## OPTIONS Country Situation Analysis Interim Findings: Zimbabwe

FSG in partnership with Pangaea Global





## **OPTIONS** Introduction



One of five cooperative agreements awarded by USAID with PEPFAR funding through Round Three of the Annual Program Statement (APS) for Microbicide Research, Development, and Introduction.

### **OPTIONS** Objective

Develop a streamlined, adaptable product delivery platform for current and future microbicide and ARV-based HIV prevention options.

### **OPTIONS Consortium Members**



### **OPTIONS** Consortium Aims

### **OPTIONS** has four major goals over the next five years:

AIM 1	AIM 2	AIM 3	AIM 4
Develop evidence- based <i>business</i> <i>cases and a</i> <i>coordinated</i> <i>investment</i> <i>strategy</i> for ARV- based prevention product introduction to ensure timely global, national and private sector action on priority areas	Support <i>country</i> <i>level</i> regulatory approval, policy development, program planning, marketing and implementation strategies for ARV- based prevention product introduction	Facilitate and conduct <i>implementation</i> <i>science</i> (IS) to advance the introduction of and access to microbicides and ARV-based prevention technologies	Provide technical assistance and support for health systems strengthening (HSS) with rapid use of data to identify and address implementation bottlenecks throughout the value chain

### **OPTIONS** How We Work

- OPTIONS is not a service delivery project; we apply systems thinking to support and accelerate product introduction
- Our support is flexible and is designed to be responsive to national country priorities and plans
- In addition to Pangaea, who has significant experience working on HIV prevention and treatment in Zimbabwe, our consortium brings multidisciplinary expertise to the effort to introduce female-controlled HIV prevention products in Zimbabwe
- We are taking significant steps to ensure we do not replicate existing or ongoing work – our mission is to fill gaps and help answer key questions as outlined by the national government, the USAID country mission, and other key local stakeholders

### About the Situation Analysis

- This document includes a summary of **preliminary findings** from the OPTIONS situation analysis for oral PrEP in Zimbabwe, completed by FSG with significant input and consultation from Pangaea Global AIDS
- The situation analysis aims to take a **comprehensive and robust approach** to assessing the "state of the field" for oral PrEP in Zimbabwe, including opportunities and resources as well as gaps and expected challenges
- This document reflects findings from secondary **research** and in-country consultations with key stakeholders
- This is designed as a "living document," to be updated on an ongoing basis with additional information and stakeholder feedback to inform ongoing planning and decision-making around oral PrEP
- If you have any **updates**, additional information, or follow-up questions regarding this situation analysis, please email Neeraja Bhavaraju at neeraja.bhavaraju@fsg.org

### **Executive Summary**

- Zimbabwe is **early-stage** in creating the conditions, policies, and practices needed to successfully roll-out and scale-up PrEP. The country's HIV response has historically been on the **leading edge** among peers and generally **responsive to global guidelines**.
- In March 2016, the Ministry of Health and Child Care (MOHCC) convened a national working group to adapt the WHO "test and start" guidelines issued in November 2015. As part of that effort, a sub-committee on planning for oral PrEP has been established. This sub-committee will meet to develop national guidelines on PrEP and plan for roll-out in the coming months, with an expected timeline of June 2016.
- The key challenges for PrEP in Zimbabwe are ensuring timely **approval of Truvada for prevention**, identifying and agreeing on **target populations**, deploying an **effective communications strategy**, and navigating the **health system capacity limitations** inherent in closing Zimbabwe's existing treatment gap while investing in "new" prevention methods.
  - Zimbabwe will soon release an updated HIV strategic plan that focuses on key populations and combination prevention packages, but omits PrEP. While some have a sense that not enough is known yet to invest in PrEP, this may be changing. In early 2015, MOHCC officials expressed interest in introducing PrEP for a broad range of high-risk populations, including adolescent girls and young women (AGYW).
  - There are significant legal and cultural barriers to quantifying and reaching the key groups for whom PrEP would be well-suited, particularly female sex workers (FSW) and men who have sex with men (MSM), whose practices are illegal, and AGYW, who face stigma and opposing cultural norms related to HIV prevention.
  - Zimbabwe has made solid progress in expanding coverage of ART and HTC sites, but treatment gaps remain; in addition, health care worker knowledge and attitudes and end user awareness and demand have continued to be critical factors determining the success of HIV prevention and treatment interventions.
- Despite these challenges, PrEP rollout in Zimbabwe will be facilitated by the country's many strengths, including increasingly harmonized procurement, distribution, and M&E systems, an active civil society, the presence of the DREAMS initiative, and a nearly complete PrEP demonstration project (SAPPH-IRe).
- In the near-term, decisions on PrEP in Zimbabwe revolve around the question: "How much should be invested in PrEP, for whom, how, and in which areas?"

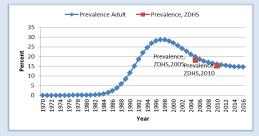
### Current State of HIV in Zimbabwe

#### Context

- Zimbabwe has one of the largest HIV burdens in Southern Africa, with 1.2M people living with HIV (PLHIV)
- The HIV epidemic exhibits growing rates among women HIV prevalence is now 1.5x higher among women than men
- **Key drivers** of the epidemic include multiple and concurrent partnerships, inter-generational sex, discordant couples and low (but rising) circumcision rates; several **key geographies and populations** listed below remain disproportionately affected by the epidemic
- Despite high absolute HIV burden and economic challenges, **rates have declined substantially in recent years** (prevalence reduced from 25% to 15%, adult incidence reduced by half to 0.98%, and 75% fewer children born from HIV+ mothers in the last decade)

#### Trends

• Prevalence has been decreasing in recent years:

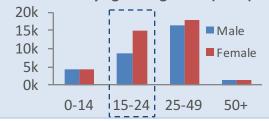


Incidence has been decreasing in recent years:



#### Demographics

- Source of new infections (not mutually exclusive):
  - 55% among people in stable unions
  - 36% among young people
  - 12% among sex workers and clients
  - 4-7% among MSM and partners
- Prevalence (not mutually exclusive):
  - 17% among women in general
  - 12% among men in general
  - 5-6% among women 15-24 years
  - 50-70% among FSW
  - 14% in prisons
- Incidence by age and gender (2013):



#### Geography

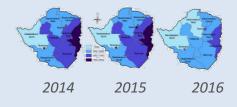
- Geographic hotspots:
  - Three provinces: Matabeleland
    North, Bulawayo, Matabeleland South
    14 additional districts recently

named as hotpots

• HIV prevalence by province: % of people 15-49 years old



HIV incidence by province: New infections, people 15-49 years



Sources: (1) Zimbabwe National HIV and AIDS Estimates: 2013. Ministry of Health and Child Care. 2013; (2) Zimbabwe National HIV and AIDS Strategic Plan 2011-2015 (ZNASP II). Ministry of Health and Child Care and National AIDS Council. March 2015; (3) Zimbabwe National HIV and AIDS Strategic Plan 2015-2018 (ZNASP III) [Not officially launched]. Ministry of Health and Child Care and National AIDS Council. March 2015; (3) Zimbabwe National AIDS Strategic Plan 2015-2018 (ZNASP III) [Not officially launched].

### **HIV Prevention and Treatment**

#### Context

- Improvements in prevalence and incidence rates primarily due to successful prevention efforts and reduction in personal risk-taking behavior, while HIV-related deaths have been reduced by over 60% due to Zimbabwe's treatment and support program
- For prevention, the government has prioritized **social and behavior change** interventions, **condom** promotion and distribution (coupled with intensified **awareness** on correct and consistent use of condoms), and **voluntary medical male circumcision**
- For treatment, **HIV testing and counselling (HTC)** has been identified as a key entry point for **ART**, and **provider-initiated HTC** (which comprises 80% of all current testing in Zimbabwe) is being scaled up
- National HIV response is soon beginning its third and most advanced stage (ZNASP III), focused on key populations and geographies

#### **Current Efforts**

- Sustaining current treatment and care investment
- Rapidly scaling up **VMMC** to 80% by 2018 using WHO guidelines/standards
- **Comprehensive prevention programs** for sex workers, adolescent and young people, discordant couples
- Scaling up innovative community HIV testing initiatives, including self-testing kits via a PSI pilot funded by UNITAID
- Rolling out PITC to 94% of health facilities
- Integrating social norm and behavior change interventions into delivery of social and HIV-related services
- Community system strengthening
- Preventing **secondary increases in the epidemic** due to lower levels of funding
- Zimbabwe has allowed the existence of informal lobby groups for FSW, prisoners, and MSM

#### **Remaining Needs**

- **Coverage gaps:** Zimbabwe is behind by 55% in providing treatment for HIV+ children; most commitments for ART end in 2016, which will create additional gaps for HTC
- Data gaps: data gaps exist generally and particularly for key populations
- Key populations: Current strategies are inequitable to key populations (e.g., need for more female-controlled options, as 27% of Zimbabwe's women have experienced sexual violence in their lifetime; irregular condom use among MSM) and legal codes and stigma pose challenges for key populations
- Health system: Zimbabwe's health system has been weakened by economic crisis and is often seen as not "friendly" to women and adolescents; community organizations have often lacked definition, cohesion, prioritization, and funding

Sources: (1) Zimbabwe National HIV and AIDS Estimates: 2013. Ministry of Health and Child Care. 2013; (2) Zimbabwe National HIV and AIDS Strategic Plan 2011-2015 (ZNASP II). Ministry of Health and Child Care and National AIDS Council. March 2015; (3) Zimbabwe National HIV and AIDS Strategic Plan 2015-2018 (ZNASP III). [Not officially launched]. Ministry of Health and Child Care and National AIDS Council. March 2015; (3) Zimbabwe National AIDS Council. March 2015.

## **Key Considerations for PrEP**

#### Why PrEP is under consideration in Zimbabwe

- Achieving national targets: Zimbabwe has demonstrated strong political will by adopting the global 90-90-90 goals and committing to reducing new infections by 75%. However, this target may be difficult to meet without reducing infection among high-incidence populations (e.g., sero-discordant couples, AGYW, FSW, and MSM) through prevention methods appropriate for these populations. As one MOHCC representative noted, "There is no way to move towards zero new infections unless we have PrEP as part of the interventions package."
- Protecting human rights and upholding zero discrimination: Several of the high-risk populations for whom PrEP is most appropriate are also the populations most discriminated against by Zimbabwean society and legal frameworks (e.g., FSW, MSM). Excluding PrEP from the prevention strategy runs contrary to Zimbabwe's vision for "zero discrimination."
- **Promoting equity:** Zimbabwe promises to "uphold equity-oriented interventions that promote allocation of resources preferentially to the needy so as to address challenges related to unfair differences" in outcomes. PrEP is appropriate for those most left behind by the country's HIV response.
- Enabling a gender-sensitive response: Zimbabwe's strategic plan commits to "promoting and implementing a gender responsive national AIDs response in the next five years," but the dominant HIV prevention strategies recommended and prioritized are male-controlled (e.g., condoms, VMMC)
- Ensuring truly "comprehensive" prevention: Zimbabwe's plan calls for a "comprehensive prevention program for sex workers and adolescent girls." The current package for FSW includes HIV testing and treatment, condom promotion, solidarity programs, violence and abuse support, and protective policing, but excludes health education, skills training, PrEP, and others.

### **Current PrEP Context**

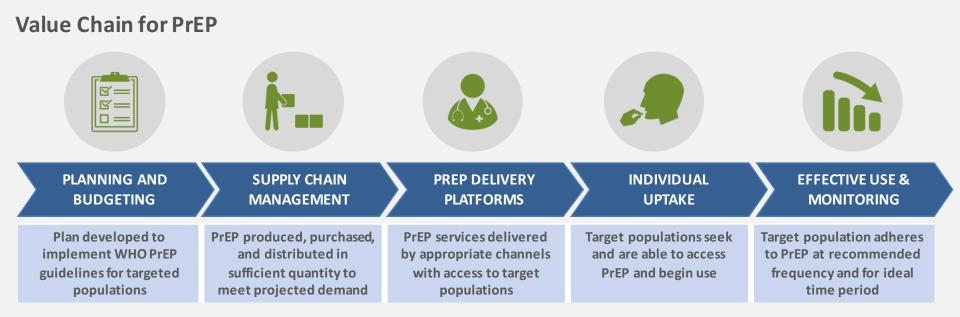
- Zimbabwe has convened a national working group to adapt the WHO "test and start" guidelines in March 2016, including a sub-committee on PrEP
- Truvada has been registered for prevention, but is currently approved only for treatment; no generics or other alternative forms of oral PrEP are approved for prevention
- PrEP demonstration project led by CESSHAR is ending in 2016; DREAMS program focused on AGYW is launching in 2016 with a PrEP component
- New HIV strategic plan being launched in early 2016 includes comprehensive prevention but excludes PrEP; potential to push for PrEP inclusion during mid-term review in late 2016 or early 2017
- While FSW and AGYW are prioritized for HIV prevention, not all key populations are meaningfully included (e.g., MSM) and none are prioritized for PrEP specifically
- Significant legal and cultural factors continue to marginalize MSM and FSW and obscure ability to quantify the size and HIV rates of these populations.

Sources: (1) Achieving an AIDS-Free Generation for Gay Men and Other MSM in Southern Africa. amfAR, The Foundation for AIDS Research and Johns Hopkins Bloomberg School of Public Health. May 2013; (2) FSG interview with Pangaea Global. December 16, 2015; (3) Zimbabwe National HIV and AIDS Strategic Plan 2015-2018 (ZNASP III) [Not officially launched]. MOHCC and National AIDS Council. March 2015.

### What's Needed to Introduce PrEP

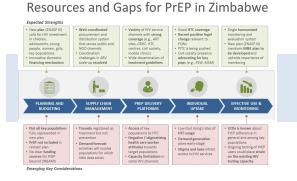
OPTIONS aims to take a robust and comprehensive approach to analyzing the situation around PrEP. The goal of this exercise is to **identify key bottlenecks and opportunities to introduce and scale PrEP effectively**, particularly for women and girls, in each OPTIONS country. This information will eventually feed into the investment cases and will be used to inform and capture country progress.

To identify what's needed for PrEP introduction, we have **organized the rest of the situation analysis along the PrEP value chain**, introduced below.

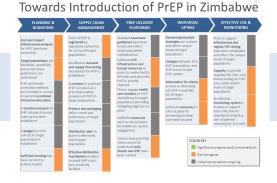


## Value Chain Analyses

### The following slides hold three analyses along the value chain



- Resources that exist incountry to support and accelerate PrEP introduction
- Gaps in resources that could act as barriers to effective PrEP introduction
- Key **considerations** to inform comprehensive in-country planning for PrEP introduction



- A list of **specific factors** that need to be in-place to effectively introduce PrEP for each component of the value chain along with progress todate for each factor
- Details on current situation, key actors, responsibilities, timelines and progress towards each activity are included in the appendix

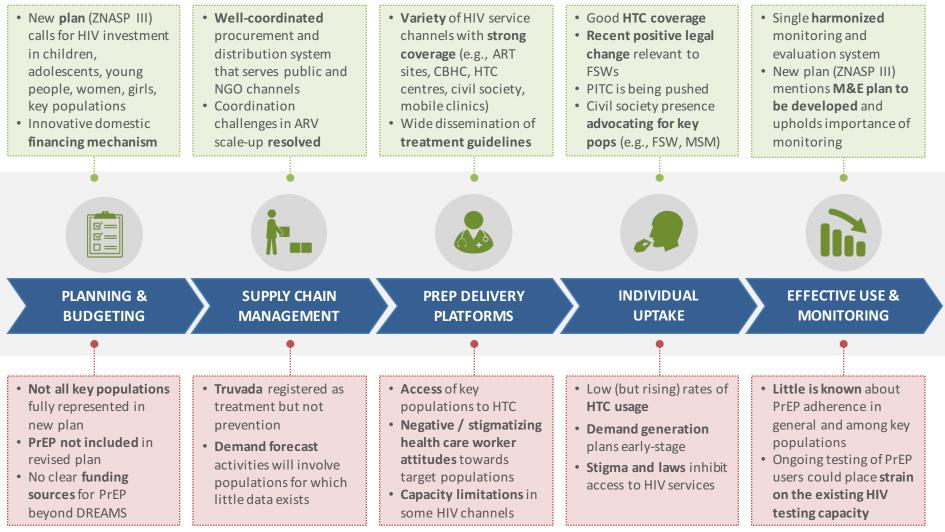
#### Key Questions for PrEP in Zimbabwe



- Remaining questions to inform in-country discussions and planning
- Remaining questions to inform ongoing modelling, research and analysis efforts
- Opportunities for other partners to support acceleration of PrEP introduction

### Resources and Gaps for PrEP in Zimbabwe

#### **Expected Strengths**



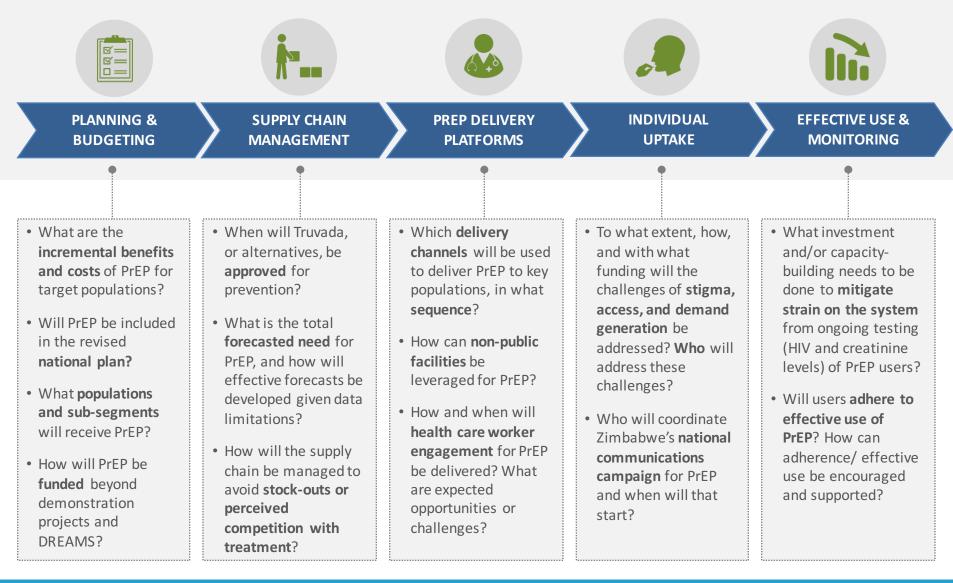
#### **Emerging Key Considerations**

### Towards Introduction of PrEP in Zimbabwe

PLANNING & BUDGETING	SUPPLY CHAIN MANAGEMENT	PREP DELIVERY PLATFORMS	INDIVIDUAL UPTAKE	EFFECTIVE USE & MONITORING
Impact, cost and cost- effectiveness analyses for PrEP as part of comprehensive HIV prevention portfolio	Regulatory <b>approval</b> of form(s) of oral PrEP by authorities	Issuance of standard <b>clinical guidelines</b> for prescription and use of PrEP	Clear and informative communications on PrEP for general public audiences	Established plans to support <b>effective use</b> <b>and regular HIV,</b> <b>creatinine testing</b> that reflect the unique
Identification and quantification of <b>target populations</b> for PrEP	Effective <b>demand and</b> supply forecasting mechanisms for PrEP	Sufficient infrastructure and human resources to conduct initial HIV	Development of demand generation strategies targeted to unique needs of different populations	needs of target populations Capacity to provide
Inclusion of PrEP and female-controlled methods in current or upcoming <b>national HIV</b> prevention plans	Manufacturer identification and <b>contract</b> negotiation to purchase PrEP	tests and prescribe PrEP in priority channels Plan to engage <b>health</b>	Linkages between HTC, PrEP prescription, and PrEP access to enable PrEP uptake	ongoing HIV and creatinine level testing for PrEP users accessible to target populations
<b>Timeline and plan</b> for PrEP introduction and scale-up	Product and packaging design to meet target population needs and preferences	care workers on PrEP and delivery to target populations (including mitigating stigma)	Information for clients on how to effectively use PrEP for all target populations	<b>Monitoring system</b> to support data collection for ongoing learning (e.g., rate of patients
A <b>budget</b> for PrEP roll-out to target populations	Development of <b>distribution plan</b> for PrEP to reach target populations	Tools to help potential clients and HCW understand <b>who</b> should use PrEP	roll-out plans for demand generation	returning for 2nd visit, non-HIV STI rates)
<b>Sufficient funding</b> to achieve targets	<b>Effective distribution</b> <b>mechanisms</b> to avoid PrEP stock-outs in priority facilities	Sufficient <b>resources</b> to roll-out plans for healthcare worker engagement	Significant progre Early progress Initial conversation	ess and/or momentum ons ongoing

**APRIL 2016** 

### Key Questions for PrEP in Zimbabwe



## **Key Stakeholders for PrEP**

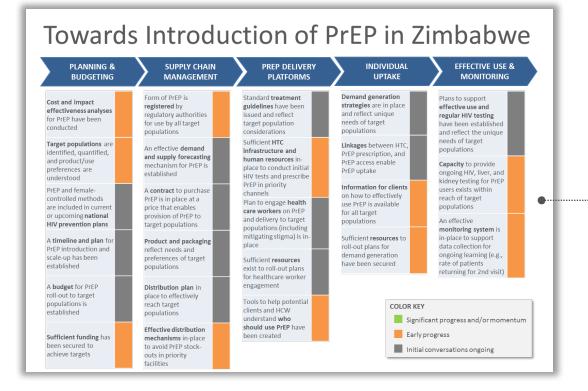
	PLANNING & BUDGETING	SUPPLY CHAIN MANAGEMENT		PREP DELIVERY PLATFORMS		INDIVIDUAL UPTAKE		EFFECTIVE USE & MONITORING
ers	MOHCC develops national st	rategic plan, identifies drug nee	eds	s, does forecasts, specifies	deliv	very timelines, creates treat	men	t guidelines
National stakeholders	NAC provides logistical and technical assistance	NatPharm quantifies drug needs and oversees storage					for	nd <b>NAC</b> is responsible overseeing monitoring valuation
nal sta	during plan preparation Technical working groups	MCAZ performs quality assurance and registration						valuation
Natio	focused on key themes are involved in planning	<b>SPB</b> regulates and manages public procurement				NAIDS supports civil ociety coordination		
		<b>CCM</b> oversees Global Fund proposals and grants						
ters	<b>Civil society groups</b> (e.g., CeSSHAR, Katswe Sisterhood, GALZ, ZNNP+, ZAN, WAG, WASN) advocate for key population inclusion in plan, equitable access, and demand generation							
Local Implementers	Pangaea can help ensure inclusion of key populations in its secretariat role							
mple	Key populations are included in technical working groups but more efforts are needed to ensure meaningful representation							
ocal I	<b>CESHHAR</b> conducting only PrEP impact study in Zimbabwe (among FSW)	Local manufacturers	1	Health care facilities alre	eady	delivering ART likely to be	thef	irst to deliver PrEP
-		have had some involvement in ARV production in the past	Other public HIV service centers, ART sites, mobil		<b>nnels</b> could potentially deli nics)	ver P	rEP (e.g., CBHCs, HTC	
	Specific organizations will be determined upon national level implementation plans					<b>ition partners</b> may play a ro ns (e.g., FHI,PSI, OPHID, ZAF		
				· · · · · · · · · · · · · · · · · · ·		uth centers, sex worker clin e in ensuring PrEP access ar		-
lors	International bilateral funde	ers and domestic public funding	g so	ources (e.g., PEPFAR, DFID	, CIF	F, CIDA, Zimbabwe Nationa	I AID	S Trust Fund)
Donors	Multilateral donors (e.g., Glo	obal Fund, WHO, UNITAID)						

Multilateral donors (e.g., Global Fund, WHO, UNITAID)

# **APPENDIX**

A. Value Chain DetailB. Timeline of Major Research and ActivitiesC. References

## Appendix A: Value Chain Detail



The following slides provide additional detail on each section of the PrEP value chain in Zimbabwe



### **Planning for PrEP**

#### **Readiness for PrEP Introduction**

Readiness Factor	Progress
Impact, cost and cost- effectiveness analyses for PrEP as part of comprehensive HIV prevention portfolio	<ul> <li>CESSHAR demo project underway; potential for additional studies (e.g., PSI study on willingness to pay, funded by UNITAID)</li> <li>BMGF compiling cost data from PrEP demo projects to create standardized costing model</li> </ul>
Identification and quantification of <b>target populations</b> for PrEP	<ul> <li>Priorities include comprehensive prevention programs for SW, adolescent and young people, people in stable unions, and discordant couples, with a focus on geographic hotspots. Target populations for PrEP specifically have not been identified</li> </ul>
Inclusion of PrEP and female-controlled methods in current or upcoming <b>national</b> <b>HIV prevention plans</b>	• PrEP has not yet been included in National Strategic Plans, but the process to do so is beginning and there is movement to include it.
Timeline and plan for PrEP introduction and scale-up	• A TWG has been convened to adapt WHO Test and Start Guidelines for Zimbabwe as well as a sub-committee on PrEP. There is a timeline for completing guidelines, these guidelines will guide implementation.
A <b>budget</b> for PrEP roll-out to target populations	<ul> <li>Very early budget considerations and thinking happening as part of broader PrEP planning.</li> </ul>
Sufficient funding to achieve targets	• Early conversations have taken place, yet little clarity exists. Some small initial funding expected for PrEP from DREAMS and likely from UNITAID

#### **Key Stakeholders**

- **MOHCC** is responsible for developing national strategic plan as well as convening a the guideline adaptation TWG for WHO guidelines on UTT and PrEP, and the PrEP sub-committee
- Country Coordinating Mechanism oversees GF proposals and grants
- Technical working groups focused on key themes are involved in planning
- **Key populations** are included in these groups, but more efforts are needed to ensure meaningful representation
- NAC provides logistical and technical assistance in the preparation of plan
- Advocacy groups for key populations (e.g., GALZ, ZNNP+, WASN, etc.)
- PrEP implementing partners- DREAMS (CeSShAR, PSI) & HPTN (UZ-UCSF)

#### **Key Strengths and Opportunities**

- ZNASP III identifies key populations as , adolescents, AGYW, key FSW, MSM, and people in stable unions and sero-discordant couples
- ZNASP III calls for prioritization of specific geographic hotspots
- Technical working groups include some key populations in planning
- National AIDS Levy draws 3% of private income (totaling ~\$19M), of which 10% goes to HIV prevention
- HIV policy environment appears to be **well developed**, supported by **strong technical expertise**, and **responsive** to WHO guidelines

#### **Key Emerging Considerations**

- Not all key populations meaningfully represented in working groups or national plan (e.g., plan states that not enough data exists on **MSM**, but it's unclear if MSM have input or if they are deemed "priority")
- Concern that PrEP will be focused primarily on FSW, which could stigmatize the use of PrEP for other populations (e.g., AGYW)
- PrEP not included in revised national strategic plan (ZNASP III)
- Recent successes with VMMC have made it a key prevention strategy, but government's investment in scaling it up may prevent additional focus on PrEP scale-up
- National leaders remain concerned about resistance resulting from PrEP



### **Key Populations for PrEP**

	Adolescent girls and young women (AGYW)	Sero-discordant couples	Men who have sex with men (MSM)	Women engaged in sex work (FSW)
Key Indicators	<ul> <li>~1.7M total adolescent girls (ages 10-19), of which 61,000 living with HIV and ~1.6M without HIV</li> <li>4-6% prevalence (ages 15-19)</li> <li>4,700 newly infected adolescent girls (ages 15-19) each year, compared to 2,100 boys</li> <li>18% of adolescent girls (ages 15-19) have experienced sexual violence</li> <li>45% have tested for HIV</li> </ul>	<ul> <li>Heterosexual people in stable unions or people engaging in low risk heterosexual sex account for around 54.8% of all new HIV infections</li> <li>11.3% of married/cohabiting couples are sero-discordant</li> <li>In 6.7% of couples the man is the HIV positive and in 4.5% the woman is HIV-positive</li> </ul>	<ul> <li>Unknown number of total MSM</li> <li>~24% prevalence among MSM (based on research including Zimbabwe and other countries)</li> <li>4% of total new infections and 7% including their partners are among MSM</li> </ul>	<ul> <li>52,214 total FSW in Zimbabwe</li> <li>20% prevalence overall based on CESSHAR estimate, but 50-70% in smaller studies</li> <li>12% of Zimbabwe's total incidence is among sex workers and their clients</li> </ul>
Prioritization	<ul> <li>In new national plan, AGYW are included as a priority population for comprehensive prevention but not PrEP</li> <li>AGYW will be the focus of the DREAMS initiative in six districts throughout Zimbabwe</li> </ul>	<ul> <li>In new national plan, people in stable unions and sero- discordant couples are acknowledged to be among key populations</li> <li>One of the Priority Areas of Focus is to reduce acquisition from or to long-term sexual partners</li> </ul>	<ul> <li>MSM indirectly listed as key population in national plan (e.g., "more data needed")</li> <li>MSM included in Global Fund's KP-REACH initiative (\$11M for HIV response across multiple sub-Saharan African countries)</li> <li>Strong civil society advocates (e.g., GALZ)</li> </ul>	<ul> <li>In new national plan, FSW included as a priority for comprehensive prevention but not PrEP</li> <li>Zimbabwe's only ongoing PrEP impact study (SAPPH-IRe) seeks to demonstrate acceptability and feasibility of PrEP and maximize adherence among a subset of 28,000 highway-based FSW</li> </ul>
Questions	<ul> <li>Which channels would be most appropriate for delivering PrEP to AGYW?</li> <li>Will there be funding specifically for PrEP for AGYW?</li> </ul>	<ul> <li>Which channels would be most appropriate for delivering PrEP to people in stable unions and sero- discordant couples ?</li> </ul>	<ul> <li>What is the size and HIV prevalence of the population?</li> <li>Which channels would be most appropriate for delivering PrEP to MSM?</li> </ul>	<ul> <li>What will be the results of SAPPH- IRe study, and their impact on PrEP policy?</li> </ul>

Sources: Adolescent Girls – (1) HIV and AIDS in Zimbabwe. AVERT. May 1, 2015; (2) Rethinking HIV Prevention to Prepare for Oral PrEP Implementation for Young African Women. Celum, et al; Journal of the International AIDS Society. 2015; (3) Sexual and Reproductive Health Needs Of Adolescents in Zimbabwe. Guttmacher Institute. 2014; (4) Zimbabwe National HIV and AIDS Estimates: 2013. Ministry of Health and Child Care. 2013.Zimbabwe National HIV and AIDS Strategic Plan 2015-2018 (ZNASP III) *[Not officially launched]*. Ministry of Health and Child Care and National AIDS Council. March 2015. MSM – (1) Fostering evidence-based HIV programming for men who have sex with men (MSM) in sub-Saharan Africa. The Global Fund, WHO, and ANOVA Institute. April 24, 2013: (2) PSAf Study to Characterize Sexual Minorities in Zambia *[Part of research that includes Zimbabwe]*. The Communication Initiative Network: (3) Zimbabwe National HIV and AIDS Strategic Plan 2015-2018 (ZNASP III) *[Not officially launched]*. Ministry of Health and Child Care and National AIDS Council. March 2015. FSW – (1) Engagement with HIV Prevention Treatment and Care among Female Sex Workers in Zimbabwe: a Respondent Driven Sampling Survey. Cowan, et al; PLOS One. October 2013; (2) Truvada as PrEP: A New HIV Prevention Option on the Table for Zimbabwe? ICASA YouthFront. October 19, 2015; (3) "You are wasting our drugs:" Health Service Barriers to HIV Treatment for Sex Workers in Zimbabwe. Mtetwa, et al, of BMC Public Health. 2013.

#### **APRIL 2016**



## **Budgeting for PrEP**

\$525M total HIV costs \$183M of which is prevention \$0 of which is committed to PrEP

#### **Current Funding for HIV**

- 85% is from **international** sources
- 15% is from domestic resources, largely the National AIDS Trust Fund levy (thus linked to economic growth)
- Levy has drawn ~\$20-50M, of which 50% goes to ART program, 23% to program logistics, 10% to prevention, 6% to M&E, 5% to enabling environment, and 4% to assets
- Funding for HIV in Zimbabwe (public domestic and international, '09-'16):



#### Summary:

- Strong growth in funding over past 5 years due to PEPFAR funds doubling to \$95M and new funding model increasing average GF annual grants from \$67M to \$145M
- Zimbabwe's HIV funding needs are projected to grow to ~\$600M by 2018 and ~\$700M by 2023, but current annual funding commitments are <\$400M</li>
- · HIV treatment taking larger share of resources as more people are put on ART

#### **Remaining Gaps and Challenges**

- Of funding from National AIDS Levy, only 10% is allocated to prevention
- On a per-PLHIV basis, Zimbabwe receives one of the lowest per capita allocations globally from combined funding of Global Fund and PEPFAR
- World Bank 2011 expenditure review showed per capita development assistance for health in Zimbabwe to be well below neighboring countries
- HIV costs, commitments, and gap:

Year	Total Cost	Available	Gap
2013	\$330M	\$223M	32%
2014	\$401M	\$279M	30%
2015	\$466M	\$304M	35%
2016	\$525M	\$264M	50%
2017	\$567M	\$238M	58%
2018	\$591M	\$238M	60%

#### **Potential New Funding**

- PEPFAR, Global Fund, and Zimbabwe government recently joint funded the new \$3M ZIMPHIA study
- Global Fund giving **\$11M to KP-REACH** (Key Populations: Representation, Evidence, and Attitude Change) effort
- Zimbabwe submitted a \$40.2M request for incentive funding on May 18<sup>th</sup>, 2015, from the Global Fund (on top of its ~\$145 average annual committed allocation through 2016):

Incentive Funding Area	Requested
Laboratory and Pharmaceuticals	\$19.5M
Youth and Adolescents	\$10.0M
Community and Key Populations	\$2.9M
Monitoring and Evaluation	\$4.2M
Grant Management	\$3.6M
TOTAL	\$40.2M

*Sources*: (1) 126 Million Additional Funding Announced to Fight HIV in Zimbabwe. United Nations Development Program. January 20, 2015; (2) Global AIDS Response Report: Zimbabwe Country Report. UNAIDS. December 2014: (3) Global Fund approves \$17 million for new HIV programmes in Africa. International HIV/AIDS Alliance. July 6, 2015; (4) Global Fund Country Allocations: 2014-2016. The Global Fund to Fight AIDS, Tuberculosis, and Malaria. March 12, 2014; (5) National AIDS Council: Funding. National AIDS Council of Zimbabwe. 2011; (6) Zimbabwe: Ministry of Health and Child Care to Launch New Health Survey – Zimbabwe Population-Based HIV Impact Assessment. AllAfrica. September 17, 2015; (7) Zimbabwe National HIV and AIDS Strategic Plan 2011-2015 (ZNASPII). Ministry of Health and Child Care and National AIDS Council. March 2015: (8) Zimbabwe National HIV and AIDS Strategic Plan 2015. Concil. March 2015; (9) Zimbabwe Planned Funding. PEPFAR. 2014.



### Supply Chain Management

#### **Readiness for PrEP Introduction**

Reddiness for field	Incroduction
Readiness Factor	Progress
Regulatory <b>approval</b> of form(s) of oral PrEP by authorities	<ul> <li>PrEP (Truvada) is not registered for prevention, only treatment. Plans are to secure approval for Truvada to be used as PrEP by July 2016</li> </ul>
Effective <b>demand and</b> supply forecasting mechanisms for PrEP	<ul> <li>Strong supply chain in place for ARVs, which will likely translate to PrEP readiness – but no PrEP specific planning conducted to- date</li> </ul>
Manufacturer identification and <b>contract</b> negotiation to purchase PrEP	<ul> <li>Very early stage. WHO meeting in March 2016 to discuss alternatives to Truvada for oral PrEP may influence what forms of PrEP Zimbabwe purchases</li> </ul>
Product and packaging design to meet target population needs and preferences	<ul> <li>Unclear to date and likely to depend on chosen PrEP manufacturer</li> </ul>
Development of distribution plan for PrEP to reach target populations	<ul> <li>No distribution plan is yet in place but will be developed in 2016/2017</li> </ul>
<b>Effective distribution</b> <b>mechanisms</b> to avoid PrEP stock-outs in priority facilities	<ul> <li>Zimbabwe has a robust drug procurement and distribution mechanism that is centrally coordinated for public and NGO sites; ARV stock-outs are rare.</li> <li>NatPharm does not anticipate major obstacles in adding PrEP to current distribution</li> </ul>

#### **Key Stakeholders**

- **MOHCC** identifies drug needs, specifies delivery timelines, oversees development of treatment guidelines
- Gilead files for prevention indication of Truvada in Zimbabwe to MCAZ
- NatPharm conducts quantifications to forecast demand based on program needs, runs central medical store, public warehouses, and local branches
- MCAZ performs quality assurance and product registration for all drugs
- State Procurement Board regulates and manages all public procurement

#### **Key Strengths and Opportunities**

- Zimbabwe has **well-coordinated** procurement and distribution system to which PrEP can be added; coordination system is flexible to deliver PrEP to specified geographies and channels (NGO or public)
- Zimbabwe is one of **Africa's pioneer procurement reform countries**, with World Bank supporting SPB training, assessment, and capacity-building
- Wide dissemination of treatment guidelines among public health facilities bodes well for potential PrEP-related guidance
- Potential for **PrEP to be donated by Gilead** (although this could be both an opportunity and a challenge)

#### **Key Emerging Considerations**

- Truvada is currently **registered as treatment but not prevention.** Registration by MCAZ seen to be one of the most urgent priorities to move forward in Zimbabwe.
- For ARV scale-up, there were some **coordination challenges**, as procurement happened individually by donor agencies and wasn't always harmonized, though some of this has been resolved/streamlined
- Quantification process informing NatPharm procurement relies solely on program targets. Process may not be adequate for PrEP forecasting

### **PrEP Delivery Platforms**



#### Readiness for PrEP Introduction

Readiness Factor	Progress
Issuance of standard clinical guidelines for prescription and use of PrEP	Treatment guidelines are not yet under development.
Sufficient infrastructure and human resources to conduct initial HIV tests and prescribe PrEP in priority channels	<ul> <li>Network of 1,460 HTC centers identified as key channel for ARVs and HIV prevention. These are likely to serve as key infrastructure for PrEP roll-out, but outreach will be needed. Human resources need to be determined by roll-out plan.</li> </ul>
Plan to engage <b>health</b> <b>care workers</b> on PrEP and delivery to target populations (including mitigating stigma)	<ul> <li>No plan in place, but considerations are beginning to emerge</li> <li>GALZ conducting health care worker training project – demonstrating results of reduced stigma</li> </ul>
Tools to help potential clients and HCW understand <b>who</b> <b>should use PrEP</b> have been created	<ul> <li>No screening tool for PrEP has been developed/agreed upon, but HPTN 082 will be testing a tool that could potentially be used for scale up.</li> </ul>
Sufficient <b>resources</b> to roll-out plans for healthcare worker engagement	<ul> <li>Resources not yet secured. Needed resources will be determined along with health care worker engagement plans and identification of PrEP delivery channels.</li> </ul>

#### **Key Stakeholders**

- General HIV service channels: community-and-home-based care providers (CHBC), HTC centers, ART sites (including central, district, local, and mission hospitals), mobile clinics
- General HIV prevention partners: ZNFPC, PSI, PSZ clinics
- General HTC implementing partners: PSI, OPHID, ZAPSO, ZACH, WHO
- Youth/AGYW: youth centers, health facility youth-friendly corners; FSW: network of sex work clinics; MSM: civil society and advocacy organizations (e.g., GALZ)

#### **Key Strengths and Opportunities**

- Despite some capacity issues during ARV scale-up, there appears to be capacity for PrEP delivery as long as policy clarifies target populations
- CHBCs have significant reach (e.g., they reached 700k people in 2011)
- 1,460 HTC centers identified as key channel for ARVs and HIV prevention
- ART sites tripled from '10 to '14, and >85% live within 3km in most districts
- Strong NGO programs and political will to support FSW
- GALZ has HCW contacts across the country; could provide PrEP to MSM
- Early successes in addressing nurses' negative FSW attitudes with training

#### **Key Emerging Considerations**

- CHBCs have **limited skills** and experience, **lower quality** assurance, and **weaker** referral systems
- Community-based HTC is not robust, and HTC is particularly lagging for target populations including AGYW
- Civil society orgs accessible in urban areas but not peri-urban or rural
- Official **clinical training on PrEP** needed from MOHCC. Trainings often reach staff at provincial hospitals, but notlocal level facilities where populations with high HIV risk are likely to go
- **Training needed** from groups who understand and represent key populations (GALZ, CESHAAR, AFRICAID) on how to deliver PrEP to key populations (GALZ trained 500 HCWs in 2015 in MSM sensitization)



### **Current PrEP Delivery Channels**

	Demo projects and Open Label Extensions	DREAMS
Background	<ul> <li>The SAPPH-Ire Demonstration Project in Zimbabwe has been implemented at 14 outreach sites that offer HIV services to female sex workers. The study began in July 2014 with enrollment of 2,800 women.</li> <li>HPTN to initiate three studies in 2016, including HPTN 082 and IMPACT.</li> </ul>	• The DREAMS initiative (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe women) will provide PrEP to young women in six districts (Bulawayo, Gweru, Mazowe, Makoni, Mutare, Chipinge) beginning in 2016/2017, but is currently waiting for MCAZ registration of Truvada for prevention. It is likely that oral PrEP in the form of Truvada will be donated by Gilead for use by DREAMS.
Key Strengths	<ul> <li>Demo project reaching target populations at high risk of HIV transmission</li> <li>Existing access to PrEP and associated testing, monitoring, and counselling services</li> <li>Experienced staff highly knowledgeable about PrEP</li> <li>A PrEP demo project/research task force will be convened to share valuable insights from recruitment and retention efforts thus far, including demand creation and messaging, and models of service delivery</li> <li>Low levels of stigma among staff working with PrEP users</li> </ul>	<ul> <li>Targeted program reaching high-risk (as identified by community-led criteria) adolescent girls to start 2016/17</li> <li>PrEP delivery coupled with HTC, behavior change activities, extensive counseling, community mobilization, and initiatives to strengthen families</li> <li>Potential to expand PrEP district-wide given other investments to make PrEP available to DREAMS participants, including logistics, procurement, demand generation, and community buy-in efforts</li> </ul>
Key Challenges	<ul> <li>Perception of PrEP as part of an "experiment" deters potential users fearing poor safety and efficacy of drug</li> <li>Higher costs of delivery in demonstration project context</li> </ul>	<ul> <li>DREAMS PrEP to reach adolescent girls only in communities where many other populations could benefit from PrEP</li> <li>Reach limited to 1451 young women in DREAMS districts (53,654 young women will be targeted with HTC)</li> </ul>

### Potential PrEP Delivery Channels

This is a continued area of focus. Additional details expected by the end of 2016.

	Comprehensive Ca	are Centers & other ART sites	Sexual and Reproductive Health (SRH) care providers	
p	Public (Gov't)	NGO	Private	
Background	<ul> <li>Public hospitals, clinics, and other health care centers (e.g., VMMC clinics)</li> </ul>	<ul> <li>NGO-run clinics, care centers, other HIV service programs such as PSI New Start Centers, FHI's new programs, and key population clinics (Sisters Clinic)</li> </ul>	<ul> <li>Private fee-for-service providers</li> </ul>	<ul> <li>A range of SRH care including family planning, post-abortion care clinics, pre-natal care &amp; other SRH providers</li> </ul>
Key Strengths	<ul> <li>Most visible to general populations</li> <li>Systems guided and linked with county and national standards/ agendas</li> </ul>	<ul> <li>Can provide greater access to key populations (FSW, MSM, PWID)</li> <li>Effectively reach high-risk individuals with low/no stigma present in centers or among staff</li> <li>Frequent use of peer-educator programs, which might be critical to effective use and increased demand generation</li> </ul>	<ul> <li>Opportunities to deliver through private channels accessing key populations such</li> <li>Discrete access to PrEP without stigma for those who can afford it</li> <li>Not dependent on aid</li> </ul>	<ul> <li>Provide greater access to sero- discordant women and AGYW in female-friendly and trusted settings</li> <li>Staff have lower levels of stigma against AGYW who seek family planning and HTC services</li> <li>Post-abortion care clinics have the potential to reach women with very high risk of HIV infection</li> <li>Low cost of demand generation since</li> </ul>
	<ul> <li>~1500 ART sites throughout Zimbabwe</li> <li>Well-integrated procurement and delivery systems</li> <li>Laboratory capacity for necessary PrEP monitoring in place</li> <li>HTC-trained staff</li> </ul>			women are already visiting SRH services
Key Challenges	<ul> <li>HCW stigma against target populations, if present, can deter many from accessing care through these sites</li> <li>Staff and resources perceived to be stretched thin, resulting in suboptimal care</li> <li>No single outlet effectively reaches all target populations</li> </ul>			<ul> <li>Potentially limited experience and training in HTC linkages</li> <li>Limited/no laboratory capacity for necessary PrEP monitoring</li> <li>AGYW may have trouble accessing</li> </ul>



### Individual Uptake

#### **Readiness for PrEP Introduction**

Readiness Factor	Progress	
Clear and informative <b>communications</b> on PrEP for general public audiences	<ul> <li>No communications strategy planning for one has been initiated do date.</li> </ul>	or
Development of demand generation strategies targeted to unique needs of different populations	<ul> <li>Demand generation activities not in place beyond those attached to specific demo projects, but these haven't be researched or vetted.</li> </ul>	
<b>Linkages</b> between HTC, PrEP prescription, and PrEP access to enable PrEP uptake	<ul> <li>Necessary linkages will be unknown until PrEP guideline outlining channels, populatio and prescription details are completed. If PrEP is delivered through ARV channels, the linkages are likely to enable P uptake at least in those populations already accessing such channels.</li> </ul>	ns, d rEP
Information for clients on how to effectively use PrEP for all target populations	<ul> <li>Information exists for those participating in demo project General information for all ta populations including AGYW need to be developed.</li> </ul>	rget
Sufficient <b>resources</b> to roll-out plans for demand generation	<ul> <li>Resources not yet secured. Needed resources will be determined and ultimately secured once Zimbabwe determines demand generation needs and plans.</li> </ul>	on

#### Key Stakeholders:

- NGO groups, including CHAI, are in early stages of demand generation research and promotion
- Networks (ZNPP+, ZAN) may help with demand generation activities
- **FHI360** is coming in as a new partner under PEPFAR on HTC and may introduce new plans for mobilizing testing and care linkages that could be leveraged for PrEP delivery
- PEPFAR and Global Fund may be key funders of demand generation
- **PSI** deploying 354K self-testing kits, which might be critical in providing HTC to high risk populations not already accessing testing services

#### Key Strengths and Opportunities:

- Good HTC coverage, **but actual HTC usage is less favorable**: 91% of women and 88% of men know where to access HTC, but 57% of women (45% of young women) and 36% of men (24% of young men) have ever been tested and received results
- PITC is being pushed by MOHCC and scaled up to 94% of health facilities
- Track record of success with VMMC, as well as recognition that gaps in consistent condom use persist, particularly among key populations
- GALZ, CESHAAR, SAFAIDS, and others are working to **advocate for legal reform** for FSW and MSM
- Recent **positive legal change around** "loitering laws" show that things may be moving positively for FSW

#### **Key Emerging Considerations**

- **FSW:** sex work illegal, high rates of abuse/violence, high opportunity and transportation costs keep FSW from choosing to access HIV services
- MSM: practices are illegal (unlikely to change), facilities refuse treatment
- **AGYW:** uptake challenges with other products (e.g., for cultural reasons, only 1/4 of adolescent girls use the pill, which accounts for majority of their modern contraceptive use), low HTC uptake
- **General:** direct advertising of Rx medicines to the public is prohibited, concerns about PrEP's unintended consequences (e.g., resistance, undetected HIV infections, riskier behavior, increased abuse/violence)

### Key End-user Themes for PrEP

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<b>NC</b>		i aci	ucions

Stigma	<ul> <li>Early stigma lingers: making PrEP widely available beyond key populations would help mitigate preconceptions of PrEP as an option only for FSW and MSM. This is important because only demo project to date in Zimbabwe is working with FSW. Any PrEP communications campaign will need to directly address the stigma associated with this population</li> <li>Among health workers: the challenges are twofold- healthcare workers have their own biases about who should be accessing birth control options and HIV prevention services, and they often lack the appropriate information and training to effectively provide a range of options for individuals to make informed decisions</li> <li>Youth and female-friendly spaces are critical and needed: centers that are stigma-free, youth and female-friendly will facilitate uptake, but changes to facilities have been slow and insufficient</li> </ul>
Drug Preconceptions	<ul> <li>There are fears about developing resistance to ARVs while on PrEP, and developing physical side effects associated with ARVs</li> <li>People recognize Truvada as an ARV and do not want to be seen taking it if they are HIV negative</li> </ul>
Messengers	• Messages around PrEP need to be <b>proactive</b> , <b>consistent</b> , <b>and come from multiple directions</b> . Important messengers include: national and county governments, ministries, CBOs, celebrities, religious leaders, healthcare workers, peers and various forms of media (e.g. print, radio, online)
<i>Messages</i>	<ul> <li>PrEP as power: PrEP could be framed as an option to protect oneself and the community. Also as something that is empowering and positive as opposed to shameful and incriminating. Ideas for messaging included statements such as : "Our own choice, our own power"</li> <li>Risk in relationships: potential to appeal to likely PrEP users by highlighting the risk associated by their own conduct and also that of their partners who may have multiple sexual partners</li> <li>Risk perception: young women in Kenya generally do not see themselves at high risk for HIV transmission. They are more focused on economic opportunity and education</li> <li>PrEP for all: ideas for inclusive messaging included statements such as "PrEP is for you, PrEP is for me" and "PrEP is for all of us"</li> </ul>



### Effective Use & Monitoring

Readiness for PrEP Introduction					
Readiness Factor	Progress				
Established plans to support <b>effective</b> <b>use and regular</b> <b>HIV, creatinine</b> <b>testing</b> that reflect the unique needs of target populations	• While early considerations for encouraging and supporting effective use and adherence to regular testing are being discussed, specific strategies for target populations are not yet being created.				
<b>Capacity</b> to provide ongoing HIV and creatinine level testing for PrEP users accessible to target populations	<ul> <li>While there is increasingly sufficient HTC capacity for current efforts, gaps remain and resources may continue to be a challenge. Additionally, exact testing needs for PrEP are yet to be determined. Country treatment guidelines should outline these specific needs.</li> </ul>				
Monitoring system to support data collection for ongoing learning (e.g., rate of patients returning for 2nd visit, non- HIV STI rates)	<ul> <li>M&amp;E for PrEP likely to be integrated with existing ARV M&amp;E system. PrEP guidelines will need to dictate monitoring and training needs.</li> </ul>				

#### **Key Stakeholders:**

- NAC is responsible for overseeing the national M&E plan
- **NGOs** have been particularly important in providing post-test support services for HIV-negative and HIV-positive people that address risk reduction, disclosure, and treatment adherence

Key Strengths and Opportunities:

- Zimbabwe has a **single monitoring and evaluation system**. This system is linked to individual project/program M&E systems being used by HIV/AIDS service organizations; this system appears to be in the process of becoming **more integrated and harmonized**
- M&E for PrEP likely to be integrated with existing ARV M&E system
- ZNASP III states that "a contextual National M&E Plan will be developed to guide the implementation of the strategic plan and its partner systems"

#### **Key Emerging Considerations**

- While a data system (DHIS2) exists, only **some of facility/patient data is pulled into DHIS. Additionally,** facility registers and reporting tools do not (yet) reflect needs to track the roll-out of PrEP. Therefore, M&E tools will need to be revised to be able to report on PrEP rollout
- Little is known about PrEP adherence in general, and even less on how it may differ among target populations in Zimbabwe
- While it seems like there is sufficient capacity for HIV testing, ongoing testing of PrEP users could place strain on the existing system

### Appendix B: Expected PrEP Activities

		Q1   16	Q2   16	Q3   16	Q4   16	Q1   17	Q2   17	Q3   17	Q4   17	2018	2019	2020
Research	SAPPHIRE results expected for PrEP among FSW in Zimbabwe									F	Zimbabwe	
	<b>ZIMPHIA</b> survey data collection among 15k Zimbabwe households										Global	
	<b>POWER</b> data collection rollout and cohort protocol (Q1); preliminary data to share (Q2)											
	HTPN 082 and IMPACT demo projects begin by											
ning/ Implementation	Guideline Adaptation Committee meets, incl. <b>PrEP working group</b>											
	New national strategic plan for 2016-2018 (ZNASP III) in effect											
	<b>DREAMS</b> activities to take place in Zimbabwe in identified hotspot districts											
	ZNASP III <b>mid-term review</b> ; opportunity to push for PrEP inclusion in plan											
Plan	CHAI demand generation research initial results expected	· · · · · · · · · · · · · · · · · · ·										
	Gates research on cost of PrEP delivery across demo projects initial results expected											
Policy	Zimbabwe likely to formally adopt WHO guidelines	· · · · · · · · · · · · · · · · · · ·										
	Gilead licensure process approval expected Q2 (Pulse as distributor)											

### **Appendix C: References**

- <u>126 Million Additional Funding Announced to Fight HIV in Zimbabwe</u>. United Nations Development Program. January 20, 2015.
- Achieving an AIDS-Free Generation for Gay Men and Other MSM in Southern Africa. amfAR, The Foundation for AIDS Research and Johns Hopkins Bloomberg School of Public Health. May 2013.
- Country Updates: Zimbabwe. PrEPWatch. 2015.
- Engagement with HIV Prevention Treatment and Care among Female Sex Workers in Zimbabwe: a Respondent Driven Sampling Survey. Cowan, et al; PLOS One. October 2013.
- <u>Evaluations and Registration</u> and <u>How We Regulate</u>. Medicines Control Authority of Zimbabwe. 2012.
- Global AIDS Response Report: Zimbabwe Country Report. UNAIDS. December 2014.
- Global Fund Country Allocations: 2014-2016. The Global Fund to Fight AIDS, Tuberculosis, and Malaria. March 12, 2014.
- <u>HIV and AIDS in Zimbabwe</u>. AVERT. May 1, 2015.
- Management of HIV & AIDS Commodities in Zimbabwe: A Capacity Assessment of NatPharm and Ministry of Health and Child Welfare

   DELIVER, for USAID.

   July 2006.
- National AIDS Council: Funding. National AIDS Council of Zimbabwe. 2011.
- Procurement and Supply Chain Management in Zimbabwe. UNDP and Global Fund. March 4, 2015.
- Procurement Challenges in the Zimbabwean Public Sector: A Preliminary Study. Journal of Transport and Supply Chain Management. 2015.
- <u>Rethinking HIV Prevention to Prepare for Oral PrEP Implementation for Young African Women</u>. Celum, et al; Journal of the International AIDS Society. 2015.
- <u>Sexual and Reproductive Health Needs Of Adolescents in Zimbabwe</u>. Guttmacher Institute. 2014.
- Success with PrEP: Next Steps to Support Policy Decisions in Southern and East Africa. AVAC, UNAIDS, and WHO. October 26, 2014.
- Truvada as PrEP: A New HIV Prevention Option on the Table for Zimbabwe? ICASA YouthFront. October 19, 2015.
- "You are wasting our drugs:" Health Service Barriers to HIV Treatment for Sex Workers in Zimbabwe. Mtetwa, et al, of BMC Public Health. 2013.
- Zimbabwe Begins Public Procurement Modernization. The World Bank. May 13, 2015.
- Zimbabwe Fails to Capitalize on \$4bn ARVs Market. Robin Muchetu of The Sunday News. April 12, 2015.
- Zimbabwe: Ministry of Health and Child Care to Launch New Health Survey Zimbabwe Population-Based HIV Impact Assessment. AllAfrica. September 17, 2015.
- Zimbabwe National HIV and AIDS Estimates: 2013. Ministry of Health and Child Care. 2013.
- Zimbabwe National HIV and AIDS Strategic Plan 2011-2015 (ZNASP II). Ministry of Health and Child Care and National AIDS Council. March 2015.
- Zimbabwe National HIV and AIDS Strategic Plan 2015-2018 (ZNASP III) [Not officially launched]. Ministry of Health and Child Care and National AIDS Council. March 2015.
- Zimbabwe Pharmaceutical Country Profile. Ministry of Health and Child Welfare, Directorate of Pharmacy Services, in collaboration with the World Health Organization. June 2011.
- Zimbabwe Planned Funding. PEPFAR. 2014.