improve viral load testing and EID Strengthen Program Mwana SMS initiative	HLAB/ HTXS		14507, 10236, 17479	Laboratory (4.86)
		130 motorcycles and 26 vehicles for priority districts, Courier and communications systems.	HTXS		14507, 14420, 14421, 10227, CIDRZ TBD, 10236, 17413, 17399, 17413	Laboratory (4.86)

		Procure cool boxes and storage containers for sample storage and transport. Cold chain (material Blood collection supplies, cryotubes, cryoboxes, cool boxes, nitrogen cylinder) Test tubes and sample collections devices Freezers, Air-conditioning for the laboratories (incl. maintenance cost) Liquid nitrogen tanks, ancillary equipment (vortex, centrifuges)	HTXS		17413, 17399, 10224, 10225, 14420, 14421, CIDRZ-TBD, FBO-TBD, 11627, 17479	Laboratory (4.86)
Insufficient number of laboratory technicians	An additional 2 lab techs are seconded to each lab with a VL machine in PEPFAR priority provinces	Train ZDF laboratory Technologists and Assistants in VL equipment maintenance and deploy them to MSMH and peripheral ZDF VL centers	HLAB		10984	Laboratory (4.86)
		Train Laboratory staff in viral load equipment use and maintenance	OHSS		14507, 17479	Human Resources for Health (6.17)
		Recruitment of 22 Lab staff	HTXS		14507, 10225, 10227, 14420, 14421, CIDRZ TBD, 17413/17399	Human Resources for Health (6.17)
		Print standardized forms, SOPs and job aids	HTXS		10236	Human Resources for Health (6.17)
		Central lab staff training (11)	HTXS		10236	Human Resources for Health (6.17)
		Train staff in collection, processing and shipping (46, one training per priority district).	HTXS		14420, 14421, 10225, 10227, CIDRZ TBD	Human Resources for Health (6.17)
Inconsistent power supply	All PEPFAR supported VL machines have uninterrupted power supply during hours of operation.	Procure uninterrupted power supply (UPS) units and/or solar power panels and deploy them to MSMH and peripheral ZDF VL centers	HLAB		10984	Laboratory (4.86)
		Procurement of invertors as back-up electricity supply during power cuts	HLAB		14507	Laboratory (4.86)
		Power improvements (central labs and facility labs) – 7 solar panel systems procurement and installation, 7 inverters, 7 batteries and 7 UPS units	HTXS		17413, 11627, 17479	Laboratory (4.86)
TOTAL						

6.2 Critical systems investments for achieving priority policies

Analyses conducted by the PEPFAR Zambia team identified a number of gaps in the treatment and prevention cascade that threaten the implementation of test and start and new service delivery models. These include:

- Inadequate human and infrastructure capacity to commence and retain patients on treatment, resulting in sub-optimal quality of care and congestion of health facilities.
- Routine viral load testing is not being done due to limited capacity. Though the country has 11 viral load machines, situated in all provincial centers, they are not being used at full capacity and there are challenges with specimen transportation and return of results.
- Inadequate commodity assurance along the continuum of care. HTC, EID and VMMC commodities are particularly vulnerable, in part because of the relatively low contribution of the GRZ towards their procurement (Table 1.2.1 and Table 1.2.2).
- Weak linkages between community services and facilities with no clear coordination systems. There is no centralized data system and limited use of modern technology, such as mobile phones, to manage coordination.

Tables 6.2.1 and 6.2.2 provide more detail on the critical systems barriers that must be addressed to allow for successful implementation of test and start and new service delivery models. Please note that some these systems barriers overlap with those presented in Section 6.1 above. Activities resourced by impact funds are shaded in grey.

Table 6.2.1 Test and Start						
Key Systems Barrier	Outcomes expected after 3 years of investment	Proposed COP/ROP ¹⁶	Budget Code(s)	Activity Budget Amount	Associated Implementing Mechanism ID	Relevant SID Element and Score (if applicable)
Insufficient resources for commodities	National needs for commodity procurement met through commitments from GRZ and other stakeholders.	Procure high energy protein supplements (HEPS) for use in therapeutic feeding for malnourished adult ART clients and OVC	OHSS		10984	Commodity Security and Supply Chain (5.69)
		Procure HIV test kits	HVCT		18161 (GHSC-RTK)	Commodity Security and Supply Chain (5.69)
		Procurement ARVs to meet a portion of the GRZ national target through strategic sourcing.	HTXD		18159 (GHSC-PSM)	Commodity Security and Supply Chain (5.69)

		Procure ARV drugs including ARV drugs for PMTCT-B+, ACTs DREAMS and, test and start initiatives in support of the GRZ National ART program.				
		Procure opportunistic infections drug, with special emphasis on procurement Cotrimoxazole (both adult and pediatric formulations) and support community ART services	HBHC		18159 (GHSC-PSM)	Commodity Security and Supply Chain (5.69)
		Ensure that viral load and CD4 reagents are in sufficient supply and available at health facilities through an efficient and accountable logistics and supply chain system.	HTXS PDCS PDTX		18159 (GHSC-PSM)	Commodity Security and Supply Chain (5.69)
		Procure condoms	HVOP		7422 (CCP)	Commodity Security and Supply Chain (5.69)
		PPE, anthropometric equipment, transport, job aids, etc. for 807 CHWs	HTXS		17413, 17399, 10224, 10225, 14420, 14421, CIDRZ-TBD, FBO-TBD	Commodity Security and Supply Chain (5.69)/Service Delivery (4.72)/Human Resources for Health (6.17)
		Support for forecasting and quantification for commodity security	OHSS		13787	Commodity Security and Supply Chain (5.69)
Commodity storage and distribution		See Table 6.1.2				
Official Test and Start Policy not yet released	Test and Start officially launched before end of 2016	Support to GRZ at adopt WHO treatment guidelines: meetings, printing, dissemination and orientation of HCWs	HTXS		17413/17399	Service Delivery (4.72)
TOTAL						

Table 6.2.2 New and efficient service delivery models						
Key Systems Barrier	Outcomes expected after 3 years of investment	Proposed COP/ROP ¹⁶	Budget Code(s)	Activity Budget Amount	Associated Implementing Mechanism ID	Relevant SID Element and Score (if applicable)
Limited HRH (including Community Health Assistants)	All PEPFAR priority districts are adequately staffed with CHAs per the government's Staffing Establishment (staffing plan).	Support PSE of nurse/midwives to provide PMTCT and other HIV services.	OHSS		17425	Human Resources for Health (6.17)
		Recruitment of 297 CHWs	HTXS		17399/17413	Human Resources for Health (6.17)
		Training, mentoring and support supervision of HCWs (20 sessions)	HTXS		17399, 17413, 10224, 10225, 14420, 14421, CIDRZ-follow-on, FBO-TBD	Human Resources for Health (6.17)
		Subcontracting of 20 Private pharmacies/private medical practitioners	HTXS		17399, 17413, 10224, 10225, 14420, 14421, CIDRZ-follow-on, FBO-TBD	Human Resources for Health (6.17)
		Recruitment of 40 unemployed Health care workers	HTXS		17399/17413	Human Resources for Health (6.17)
Limited viral load knowledge and capacity	All VL machines are utilized at maximum capacity (50,000-90,000) tests per years per machine depending on machine type. All adults PLHIV on treatment are receiving annual VL test, and all pediatric receiving VL tests every 6 months	Refer to Table 6.1.3				
Limited EMR coverage	All HIV patients have established EMR profiles and SmartCards	Refer to Table 6.1.1				
TOTAL						

6.3 Proposed system investments outside of programmatic gaps and priority policies

This table includes other system investments that the PEPFAR Zambia team proposes. These activities are essential to reaching the 90-90-90 targets and achieving a sustainable national HIV response. Activities resourced by impact funds are shaded in grey.

Table 6.3 Other Proposed Systems Investments							
Systems Category* (only complete for categories relevant to country context)	Activity	For each activity, indicate which of the following the activity addresses: 1) First 90; 2) Second 90; 3) Third 90; or 4) Sustained Epi Control. (Teams may select more than one.)	Outcomes expected after 3 years of investment	Budget Amount	Budget Code(s)	Associated Implementing Mechanism ID	Relevant SID Element and Score (if applicable)
Finance							
	Support finalization, dissemination and implementation the National Healthcare Financing Strategy, and build capacity in public financial management to improve accountability.	1,2,3,4	National HCF Plan completed and increased accountability in use of public resources; expenditure reports made available to public.		OHSS	17425	Domestic Resource Mobilization (5.56)/ Technical and Allocative Efficiencies (6.90)
	Strengthen host government's internal financial controls and procurement systems to improve service delivery.	1,2,3,4	Improved allocative efficiency and more accountable use of public resources through periodic review of expenditures.		OHSS	16656	Technical and Allocative Efficiencies (6.90)
Governance							
	Provide leadership and support for national and district-level data use for decision-making	4	Demonstrated use of data for decision-making by Districts and MOH		OHSS	10224, 17513	Epidemiological and Health Data (4.62)
HRH - Systems/Institutional Investments							

	Provide management and leadership training to facility and program managers at PMOs, DMOs and health facilities and support FETP	1,2,34	Ninety percent of facility managers trained and mentored to improve HIV program management capacity at all levels of health system		OHSS	17425, 11694, 17513	Human Resources for Health (6.17)
	Strengthen structures and systems for QI, clinical mentorship and central-level coordination	1,2,34	Ninety percent of facility and central-level managers trained and mentored to improve quality of HIV services		OHSS	17425, 13787, 17513, 17514	Human Resources for Health (6.17)
	Support pre-service training (NEPland HIV Specialists) for health providers in advanced modules of epidemiology and biostatistics. Develop competencies among MOH staff in field epidemiology, including quality improvement, through the Zambia Field Epidemiology Training Program with field assignments to HIV control units	1,2,34	Ninety percent of health providers trained and mentored to improved quality of HIV services MOH staff in leadership positions (Director, Deputy Director, Team Lead) with demonstrated competencies in field epidemiology, quality improvement, and using data for decision making increase by 200%		OHSS	17425, 10235, 13684, 10207, 17513, 10235, 11694	Human Resources for Health (6.17)
	Improve HR management and performance through roll out of HRIS, national Performance Management Package and Annual Performance Appraisal System	1,2,34	Ninety percent of HR managers trained and mentored to improve HIV management, performance and productivity		OHSS	17425, 16833, 17513	Human Resources for Health (6.17)
	Support development, dissemination and implementation of HRHSP 2017-22	1,2,34	HRHSP completed and disseminated.		OHSS	17425	Human Resources for Health (6.17)
Inst & Org Development							
	Provide technical assistance to GRZ for national surveys.	1,2,3,4	Improved quality of national surveys by GRZ to inform programs		OHSS	17500	Human Resources for Health (6.17)
Laboratory							
	Address major service and quality gaps in clinical laboratories through training of effective senior managers to increase accountability of	1,2,34	Lab managers in 17 facilities trained and mentored for improved laboratory management, performance of HIV		HLAB	17513, 10207, 17478, 14420, 14421, 10227, 10225	Laboratory (4.86)

	laboratory staff		testing and related assays and general productivity				
	Expand enrollment and number of analyses evaluated in Proficiency Testing (PT) programs	1,2,34	Increased testing reliability and decreased time to diagnosis		HLAB	10236	Laboratory (4.86)
	Capacity building for independent evaluation of new diagnostics	1,2,34	Ten laboratory staff members trained to increase capacity for evaluating new diagnostics		HLAB	17513, 10236, 17499	Laboratory (4.86)
	Continue and extend SLMTA training programs toward accreditation of laboratories in high impact provinces and targeted facilities	1,2,34	Ninety percent of participating facilities achieve perfect PT scores through increased laboratory testing reliability and decreased turnaround time		HLAB	17513, 17477, 17478, 17891	Laboratory (4.86)
	Continue and expand EQA activities in high impact provinces and targeted sites for laboratory diagnosis of HIV, TB and other comorbidities and opportunistic infections	1,2,34	Ninety percent of participating facilities achieve perfect PT scores through increased laboratory testing reliability and decreased likelihood of treatment errors		HLAB	10236, 17499	Laboratory (4.86)
	Address national deficiencies in procurement and distribution of laboratory supplies	1,2,34	Tests available in 17 labs to address commodity stockouts		HLAB	17513	Laboratory (4.86)
	Address national deficiencies in biosafety training for laboratory staff and implementation of biosafety procedures in clinical laboratories	1,2,34	Increased safety in HIV testing and related laboratory testing procedures		HLAB	17513, 10236, 17479	Laboratory (4.86)
	Enhance QA procedures for HIV RT in Zambia	1,2,34	Ninety percent of participating facilities achieve perfect PT scores through increased improved laboratory testing reliability and decreased likelihood of treatment errors		HLAB	10236	Laboratory (4.86)

	Improve and re-establish diagnostic bacteriology services toward control of opportunistic infections and comorbidities in PLHIV in high impact provinces and targeted sites	1,2,34	Improved treatment outcome through diagnosis and control of opportunistic infections in 5 facilities		HLAB	17513, 17477, 17479	Laboratory (4.86)
	Support to Zambia through CDC HQ initiatives for broad health infrastructure improvements.	1,2,34	Ninety percent of laboratory managers trained and mentored to improved epidemiological data to guide diagnosis and therapy.		HLAB	17513, 17479, 10207	Laboratory (4.86)
	Work toward establishment of a National Public Health Institute with a National Public Health Laboratory in Zambia	1,2,34	National Public Health laboratory manager trained and mentored to improve testing reliability and accurate survey data for strategic information initiatives.		HLAB	17513, 17479	Laboratory (4.86)
	Build laboratory equipment maintenance capacity in Zambia	1,2,34	Twenty-seven laboratory scientists and bio-engineers trained to decreased gaps in testing availability		HLAB	17479	Laboratory (4.86)
	Expand availability of Laboratory Information and Data Management Systems in high impact provinces and at targeted sites	1,2,34	Establishment and maintenance of lab information system at five facilities to improve patient care and records management		HLAB	17479	Laboratory (4.86)
	Work to improve and enhance curriculum development, pre-service training and staff retention for laboratory staff	1,2,34	Revision of national lab technologies training program curriculum to improve patient care		HLAB	17478,	Laboratory (4.86)
	Improve laboratory specimen referral systems in Zambia	1,2,34	Establish sample transportation system in 5 provinces to increase number of patients screened for HIV and referred for treatment		HLAB	17513, 14420, 14421, 10227, 10225	Laboratory (4.86)
Strategic Information							
	Support the national health Information System	1,2,3,4	Increased accuracy, availability, timeliness, access and use of quality		HVSI	977	Epidemiological and Health Data (4.62)

			<p>program data at the national level and in all provinces to support epidemic control.</p> <p>Improved facility-level national health information system data entry.</p> <p>Improved data use for patient care and HIV program management at 90% of facility sites in all PEPFAR-supported districts and provinces.</p>			<p>2021</p> <p>10984</p> <p>13391</p> <p>14507</p> <p>16690</p> <p>17413</p> <p>17425</p> <p>17439</p> <p>17514</p>	
	Procure Tablets/ phones, data collection and reporting tools	4	Increased accuracy, availability, timeliness, access and use of quality program data to support epidemic control.		HTXS	17399/17413	Epidemiological and Health Data (4.62)
	HIV Impact Assessment (HIA)	3	<p>Provide for return of 100% of results to regional sites.</p> <p>Accurate estimates of HIV incidence using CD4/viral load results.</p>		HVSI	17499	Epidemiological and Health Data (4.62)
	Integrated Bio-Behavioral Surveillance System (IBBSS)	4	<p>Development and approval of sustainable protocol for 3 KPs by stakeholders particularly MOH and NAC.</p> <p>Complete data collection for size estimations for 3 KPs in towns with greater than 100K population.</p> <p>Complete IBBSS data collection for at least 1 KP in towns greater than 100K population.</p>		HVSI	10224;13033	Epidemiological and Health Data (4.62)
Systems Development							
TOTAL							

7.0 Staffing Plan

7.1 Staffing analysis

The USG pursues geographic distribution where feasible and technical leadership by Agency at a national level as required. For Zambia, this means that in the area of treatment and lab, CDC covers districts that fall within the Southern and Lusaka provinces and USAID covers the high yield districts within Central and Copperbelt. Each agency has specific areas that it covers nationally. For example, the CDC undertakes the electronic medical record whereas USAID leads in the provision of supply chain and logistics, community-level care and support, and programming that relates to the vulnerable and orphans.

7.3 Justification of new positions proposed for PEPFAR COP 2016

7.4 Major changes to the “cost of doing business” (CODB)

APPENDIX A

Table A.1 and A.2 Program Core, Near-core, and Non-core Activities for COP 16

See attached Appendix A.

APPENDIX B

B.1 Planned Spending in 2016

Table B.1.1 Total Funding Level		
Applied Pipeline	New Funding	Total Spend
\$US17,056,048	\$US342,863,583	\$US359,919,631

Table B.1.2 Resource Allocation by PEPFAR Budget Code (New Funding Only)

Budget Code	Description	Amount(\$)
CIRC	Male Circumcision	11,827,499
HBHC	Adult Care and Support	21,532,882
HKID	Orphans and Vulnerable Children	22,403,844
HLAB	Lab	10,737,914
HMBL	Blood Safety	-
HMIN	Injection Safety	-
HTXD	ARV Drugs	46,163,068
HTXS	Adult Treatment	105,696,747
HVAB	Abstinence/Be Faithful Prevention	2,068,977
HVCT	Counseling and Testing	17,887,684
HVMS	Management & Operations	18,371,278
HVOP	Other Sexual Prevention	13,710,199
HVSI	Strategic Information	14,695,149
HVTB	TB/HIV Care	11,831,932
IDUP	Injecting and Non-Injecting Drug Use	-
MTCT	Mother to Child Transmission	16,952,412
OHSS	Health Systems Strengthening	11,003,990
PDCS	Pediatric Care and Support	6,577,339
PDTX	Pediatric Treatment	11,402,669
TOTAL		342,863,583

B.2 Resource projections

To determine target-based budgets, PEPFAR Zambia considered first the district classification, then the total target, and then the unit expenditure associated with that district classification. Lump sum budgets were based on past expenditures for similar items/activities, projections, quantifications (for

commodities); and research. The primary data sources used to determine required resources were the data pack and Zambia's expenditure analysis.