



OPTIONS

*Dapivirine Ring
Early Introduction Considerations
Seven Country Analysis*

August 2018



SUMMARY FINDINGS

DETAILED COUNTRY FINDINGS



Executive summary

THE OPPORTUNITY FOR THE RING

- Across countries, there was significant enthusiasm for the ring as a female-controlled technology that could be appropriate for adolescent girls and young women as part of a combination HIV prevention approach.
- The ring also raised questions from country stakeholders including questions on how to improve adherence among 16-24 year olds and how policies should be crafted to build the ring into a comprehensive prevention package.
- Importantly, policymakers and USAID/PEPFAR missions in most countries advised that a demonstration in each country addressing local conditions and concerns is the best way to expedite inclusion of the ring in national policies and plans. However all stakeholders emphasized the importance of linking demonstration projects to implementation – standalone demonstration projects were discouraged. This guidance is based on the experience with the introduction of oral PrEP in many countries.
- While all of the countries included in this analysis were interested in the ring, some are better positioned to be “early adopters.”
- At present, Zimbabwe and Uganda show immediate promise for a demonstration project with the ring due to national stakeholder interest and the anticipated pace of the process. South Africa and Kenya are also promising locations, though in Kenya there are still questions about how to move forward given the constraints of US funding and in South Africa stakeholders are cautious about adding new products and note that demonstrations before regulatory approval would require greater scrutiny.
- To expedite access to the ring, two steps should be pursued simultaneously over the coming year:
 1. A coordinated global effort to prepare demonstration projects in several “early adopter” countries, in close collaboration with key stakeholders and policymakers at the country level
 2. A consistent effort to communicate about the ring at the country level, especially as additional evidence is generated and the regulatory process advances

OVERVIEW OF PROCESS

- The OPTIONS (Optimizing Prevention Technology Introduction on Schedule) Consortium is a five-year, USAID funded effort to expedite and sustain access to new ARV-based HIV prevention products in sub-Saharan Africa with a focus on women and girls.
- In May 2018, seven countries (Rwanda, Uganda, Kenya, Zimbabwe, Malawi, Tanzania, and South Africa) were prioritized for analysis due to the state of the HIV epidemic in each country and experience with ring trials.
- OPTIONS conducted secondary research and interviews with key stakeholders in these countries to understand questions about the ring that could inform demonstration and processes for introducing new biomedical HIV prevention products.
- Interviews comprised a mix of policymakers, civil society representatives, donors, implementing partners, and trial contributors.



Key findings from country consultations

1

Most country stakeholders are intrigued by the ring

Country stakeholders cited female control and limited risk of creating resistance as valuable attributes of the ring. Stakeholders in Zimbabwe expressed a readiness to start a demonstration project on the ring as soon as possible. Stakeholders also had many questions about the ring (*noted on next slide*).

2

Interest in a demonstration to inform implementation

Most country stakeholders indicated a need for a local demonstration on the ring to inform policy-making and implementation planning, noting that evidence generated elsewhere would not provide the contextual detail required. Standalone projects not linked to implementation were strongly discouraged.

3

Need to leverage learnings from oral PrEP and potential to integrate the ring into roll-out in several countries

The recent experience with oral PrEP provides lessons on messaging, processes, and stakeholder engagement for the ring. Existing structures for PrEP, such as Technical Working Groups (TWGs), can also be used for the ring. The ring needs to be assessed as part of a combination prevention approach.

4

Criticality of AGYW populations across countries, and need to better understand adherence

Country stakeholders saw potential for the ring with AGYW populations that have been difficult to serve with other options, though they also requested additional evidence on how to support adherence amongst this population.

5

Thoughtful, sustained engagement process needed to introduce the ring

In many countries there is limited existing knowledge of the ring that will need to be overcome to start planning. The approval process for some countries is straightforward but each product introduction process has idiosyncrasies that need to be managed. Regular stakeholder engagement will be necessary to maintain progress.



Questions raised by policymakers

Across the seven countries, several key questions were regularly raised policymakers

ASKED BY NEARLY ALL POLICYMAKERS

Key policymakers from five out of six countries analyzed asked the following questions:

- What would be the **impact** of the ring? How many infections would be averted?
- How does the ring **fit into a comprehensive package** of prevention?***
- What is the **effectiveness of the ring in the real-world?**
- What will be the **cost of investing** in the ring?
- What are **adherence to and uptake of** the ring in the real-world?
- Which **populations** are recommended for the ring?
- What are the implications for the **health system and healthcare workers?** What additional demands will the ring place on the health system?

ASKED BY HALF OF POLICYMAKERS

Key policymakers from three out of six countries analyzed asked the following questions:

- Will the ring be **affordable** for end users?
- Has the ring been proved to be **safe?***
- To what extent does the **effectiveness of the ring differ** among various populations? Is the ring **effective among AGYW?****
- What does behavioral data demonstrate about the impact of the ring on **condom use and other reproductive health practices?**

* Questions that have been adequately demonstrated through past clinical trials







** Questions that are partially studied in the upcoming REACH study

Note: Policymakers in Kenya were not surveyed due to US government restrictions



Country readiness assessment framework

A preliminary assessment for each country is included based on six dimensions. More dimensions may be added (e.g., availability of implementing partners) as discussions progress

High-level assessment for the ring	
 HIV epidemic characteristics	<ul style="list-style-type: none">Assesses the level of need in the country based on HIV prevalence and incidenceSpecifically notes the HIV burden faced by women and girls
 HIV prevention program	<ul style="list-style-type: none">Assesses the national HIV prevention program for comprehensiveness, inclusion of biomedical prevention, and dedicated prevention funds
 Oral PrEP experience	<ul style="list-style-type: none">Assesses speed and ease of previous oral PrEP research, demonstration, and implementation, including inclusion in national guidelines and strategic plans
 Ring trial experience to-date	<ul style="list-style-type: none">Highlights in-country dapivirine ring trials that could be leveraged for awareness-building and ring introduction
 Stakeholder reactions to the ring	<ul style="list-style-type: none">Assesses knowledge, interest, and enthusiasm about the ring from a range of stakeholders including government, civil society, and academia
 Product introduction process	<ul style="list-style-type: none">Assesses clarity and speed of typical product introduction process



Cross-country assessment for ring potential

	ZIMBABWE	UGANDA	SOUTH AFRICA	KENYA	MALAWI	TANZANIA	RWANDA
HIV epidemic characteristics	SIGNIFICANT NEED	SIGNIFICANT NEED	SIGNIFICANT NEED	SIGNIFICANT NEED	SIGNIFICANT NEED	SIGNIFICANT NEED	MODERATE NEED
<i>Prevalence rate</i>	13.5%	6.5%	18.8%	4.8%	9.2%	4.7%	3.1%
<i>New infections annually</i>	40,000	52,000	270,000	53,000	36,000	55,000	7,500
<i>Incidence rate</i>	3.03	1.50	5.46	1.21	2.29	1.19	0.70
HIV prevention program	STRONG OPPORTUNITY	STRONG OPPORTUNITY	STRONG OPPORTUNITY	STRONG OPPORTUNITY	MODERATE OPPORTUNITY	MODERATE OPPORTUNITY	MODERATE OPPORTUNITY
Oral PrEP experience	STRONG OPPORTUNITY	MODERATE OPPORTUNITY	STRONG OPPORTUNITY	STRONG OPPORTUNITY	POTENTIAL LIMITATION	MODERATE OPPORTUNITY	MODERATE OPPORTUNITY
Ring trial experience to-date	STRONG OPPORTUNITY	STRONG OPPORTUNITY	STRONG OPPORTUNITY	MODERATE OPPORTUNITY	MODERATE OPPORTUNITY	POTENTIAL LIMITATION	POTENTIAL LIMITATION
Stakeholder reactions to the ring	STRONG OPPORTUNITY	STRONG OPPORTUNITY	MODERATE OPPORTUNITY	STRONG OPPORTUNITY	MODERATE OPPORTUNITY	MODERATE OPPORTUNITY	MODERATE OPPORTUNITY
Product introduction process	STRONG OPPORTUNITY	STRONG OPPORTUNITY	MODERATE OPPORTUNITY	MODERATE OPPORTUNITY <i>Due to USG ban</i>	MODERATE OPPORTUNITY	POTENTIAL LIMITATION	STRONG OPPORTUNITY



Implications of findings for ring planning



GLOBAL STAKEHOLDERS

- Country stakeholder interest and questions about the ring should **be shared with global stakeholders to inform planning and prioritization.**
- Feedback from country stakeholders underscores **the need for demonstration projects** as part of the global rollout and **the importance of coordinated demonstration planning** amongst global actors.
- Supporting awareness-building about the ring and its potential within **USAID, WHO, Global Fund and their relevant missions** is a fundamental step in the introduction process as planning, financing and approval of rollout in most countries hinges on their involvement.



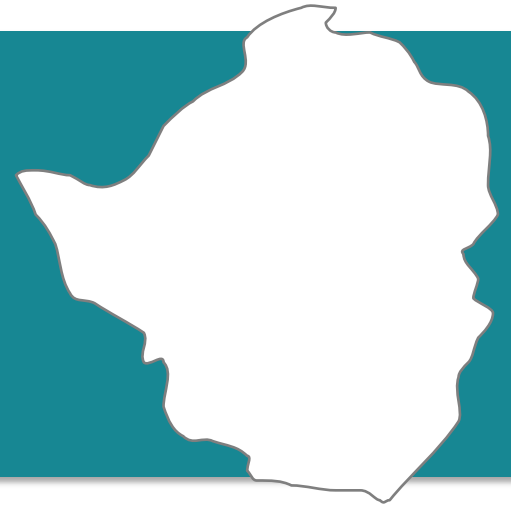
COUNTRY STAKEHOLDERS

- Introducing the ring through demonstration projects will require resources and may mean that the **first phase of rollout should take place in a subset of “early adopter” countries.**
- Identifying **strong implementing partners in each priority country** to steward the stakeholder engagement and planning process will be a critical first step.
- The limited existing knowledge of the ring, coupled with country stakeholders’ eagerness to engage on demonstration planning, suggests a need for thoughtful, **consistent communications and engagement of priority stakeholders** in country between now, the EMA opinion and thereafter.
- A **customized engagement approach for different types of stakeholder groups** in each country could support introduction. For example, civil society members across countries were supportive of the new option, though they have varying levels of influence on policy-making. They can be engaged to generate demand for the ring through formal or informal channels.

SUMMARY FINDINGS

DETAILED COUNTRY FINDINGS

ZIMBABWE





Zimbabwe: Potential for the ring

EARLY ADOPTER due to high interest from the MoHCC to include the ring as part of combination prevention, a perceived opportunity to strengthen women's power and agency, and the possibility to merge ring into oral PrEP roll out.

Opportunities

- **Strong knowledge and enthusiasm:** Most stakeholders were aware of the ring, and were enthusiastic about potential introduction.
- **Technical advantages:** Stakeholders across sectors favored that the ring is women-controlled, only requires monthly action, and represents another option for women, particularly AGYW.
- **Strong interest from policymakers:** The MoHCC seemed very eager to advance to a demonstration project in Zimbabwe. Additionally, policymakers did not regard ring's partial efficacy as a barrier, believing some protection is better than none: *"one HIV infection is one too many."*
- **Build from oral PrEP's groundwork:** Stakeholders believe they will be able to build on the existing national guidelines for oral PrEP and will also be able to extend the remit of the PrEP Technical Working Group to include the ring.

Challenges

- **Funding:** The primary challenge in Zimbabwe is funding. Oral PrEP has struggled with funding shortfalls, and securing commitments from donors will be necessary before demonstration.
- **Limited coordination among civil society:** Apart from PZAT, national civil society organizations are limited in their coordination with one another. This could be a challenge to meaningfully and efficiently engage with civil society.
- **Urgency for quick action:** Researchers and other stakeholders involved in the open-label extensions are eager to see very quick action to make the ring available for OLE (open label extension) participants as soon as possible. There may be some pressure to move very quickly in Zimbabwe.



Zimbabwe: Assessment overview

High-level assessment for the ring

A computer monitor displaying a bar chart and a pie chart.	HIV epidemic characteristics	SIGNIFICANT NEED: Zimbabwe has a particularly high prevalence rate at 13.5% and experiences 40,000 additional infections annually. Women face greater risk for infection.
A building with a cross on top, representing a healthcare facility.	HIV prevention program	STRONG OPPORTUNITY: Zimbabwe has created a leading combination prevention program, and has quickly adopted and effectively implemented a range of prevention approaches.
A small bottle with a cross on it, representing a medicine or pill.	Oral PrEP experience	STRONG OPPORTUNITY: While it took over two years to develop a PrEP implementation plan, Zimbabwe has now enrolled over 5k people on PrEP. This experience can be applied to ring introduction.
A simple blue circle.	Ring trial experience to-date	STRONG OPPORTUNITY: Zimbabwe was included in phase III / OLE, and is a study site for REACH. Stakeholders have strong knowledge of the ring.
Two overlapping speech bubbles, representing communication or dialogue.	Stakeholder reactions to the ring	STRONG OPPORTUNITY: All stakeholders were enthusiastic about a women controlled product. In particular, the MoHCC was eager and seemed confident in next steps.
A clipboard with a checklist and a pencil, representing a process or plan.	Product introduction process	STRONG OPPORTUNITY: Zimbabwe has developed clear steps for introduction, and will likely be able to start demonstration earlier than other countries.

Additional details on following slides



Zimbabwe: HIV context

Zimbabwe has an estimated

1.3 million

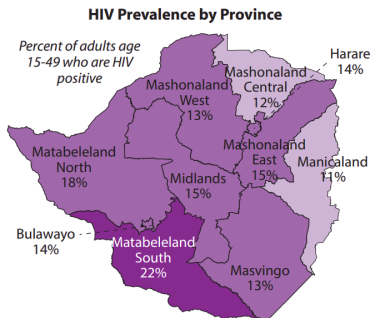
people living with HIV, which accounts for

13.5% of the adult population

and

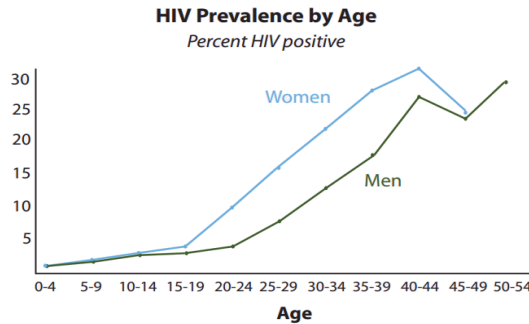
40,000 new infections

occur annually ¹



Darker purple signifies higher prevalence

Women are disproportionately affected at all ages ²



This is particularly true for young women, as **women ages 23-24 have a prevalence of ~14%**, compared to 6% for men the same age ²

Additionally, **~8,600 boys and 14,800 girls** between the ages of 15-24 years are **newly infected** with HIV each year ³

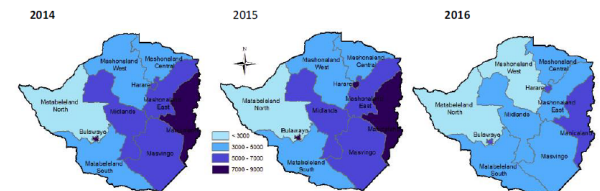
Sex workers are at much higher risk for infection ³

Sex workers and their clients account for an **estimated 12% of new infections**, and HIV prevalence among sex workers is **~60%**

A majority of new infections are among serodiscordant couples ³

Heterosexual people in stable unions or people considered to engage in “low risk” heterosexual sex account for **~54.8% of all new infections**

Southwestern provinces have higher prevalence, yet eastern provinces face higher incidence ^{2, 3}



Darker blue signifies greater incidence



Zimbabwe: HIV prevention context

Context

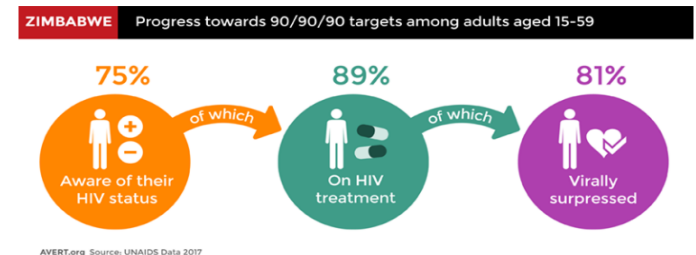
- **Political landscape:** Zimbabwe is regarded in the region as a **leader in adopting new approaches**, and the political landscape in Zimbabwe is the most favorable for the ring among all seven countries. Policymakers are eager to start a demonstration project on the ring, the process to do so is quick, and there is commitment to proceed with implementation when the results are promising.
- **Recent progress with prevention and treatment:** Zimbabwe has made **considerable progress** to address the HIV epidemic through investments in **combination prevention** targeted toward **high risk populations** and investments ensuring **full treatment and care access**. Zimbabwe has decreased annual new infections from **79,000** in 2010 to **40,000** in 2016. ^{1,2}

National Policies and Strategies for Prevention ¹

- The prevention strategy focuses on combination prevention, integrating **biomedical, behavioral, and structural** responses. Core programs include HIV Testing & Counseling, Behavior Change & Demand Creation, eMTCT, Condom Promotion, Prevention among Positives, VMMC and self-testing.
- Zimbabwe's response **targets the highest risk groups**, which are categorized as: children, adolescents, young people, AGYW, key populations and women. Zimbabwe also **targets geographic areas** that are most burdened.
- The **Zimbabwe National HIV and AIDS Strategic Plan (ZNASP)** is released every three years. The most recent and third version was released for 2015-2018. The ZNASP is published by National AIDS Council (NAC) in close partnership with MoHCC.
- **Budget:** Prevention accounts for over **30%** of the 2018 **\$237.6M** Strategic Plan budget. Funding has been a challenge for implementing the NSP and scaling up oral PrEP.

Remaining Challenges with Prevention

- **Legal and policy barriers:** Sex work and sex between people of the same sex are both considered illegal. Additionally, it's prohibited to promote condoms in schools. While there are not legal frameworks for prevention interventions among KPs, partners have developed routes to reach KPs. CeSHHAR in particular has developed a successful program for FSW. ¹
- **Gender norms and practices:** Despite legislation aimed at gender equity, over 27% of Zimbabwean woman have experienced sexual violence. ¹
- **Data gaps:** data gaps exist generally and particularly for KPs.





Zimbabwe: Status of oral PrEP rollout

Oral PrEP Rollout

- Oral PrEP is currently in **early implementation** stages. There are an estimated **5,000** current oral PrEP users in Zimbabwe, as of May 2018.²
- Introducing oral PrEP in Zimbabwe began with an impressive start with **developing demonstrations**, coupled with a **strong political commitment** from key decision makers. However, **insufficient funding** has led to **slow national roll out** as oral PrEP introduction has continued.²
- Zimbabwe was the site of **clinical trials, open-label extensions, implementation projects, large-scale implementation initiatives**, and **product introduction / support projects** for oral PrEP.¹
- Both Gilead's Truvada (TDF/FTC) and generic versions of TDF/FTC are **approved for prevention**.¹
- The policy, planning and funding of oral PrEP was a highly consultative process led by the PrEP TWG, chaired by the MoHCC. While this process took ~2 years, it resulted in a comprehensive, actionable **PrEP implementation plan**. However, there has been insufficient funding to sustain the implementation plan. Zimbabwe received a grant from the Global Fund, but it was not sufficient to follow through with the whole PrEP plan.
- The oral PrEP guidelines in Zimbabwe recommend that oral PrEP be offered as an additional prevention choice for **individuals at substantial risk of HIV infection** as part of combination prevention approaches. Individual risk assessments dictate which individuals are at substantial risk, but **oral PrEP is available for key and target populations, including AGYW**.¹



Zimbabwe: Ring trial activity

Zimbabwe has been the site of the **phase III ASPIRE ring trial**, and the **open-label extension HOPE**. Zimbabwe is also a trial site in upcoming **REACH Study**, which is expected to launch this year and explore acceptability and adherence to oral PrEP and the ring among AGYW.

Study	Phase	Results	Partners
ASPIRE (ages 18-45) MTN-020	III	The ring reduced risk of HIV-1 infection by ~27% overall compared to a placebo. HIV risk was cut by 56% in women older than 21, who appeared to use the ring most consistently	<ul style="list-style-type: none">• Led by: Microbicide Trials Network (MTN)• Funding: US NIH, US NIMH, US National Institute of Allergy and Infectious Disease (IND Sponsor: IPM)
HOPE (ages 18-45) MTN-025	IIIb OLE	(Preliminary) Risk reduced by ~54%	<ul style="list-style-type: none">• Led by: MTN• Funding: US NIH, US NIMH, US National Institute of Allergy and Infectious Disease (IND Sponsor: IPM)
REACH (ages 16-21) MTN-034	OLE	(Pending) Will collect safety and adherence data over the course of study product use for young women. Will also examine the acceptability of the study products. (6mo ring, 6mo oral PrEP, then choose for 6 mo)	<ul style="list-style-type: none">• Led by: MTN• Funding: US NIH, US NIMH, US NIAID, US NICHD• Sponsors: IPM, Gilead Sciences, Inc.

- **26%** of women enrolled in ASPIRE and HOPE were in Zimbabwe, across three sites: Chitungwiza-Seke South, Chitungwiza-Zengeza, and Harare-Spilhaus.
- **Key contacts** in Zimbabwe include Dr. Nyaradzo Mgodhi and Dr. Felix Mhlanga.



Zimbabwe: Impressions of the ring

Opportunities

“Donors want evidence. Start preparing programs that show that it makes sense and is worth investing in. Once the guidance comes out, **we can do this within 12 -18 months.**” – Policymaker

“We did well with family planning; women were empowered. We **really look forward to the success of the ring.** We are just waiting for one of those big announcements from WHO, UNAIDS or FDA.”
– Senior policymaker

“I am supportive because we need to **provide access to female controlled methods.** AGYW face gender-based violence, power imbalances, difficulty negotiating condom use, etc., so it’s important to have different options to find a prevention method that works for AGYW.” – International donor

“One thing we are seeing with oral PrEP is that some people want a product that doesn’t require daily use. **We need to give people options,** some may prefer a pill, but others a ring.” – Implementation partner

“HIV is a **highly feminized epidemic,** so we’ve always wanted a female initiated method to empower women. We look forward the ring – we needed it yesterday! When you invest in a woman you invest in the nation.” – Policymaker

Challenges

“Challenges may come up related to its design – **are AGYW comfortable using such a method?**” – International donor

“Introducing the ring will be a challenge – **there will be so many questions.** Decision makers will ask about efficacy, safety, cost, sustaining it, and who to target. End users will ask about side-effects, and **there will likely be myths as there was with IUDs.**”
– Implementation partner

“It’s **unclear who would be targeted** with the ring. Due to issues of adherence, it’s not very effective among women aged 18-22, so I assume we would target older. At 30%, **the efficacy is also a bit low,** which may cause some reservations.” – Implementation partner

“There is **little capacity among local civil society,** and they may be less aware of the ring. Local civil society is not at the forefront of PrEP discussions, and they don’t have access to information. There would need to be a way to keep them better informed.” – Research partner



Zimbabwe: Key questions about the ring

- 1 How does the ring fit into a **comprehensive package of prevention**? Which **populations** are recommended for the ring?
- 2 How **feasible is delivery** of the ring? What are implications for the **health system** (e.g., training needs, care delivery level, and delivery channel)? What are **costs to end users** and what is their **willingness to pay**?
- 3 How **acceptable** is the ring among AGYW? Can **partners feel** the ring? What are the **periods of risk** when using the ring?
- 4 To what extent do **young women adhere** in a real-world setting? What **impacts** adherence (e.g., clinical setting, socio-economic status), especially for AGYW?
- 5 What is the **impact of the ring**? To what extent will the ring **reduce HIV incidence**? What is the rate of **seroconversion**? Is there risk of **resistance**?
- 6 Should ring **clinical guidelines** be the same as those for oral PrEP (e.g., risk assessment, STI/HIV testing frequency)?

In addition to questions that will need to be answered in demonstration, stakeholders raised the following **technical questions** that will need to be **answered now** and have **clear messaging** during introduction:

- How long before sex does the ring need to be in? How long after sex does the ring need to stay in?
- Is ring compatible with an IUD?
- Could ring be used for post-abortion care? Post-partum?
- Should testing be every 3 months or more frequent because ring is not systemic?



Zimbabwe: Interviews

Policymakers

1. Dr. Owen Mugurungi, Ministry Of Health and Child Care, Director, AIDS and TB Programme

Civil Society

2. Chamunorwa Mashoko, Advocacy Core Team (ACT)
3. Taurayi Nyandoro, Zimbabwe AIDS Network (ZAN)
4. Definate Nhamo, PZAT
5. Imelda Mahaka, PZAT

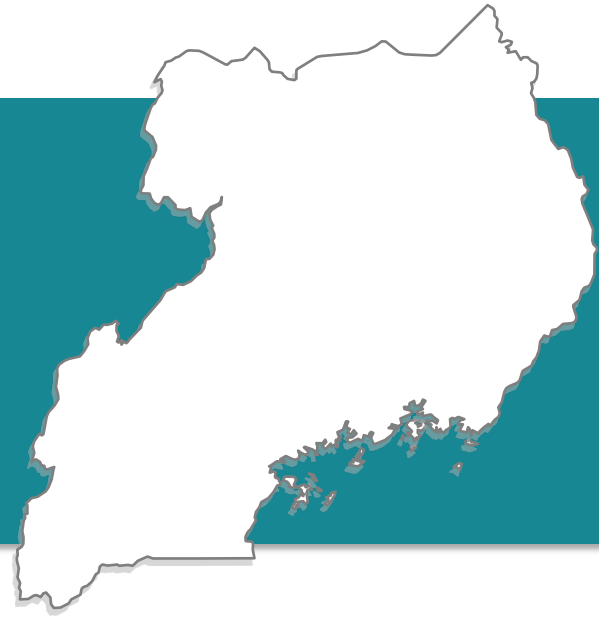
Researchers

6. Dr. Nyaradzo Mgodzi, University of Zimbabwe – College of Health Sciences (UZ-CHS)

International Donors and Implementing Partners

7. Dr. Emily Gwavava, Population Services International Zimbabwe (PSI/Z)
8. Dr. Paul Ndebele, Medical Research Council of Zimbabwe (MRCZ)
9. Yemurai Mangwendeza/Abaden Svosvi, Clinton Health Access Initiative (CHAI)
10. Tendayi Mharadze, CeSHHAR
11. Dr. Moses Macheke, Zimbabwe National Family Planning Council (ZNFPC)
12. Mrs Tsitsi Musvosvi, Zimbabwe National Family Planning Council (ZNFPC)
13. Natalie Kruse-Levy, USAID

UGANDA





Uganda: Potential for the ring

EARLY ADOPTER due to favorable policy environment, receptivity of the MoH, and pre-existing institutional infrastructure from oral PrEP introduction

Opportunities

- **Positive stakeholder impressions:** Overall, stakeholders were receptive and interested in the ring. They appreciated the opportunity for a **woman-controlled** product, and thought it would be applicable to range of woman: from young women and girls to people in serodiscordant relationships to commercial sex workers.
- **Existing processes and structure:** Stakeholders believe they will be able to **build on the existing national guidelines for oral PrEP** where the ring is already listed as a “promising” new technology. The country can also leverage the **same Technical Working Group** as oral PrEP.
- **Widespread familiarity:** There is strong **existing in-country knowledge** of the dapivirine ring and **general excitement** about it.

Challenges

- **Slow pace of past introductions:** Oral PrEP implementation in Uganda was **slow** to move forward, and it was **not an easy process**.
- **Likelihood to follow a similar process:** While stakeholders believe the ring will **avoid many of the obstacles** that oral PrEP faced, there is still reason to believe it will take time. Stakeholders do not see significant barriers to demonstration.
- **Limited financial resources:** The MoH relies on **international partners** to fund oral PrEP. The government would also rely on international funding for ring demonstration and rollout which raises questions about **sustainability**. This is not unique to Uganda; financial limitations are a challenge for many other countries in the region.



Uganda: Assessment overview

High-level assessment for the ring

A blue icon of a computer monitor displaying a bar chart and a pie chart.	HIV epidemic characteristics	SIGNIFICANT NEED: There is a high prevalence rate of 6.5% and it is estimated that there are 52,000 new infections per year. Women are most impacted and HIV prevalence is ~4 times higher among young women than young men.
A blue icon of a building with a cross on top, representing a healthcare facility.	HIV prevention program	STRONG OPPORTUNITY: Uganda has oral PrEP and other biomedical interventions included in the NSP, and has dedicated about 23% of its NSP budget to prevention. Still, like other countries in the region, Uganda faces funding constraints for adding additional products.
A blue icon of a pill bottle with a cross on the label.	Oral PrEP experience	MODERATE OPPORTUNITY: Uganda was somewhat slow to incorporate oral PrEP into national guidelines and plans. However, the resulting processes and structures (e.g., PrEP TWG) now can be leveraged for the ring.
A blue icon of a circle with a gap, representing a ring or trial.	Ring trial experience to-date	STRONG OPPORTUNITY: Government, academic, and civil society stakeholders were relatively familiar with the ring, and Uganda has been a site for several landmark ring trials.
A blue icon of two speech bubbles, representing communication or reactions.	Stakeholder reactions to the ring	STRONG OPPORTUNITY: Stakeholders were interested in the ring and saw the benefits of adding an additional product controlled by women to the HIV prevention toolkit.
A blue icon of a clipboard with a checklist and a pencil.	Product introduction process	STRONG OPPORTUNITY: Uganda has a clear introduction process that can be sped up through strong partnership with government. Early indications from government stakeholders suggest the process could be sped up.

Additional details on following slides



Uganda: HIV context

Uganda has an estimated

1.4 million

people living with HIV, which accounts for

6.5% of the adult population

and

52,000 new infections

occur annually¹

HIV prevalence among Uganda's fishing communities is estimated to be **three times higher** than the general population. A 2013 study of 46 fishing communities found **HIV prevalence to be at 22%**.¹

Women, particularly **young girls and adolescent women**, are disproportionately affected by HIV. Other impacted populations include **sex workers, MSM, PWID**, and people from transient **fishing communities**.

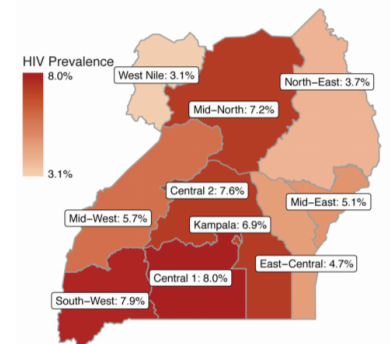
Women are disproportionately affected¹

Prevalence among adult women is **7.6% compared to 4.7%** among Ugandan men. Sex workers are also greatly impacted (37% prevalence)

The gender disparity is greatest among young women¹

HIV prevalence is **almost four times higher among young women** (ages 15-24) than young men of the same age

HIV among adults is highest in the central, mid-north, and southwest regions²





Uganda: HIV prevention context

Context

- **Political landscape:** While Ugandan government stakeholders generally expressed positive perceptions of the dapivirine ring, some past HIV prevention efforts have been hindered by legal, cultural, or political barriers. For instance, the recently passed HIV Prevention and Control Act criminalizes HIV transmission and behavior that could result in transmission.²
- **Recent progress with prevention and treatment:** Uganda has experienced declines in new infections between 2010 and 2016, and there has been considerable progress toward the first two 90's, but viral suppression remains a challenge.²

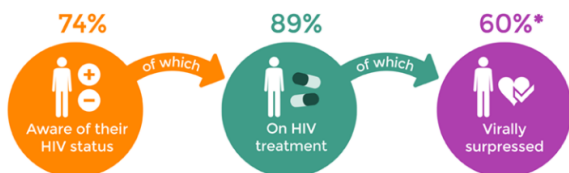
National Policies and Strategies for Prevention

- **Goal:** Uganda's prevention strategy goal is to **reduce the number of youth and adult infections by 70%** and the number of new paediatric HIV infections by 95% by 2020.¹
- **Strategy:** The country's prevention strategy has three objectives: (A) Increase **adoption of safer sexual behaviors** and **reduction in risky behaviors**; (B) Scale-up **biomedical HIV prevention interventions** (such as oral PrEP) delivered as part of health care services; (C) **Mitigate underlying socio-cultural, gender, and other factors** that drive the HIV epidemic.¹
- **Budget:** Prevention will account for **23% of the \$3.6B** projected to be spent on prevention from 2015-2020.¹

Remaining Challenges with Prevention

- **Lack of sexual education:** In 2014, **only 38.5%** of young women and men (ages 15-24) could correctly identify ways of preventing sexual transmission of HIV and rejected major misconceptions about HIV transmission.²
- **Inconsistent condom use:** In 2017, **only 60% of men and 45.5% of women** reported using a condom the last time they had high-risk sex.²
- **FSW face financial pressure and violence:** Sex workers and their clients accounted for **~18% of new HIV infections** in 2015/16. Yet, sex workers are often unable to use condoms: between **33% and 55% of sex workers report inconsistent condom use**. Over 80% of sex workers experience client-perpetrated violence, which may lead to coerced sex without a condom.²
- **Legal and cultural barriers:** Stigma and discrimination against MSM and criminalization of sex work remain barriers to health care access.²

UGANDA Progress towards 90/90/90 targets among adults aged 15-59



AVERT.org Source: UNAIDS data 2017. *Ugandan Ministry of Health (2017)



Uganda: Status of oral PrEP rollout

Oral PrEP Rollout

- Oral PrEP is currently in **early implementation** stages. There are an estimated **4,000 – 5,000** current oral PrEP users in Uganda.¹
- Uganda has been the site of **clinical trials, demonstration projects, and large-scale implementation initiatives** for oral PrEP.¹ Generic versions of TDF/FTC are **approved for prevention**. Gilead's Truvada (TDF/FTC) registration is planned and in progress.¹
- In July 2008, couples in Uganda and Kenya were enrolled in the **Partners PrEP study** on serodiscordant couples. Results from this critical study were released in 2011, and data about oral PrEP was included in a section on **recent evidence** in an updated version of Uganda's 2011-2015 National Strategic Plan (NSP). Oral PrEP was later included as a **strategic action** in the 2015-2020 NSP.^{4,5}
- In 2012, the WHO released guidelines on oral PrEP for SDC and high risk MSM. However, the Ugandan MoH did not release **technical guidelines** on oral PrEP for people at high risk of HIV until 2016.² Some stakeholders mentioned frustration that Uganda was **slower to incorporate oral PrEP into national guidelines** and plans and slower to implement oral PrEP than other countries (e.g., Kenya).³
- Interviewees cited a range of reasons for the **slower pace**, including **limited financing, disbelief** that HIV could be prevented, **lack of updates** to the MOH along the way, **perceived competition with ARVs** for treatment, and **moral challenges** and **myths** (i.e., oral PrEP is for MSM, oral PrEP encourages promiscuity).³
- The MoH and civil society representatives expressed that the process for the dapivirine ring has been better than the oral PrEP process because they have been **authentically engaged** throughout the trials to date.



Uganda: Ring trials activity

Uganda was a **Phase III** test site for **The Ring Study** and **ASPIRE**, and is currently enrolled in the **open-label extensions HOPE and DREAM**. Uganda will also be a site for the **REACH** trial for young women.

Study	Phase	Results	Partners
The Ring Study (TRS) (ages 18-45) IPM-027	III	The ring reduced risk of HIV-I infection by ~31% overall compared to a placebo	<ul style="list-style-type: none"> • Led by: International Partnership for Microbicides, Inc. (IPM) • Funding: Bill and Melinda Gates Foundation, PEPFAR, USAID, and several European governments and organizations • Site: MRC/UVRI Uganda Research Unit on AIDS, Masaka
ASPIRE (ages 18-45) MTN-020	III	The ring reduced risk of HIV-I infection by ~27% overall compared to a placebo. HIV risk was cut by 56% in women older than 21, who appeared to use the ring most consistently	<ul style="list-style-type: none"> • Led by: Microbicide Trials Network (MTN) • Funding: US NIH, US NIMH, US National Institute of Allergy and Infectious Disease (IND Sponsor: IPM) • Site: Makerere University Johns Hopkins University Research Collaboration (MU-JHU) • Site Investigators: Flavia Matovu, Clemensia Nakabiito
DREAM (ages 18-45) IPM-032	IIIb OLE	(Preliminary) Risk reduced by ~54%	<ul style="list-style-type: none"> • Led by: IPM • Funding: Bill and Melinda Gates Foundation, PEPFAR, USAID, and several European governments and organizations • Site: MRC/UVRI Uganda Research Unit on AIDS, Masaka
HOPE (ages 18-45) MTN-025	IIIb OLE	(Preliminary) Risk reduced by ~54%	<ul style="list-style-type: none"> • Led by: MTN • Funding: US NIH, US NIMH, US National Institute of Allergy and Infectious Disease (IND Sponsor: IPM) • Site: MU-JHU • Site Investigators: Flavia Matovu, Clemensia Nakabiito
REACH (ages 16-21) MTN-034	OLE	(Pending) Will collect safety and adherence data over the course of study product use for young women. Will also examine the acceptability of the study products. (6mo ring, 6mo oral PrEP, then choose for 6 months)	<ul style="list-style-type: none"> • Led by: MTN • Funding: US NIH, US NIMH, US NIAID, US NICHD • Sponsors: IPM, Gilead Sciences, Inc.

Sources: (1) <https://mtnstopshiv.org/news/studies/mtn020/factsheet> (2) <https://mtnstopshiv.org/news/womens-use-vaginal-ring-higher-open-label-study-level-hiv-protection> (3) <https://mtnstopshiv.org/news/reach-study-mtn-034> (4) <https://www.avac.org/ipm-027-ring-study-0> (5) <https://www.niaid.nih.gov/news-events/vaginal-ring-provides-partial-protection-hiv-large-multinational-trial>



Uganda: Impressions of the ring

Opportunities

“We are really interested in a **women-controlled** HIV prevention method. We have been desiring that given our **patriarchal society**.”
– Civil society representative

“I am happy with the ring because there is **information already**. **Women are asking about the ring**. The local people are asking ‘now you say the ring will work, now when will we get it?’”
– Civil society representative

“The stage we’ve reached in the epidemic is that we need to **control new cases**, the last mile is never easy. The ring is a good addition, and when the science proves it is **efficacious enough** it will be good.”
– Policymaker

“Having a demonstration is **very welcome**. We will **ride on existing structures** so it should not be a problem to set up one.”
– Policymaker

Challenges

“Our government is a **late adopter** of new options. They are preoccupied with what’s currently happening. **We don’t jump on everything new** most of the time. We should anticipate that same approach with the ring. I can bet it will take **quite a bit of advocacy** to have the ring accepted.”
– Civil society representative

“In spite of our current guidelines, oral PrEP is still not distributed by government., but rather it’s distributed by partners. While the government has signed of the guidelines, they are **concerned with resources** and less willing to spend its own resources on PrEP.”
– Civil society representative



Uganda: Key questions about the ring

- 1 How can **acceptability** be increased among **different age groups** (e.g., young women) and how does **behavior change** vary across age groups?
- 2 What does behavioral data demonstrate about the impact of the ring on “**sexual disinhibition**” (i.e., can data allay concerns about “promiscuity”)?
- 3 How does the ring’s **cost-effectiveness compare** to other prevention methods (e.g., condoms, oral PrEP, VMMC)? How much will the government **save** by investing in the ring?
- 4 How much does **efficacy** increase with more consistent use? What factors promote better **adherence**?
- 5 With extended use, does the ring continue to demonstrate minimal **side effects** and minimal **drug resistance**?
- 6 Does ring usage impact **prevalence rates** or **risk** of contracting **other STIs** as a result of behavior changes?

In addition to questions that will need to be answered in demonstration, stakeholders raised the following **technical questions** that will need to be **answered now** and have **clear messaging** during introduction:

- Is silicone biodegradable? What is the **disposal process** for the ring and what are the environmental repercussions of ring disposal?
- How often should a woman using the ring be **tested for HIV**? Is self-testing sufficient or should a woman report to a health facility for HIV testing?
- Why is the ring **one size fits all**? How does the ring fit everyone regardless of size? Can the ring fall out?



Uganda: Interviews

Policymakers

1. Dr. Herbert Kadama, PrEP TWG Coordinator, Ministry of Health
2. Dr. Peter Mudiope, Coordinator of HIV Prevention, Ministry of Health
3. Dr. Nelson Musoba, Director General, Uganda AIDS Commission
4. Dr. Dan Byamukama, Head of HIV Prevention, Uganda AIDS Commission
5. Dr. Caroline Nakkazi, HIV Prevention Officers, Uganda AIDS Commission

Civil Society

6. Margaret Happy, Advocacy Manager, International Community of Women Living with HIV East Africa (ICWEA)
7. Brenda Facy Azizuyo, Sparked Women Project Coordinator, ICWEA
8. Charles Brown, Executive Director, Preventive Care International
9. Sylvia Nakasi, Policy and Advocacy Officer, Uganda Network of AIDS Service Organizations (UNASO)
10. Milly Katana, Community Working Group Co-Chair, MTN
11. Macklean Kyomya, Executive Director, Alliance of Women Advocating for Change (AWAC)

International Donors / Partners

12. Armstrong Mukundane, National Technical Assistance Coordinator, FHI 360
13. Sheila Kyobutungi, Program Specialist, USAID/PEPFAR
14. Elizabeth Meassick, USAID/PEPFAR
15. Joseph Lubwama, HIV Prevention, CDC

Researchers / Academia

16. Dr. Timothy Muwonge, Coordinator, PI at the Infectious Diseases Institute (IDI)
17. Dr. Flavia Matovu, Epidemiologist/Investigator with the Makerere University-Johns Hopkins University (MU-JHU) Research Collaboration
18. Dr. Andrew Mujugira, Head, IDI
19. Dr. Sylvia Kusemererwa, Project Leader, Medical Research Council/Uganda Virus Research Institute
20. Vincent Basajja, Community Liaison, Medical Research Council/Uganda Virus Research Institute
21. Dr. Fred Magala, Makerere University Walter Reed Project

SOUTH AFRICA





South Africa: Potential for the ring

STANDARD ADOPTER due to the significant burden of HIV on South Africa and the reputation as an early implementer of new prevention approaches. However, recent regulatory requirements may delay the start of demonstration projects, depending on interest of key officials in the National Department of Health and regulatory bodies.

Opportunities

- **High need:** Of all seven countries in this analysis, South Africa has the greatest HIV burden, including both the highest prevalence and incidence.
- **Strong knowledge of the ring:** Stakeholders were familiar with the ring and were largely supportive of adding another option to the prevention portfolio.
- **Recognized early adopter:** South Africa is regarded as a quick adopter of new prevention technologies, and was the first country to implement oral PrEP after WHO guidelines.
- **Strong partners:** Reputable research institutions, a coordinated and powerful civil society, and wide breadth of implementation partners will be strong partners to support demonstration and implementation.
- **Potential to develop an early demonstration proposal:** A key regulatory stakeholder suggested an opportunity to draft a demonstration proposal with the key questions before the EMA opinion, which may be able to expedite a demonstration after regulatory decisions.

Challenges

- **Potential regulatory challenges:** Regulatory approval in South Africa recently underwent changes, as the former regulatory body, Medicines Control Council, has now been replaced by South African Health Products Regulatory Authority (SAHPRA). Stakeholders expressed that this could be a roadblock, as the process with SAHPRA remains unclear to many.
- **Capacity of NDoH:** The National Department of Health (NDoH) has a relatively small team that manages the HIV prevention and treatment portfolio. Their current capacity is limited due to the recent roll-out of oral PrEP, self-testing and new treatment options. For example, policymakers were unavailable to be interviewed for this analysis.
- **Funding:** While South Africa spends a larger portion of national funds on their HIV response relative to other countries, it is likely that demonstration and the first few years of a new product need to be funded by donors.



South Africa: Assessment overview

High-level assessment for the ring

A monitor displaying a bar chart and a pie chart.	HIV epidemic characteristics	SIGNIFICANT NEED: South Africa has the highest HIV burden in the world, with 7.1 million people living with HIV and an additional 270,000 new infections annually.
A building with a cross on top, representing a healthcare facility.	HIV prevention program	STRONG OPPORTUNITY: South Africa has developed the largest treatment program in the world and recently renewed their commitment to prevention. Additionally, the NDOH has shown an openness to biomedical products.
A blue pill bottle with a white cross on the label.	Oral PrEP experience	STRONG OPPORTUNITY: South Africa has the largest number of oral PrEP users in the region, and was the first country in the region to implement oral PrEP. However, challenges with funding and adherence have slowed scale -up.
A blue circle with a white ring inside, representing a ring trial.	Ring trial experience to-date	STRONG OPPORTUNITY: South Africa has been involved in both phase III trials and OLEs. Sites from South Africa are also included in REACH.
Two overlapping speech bubbles, representing communication or stakeholder input.	Stakeholder reactions to the ring	MODERATE OPPORTUNITY: Stakeholders were largely familiar with the ring and eager about additional prevention options. Some stakeholders expressed concerns about efficacy and the challenge of introducing multiple new products simultaneously.
A clipboard with a checklist and a pencil, representing a process or document.	Product introduction process	MODERATE OPPORTUNITY: Changes among the national regulatory process have created some uncertainty about the process. However, with compelling evidence and political buy-in the process can be easier.

Additional details on following slides



South Africa: HIV context

South Africa has an estimated

7.1 million

people living with HIV, which accounts for

18.9% of the adult population

and

270,000 new infections

occur annually.¹

South Africa = 1 in 5 people living with HIV globally²



AGYW face higher risk of infection²

AGYW account for **100,000 new cases annually** out of 270,000 new infections countrywide. Their **HIV burden is 4x** that of male peers

Young women have the highest incidence rate²

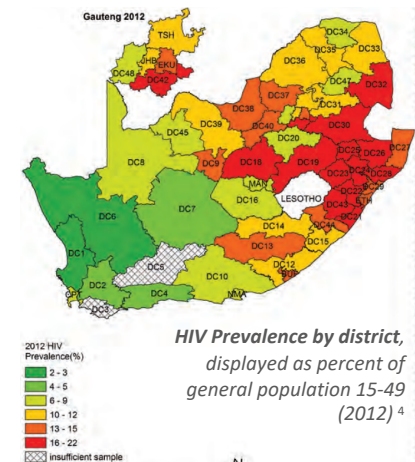
Approximately **2,000 new HIV infections occur weekly** among women ages 15-24

FSWs face high burden of HIV, but it varies geographically³

Prevalence among FSWs ranges from **39.7% in Cape Town** to **53.5% in Durban** to as high as **71.8% in Johannesburg**

Urban and semi-urban areas show higher prevalence⁴

Prevalence rates among provinces **vary greatly**. KwaZulu-Natal has the highest prevalence in the country, at 16.9% among all adults, relative to Western Cape, with a prevalence of 6.4%.



HIV Prevalence by district, displayed as percent of general population 15-49 (2012)⁴

Sources: (1) UNAIDS Data 2017, (2) South Africa's National Strategic Plan for HIV, TB and STIs 2017-2022, (3) Let Our Actions Count: Reflections on NSP 2012-2016 and moving forward to NSP 2017-2022, (4) https://www.heads.ac.za/site/assets/files/1267/sabssm_iv_leo_final.pdf ; (5) http://sanac.org.za/wp-content/uploads/2016/06/GARPR_report-high-res-for-print-june-15-2016.pdf



South Africa: HIV prevention context

Context

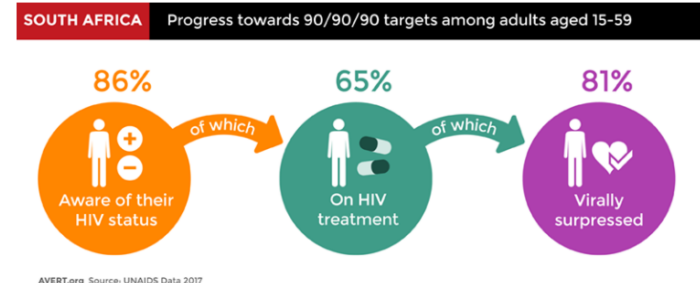
- **Political landscape:** South Africa is recognized as a quick adopter of new approaches to combat HIV. However, recent challenges with funding, a new regulatory body, and less capacity due to oral PrEP and HIV self-testing implementation may lessen political buy-in for the ring. If the ring is evidenced to be effective among AGYW, political buy in among NDoH would likely follow.
- **Recent progress with prevention and treatment:** South Africa has made significant process in the last decade. New infections have declined from 360,000 in 2012 to 270,000 in 2016. South Africa has the largest HIV treatment program in the world, with over 3.7 million people initiated on ART as of December 2016.¹

National Policies and Strategies for Prevention ¹

- The **National Strategic Plan for HIV, TB and STIs (NSP) 2017-2022** is South Africa's fourth plan. The NSP is published by SANAC in partnership with NDoH and other stakeholders.
- The most recent NSP has **eight goals**, including accelerating prevention efforts, reducing mortality, focusing on **key and vulnerable populations**, and addressing the social and structural drivers of HIV, TB, and STIs, among others.
- The prevention goal aims to reduce new infections from 270,000 in 2016 to **100,000 in 2022**, by **eliminating MTCT** and **reducing new infections among AGYW** from 2000 infections each week to fewer than 800.
- The **combination prevention** approach includes comprehensive education in community settings, eMTCT, and oral PrEP, and others. The NSP highlights the role **biomedical products** can play, with an objective to “implement targeted biomedical prevention services tailored to setting and population.”

Remaining Challenges with Prevention

- **Health system:** Stakeholders shared that there is great variability of health services across provinces, districts, and clinics. Training among frontline healthcare workers has been a challenge for oral PrEP. One stakeholder shared that the NDoH of Health has been facing pressure to improve basic health system functioning.
- **Education:** A 2015 UNFA survey found that only 59% of young people in South Africa have comprehensive knowledge of how to prevent HIV.¹¹
- **Capacity of NDoH:** The core team leading HIV Prevention is focused on the rollout of oral PrEP and self-testing.



AVERT.org Source: UNAIDS Data 2017



South Africa: Status of oral PrEP rollout

Oral PrEP Rollout

- Oral PrEP is currently in **early implementation** stages. There are an estimated **8,500 – 9,500** current oral PrEP users in South Africa.¹
- South Africa was the site of **clinical trials, open-label extensions, implementation projects, large-scale implementation initiatives, and product introduction / support projects** for oral PrEP.¹
- Both Gilead's Truvada (TDF/FTC) and generic versions of TDF/FTC are **approved for prevention**.¹
- Eligibility criteria state that oral PrEP is available for HIV-negative individuals who are at **significant risk for acquiring HIV infection**. The oral PrEP guidelines note that oral PrEP is suitable for the following populations:
 - Any MSM or transgender person who wants PrEP,
 - Heterosexual women and men who want PrEP, targeting especially sex workers and those who have multiple sexual partners, among others, and
 - People who inject drugs.
- South Africa became the **first country to implement oral PrEP** when policymakers quickly formed the oral PrEP TWG **one month after WHO guidance**. South Africa introduced oral PrEP eight months later through a phased implementation approach, beginning with FSW and MSM, which has recently extended to AGYW.
- While policymakers indicated an early commitment to oral PrEP, South Africa has encountered challenges that have slowed down implementation. Key challenges have included **low adherence**, sustaining **sufficient funding**, and **low health system capacity**.



South Africa: Ring trial activity

Dapivirine Ring Trials

- South Africa was a **Phase III test site for The Ring Study and ASPIRE**, and is currently enrolled in the **open-label extensions HOPE and DREAM**. South Africa will also be a site for the **REACH** trial for AGYW.

Study	Phase	Results	Partners
The Ring Study (TRS) (ages 18-45) IPM-027	III	The ring reduced risk of HIV-1 infection by ~31% overall compared to a placebo	<ul style="list-style-type: none"> • Led by: International Partnership for Microbicides, Inc. (IPM) • Funding: Bill and Melinda Gates Foundation, PEPFAR, USAID, and several European governments and organizations
ASPIRE (ages 18-45) MTN-020	III	The ring reduced risk of HIV-1 infection by ~27% overall compared to a placebo. HIV risk was cut by 56% in women older than 21, who appeared to use the ring most consistently	<ul style="list-style-type: none"> • Led by: Microbicide Trials Network (MTN) • Funding: US NIH, US NIMH, US National Institute of Allergy and Infectious Disease (IND Sponsor: IPM)
DREAM (ages 18-45) IPM-032	IIIb OLE	(Preliminary) Risk reduced by ~54%	<ul style="list-style-type: none"> • Led by: IPM • Funding: Bill and Melinda Gates Foundation, PEPFAR, USAID, and several European governments and organizations
HOPE (ages 18-45) MTN-025	IIIb OLE	(Preliminary) Risk reduced by ~54%	<ul style="list-style-type: none"> • Led by: MTN • Funding: US NIH, US NIMH, US National Institute of Allergy and Infectious Disease (IND Sponsor: IPM)
REACH (ages 16-21) MTN-034	OLE	(Pending) Will collect safety and adherence data over the course of study product use for young women. Will also examine the acceptability of the study products. (6mo ring, 6mo oral PrEP, then choose for 6 mo)	<ul style="list-style-type: none"> • Led by: MTN • Funding: US NIH, US NIMH, US NIAID, US NICHHD • Sponsors: IPM, Gilead Sciences, Inc.

Site information: South Africa had nine sites for ASIPRE and HOPE, including one site in both Cape Town and Johannesburg, and seven sites in Durban. For TRS and DREAM, there are six sites in South Africa



South Africa: Impressions of the ring

Opportunities

“Participants find the ring acceptable because it is **easy to use, female initiated**, and women are able to protect themselves. They also like that the ring **only requires monthly action.**”

– Trial researcher

“We should not be thinking about the ring as an independent technology, but rather **contributing toward our prevention portfolio**. When we do this, I think a 50% efficacy rate would generate interest among regulators.” – Key policymaker

“From the experiences with the PrEP working group, one of the advantages is that the **PrEP infrastructure will have been built** around TDF.

We will be able to leverage that.”

– Implementation partner

“In South Africa there are a lot of **high quality implementers and research institutions**.

Their ability to move things is significant.”

– International donor

Challenges

“My biggest concern is how we position it in terms of efficacy. The **efficacy with among AGYW** is a bit of a concern. I spoke to a clinician and asked him if I were on the ring and knew I was exposed to HIV, would he recommend I take PEP, and he said yes. The same is not true about PrEP.”

– Implementation partner

“There has been very little conversation about the ring in South Africa. This is not due to lack of interest, but just **because so many other things are happening** in prevention and treatment.” – International donor

“I see the ring entering the market at a **time of pressure and a lack of resources**. When we talk about where to put funding, if we put funding into the ring, it's coming out of PrEP. What's the comparative benefit of the ring relative to PrEP, condom promotion, or community interventions?”

– International donor

“There **haven't been many conversations** about the ring outside of prevention research.

There have been no discussions about programmatic implications.”

– Implementation partner



South Africa: Key questions about the ring

1

What is the **efficacy** of the ring? To what extent does efficacy change among different populations? Is the ring effective among AGYW and serodiscordant couples?

2

To what extent do **end-users adhere** well to the ring in real world settings? Do **AGYW adhere** well? What are the implications of low adherence?

3

What is the **impact** of the ring? How many infections will the **ring prevent relative to other prevention approaches** (oral PrEP, condom promotion, behavior change and communication)? What does **ring modeling look like** in combination with other prevention options? What is the impact among AGYW?

4

What are the **costs** of investing in the ring? How do the costs compare with other prevention options?

5

What is the **delivery method** that will be used for the ring (e.g. ARV clinics for SDC, family planning clinics for AGYW, etc.)? What are the impacts on the **health system**? What kind of **training** will be necessary for healthcare providers? How feasible is the training of healthcare providers?



South Africa: Interviews

Polymakers

1. Helen Rees, SAHPRA and Wits RHI

Researchers and Implementation Partners

2. Dr. Saiqa Mullick, Wits RHI
3. Elmari Briedenhann, Wits RHI
4. Diantha Pillay, Wits RHI
5. Krina Reddy, Wits RHI
6. Florence Mathebula, Wits RHI (Qualitative Researcher for ASPIRE)
7. Andile Twala, Wits RHI (Community liaison officer for ASPIRE)
8. Zonke Madubi, Match Research Unit
9. Sarah Jenkins, Clinton Health Access Initiative
10. Katie Callahan, Clinton Health Access Initiative

International Donors

11. Tim Mah, USAID

KENYA





Kenya: Potential for the ring

STANDARD ADOPTER due to past successes with prevention and enthusiasm from stakeholders. However, health system constraints and political challenges may slow the demonstration process.

Opportunities

- **Past success with prevention:** Kenya is considered a prevention success story – annual new HIV infections are less than 1/3 what they were at the peak of the epidemic in 1993 and new infections have continued to decline.¹ Moreover, Kenya has invested in combination prevention, so the ring could be a natural addition to the menu of prevention options.
- **Addresses a challenge that oral PrEP faces:** Interviewees noted that people who have trouble with adherence to a daily pill may find it easier to use a ring.
- **Current revision of national plans:** The National Strategic Plan for HIV/AIDS expires next year, and the country is in the process of revising it, which presents an opportunity to incorporate mention of the ring.
- **Provider Capacity:** Kenya has invested in developing health care provider capacity to deliver oral PrEP, which may also provide a foundation for the ring.

Challenges

- **Concerns about integration with oral PrEP rollout:** Stakeholders raised concerns that introducing the ring while Kenya is still rolling-out oral PrEP may cause confusion, especially for healthcare providers. As the ring will not be available until late 2019, this concern will likely be alleviated.
- **USG suspension on working with the Kenya MoH:** Currently, USAID funds cannot be used for work with the national Ministry of Health. How the ring could be introduced without strong MoH collaboration is a big question. Currently, engagement at the county level is not affected, but counties can only act following a national launch. Other activities could proceed such as: examining willingness to pay through public and private sector, scenario planning about distribution locations, and segmentation considerations about who would use the ring vs. oral PrEP or condoms.



Kenya: Assessment overview

High-level assessment for the ring

A blue icon showing a bar chart and a pie chart on a computer monitor.	HIV epidemic characteristics	SIGNIFICANT NEED: Kenya has a high HIV prevalence rate (5.4%), with 62,000 new infections per year. Young women are most at-risk, accounting for 33% of new HIV infections.
A blue icon showing a building with a cross and a person, representing a healthcare facility.	HIV prevention program	SIGNIFICANT OPPORTUNITY: Kenya has invested significantly in HIV prevention and has had success with introduction of VMMC, PMTCT and, most recently, oral PrEP. Kenya also has a significant focus on youth (who account for 51% of new infections), which may be a good fit for the ring.
A blue icon showing a medicine bottle with a cross on it.	Oral PrEP experience	SIGNIFICANT OPPORTUNITY: Kenya was one of the first countries to approve oral PrEP and implement it at scale; a PrEP technical working group (TWG) has already been established and could be leveraged for ring introduction.
A blue icon showing a circle with a gap, representing a ring or trial.	Ring trial experience to-date	MODERATE OPPORTUNITY: No Phase III trials or OLEs for the ring were conducted in Kenya, but Kenya will have sites in the REACH study.
A blue icon showing two speech bubbles, representing communication or reactions.	Stakeholder reactions to the ring	SIGNIFICANT OPPORTUNITY: Most stakeholders have little knowledge about the ring, but expressed enthusiasm about the product once they learned more.
A blue icon showing a clipboard with a checklist and a pencil, representing a process or document.	Product introduction process	MODERATE OPPORTUNITY: Kenya has a clearly defined product introduction process that worked well for oral PrEP; however, there may be complications to working with the Kenyan MoH due to the USAID ban.

Additional details on following slides



Kenya: HIV context

Kenya has an estimated

1.6 million

people living with HIV,
which accounts for

5.4% of the population

and an estimated

55,000 new infections

occur annually^{1,4}

Kenya has the joint **fourth-largest** epidemic in the world.¹ However, it is also considered a prevention “success” story and new infections have fallen in recent years. Kenya was one of the **first countries to approve the use of oral PrEP**. They are also leading in VMMC provision, having surpassed the VMMC target of 80% in 2014 and reached 92.6% of men in 2016.²

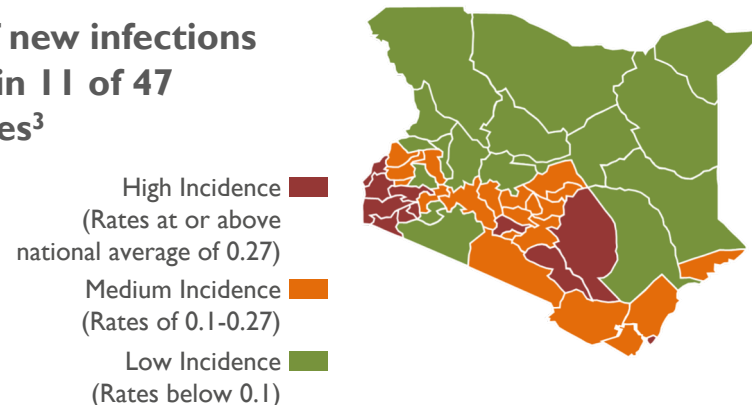
Young people, especially young women, are disproportionately affected by HIV¹

In 2015, **over half** (51%) of new infections were among young people ages 15-24.¹ Young women were almost **twice as likely** to contract HIV as their male counterparts. Young women accounted for **33%** of new infections, while young men accounted for 16%¹

MSM, FSW and PWID are heavily impacted¹

30% of new infections happen among key populations.¹ **Sex workers** have the highest HIV prevalence (29.3%) along with MSM (18.2%), and PWID (18.3%)¹

65% of new infections occur in 11 of 47 counties³





Kenya: HIV prevention context

Context

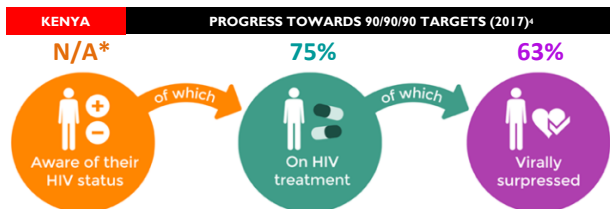
- **Political landscape:** The current administration is largely supportive of HIV prevention. However, due to alleged corruption in the MOH, projects with USAID funding can no longer solicit national input or collaboration from the MOH. County level engagement is not affected. This situation will likely impact the near-term prospects for funding from US-based donors.
- **Recent progress with prevention and treatment:** Kenya has made considerable progress to address the HIV epidemic through investments in combination prevention such as condoms, PMTCT, VMMC, and education and awareness. Kenya has decreased annual new infections from 77,000 in 2010 to 55,000 in 2016 and 90% of HIV.

National Policies and Strategies for Prevention

- **Goal:** The prevention goal is to **reduce new infections by 75%** using biomedical, behavioral, and structural interventions.
- **Targeted intervention among youth:** Given that 51% of new HIV infections in 2015 occurred among **youth ages 15-24**, the Kenyan government is investing in targeted interventions among youth.³
- **Target geographies:** The large cities of **Nairobi and Mombasa** saw a 50% increase in new HIV infections between 2013 to 2015, which has led to a greater emphasis of reducing rates in large cities.³ The HIV burden in Kenya is geographically concentrated, so interventions are focused at the **county level**.

Remaining Challenges with Prevention

- **Financial limitations:** Despite growing investment, Kenya **struggles with financial sustainability** for HIV treatment and prevention. Like peer countries, the government is heavily reliant on donor funding to support HIV prevention and treatment programs.⁴
- **Health system constraints:** The current **health service system** faces challenges in **planning, coordination, and inadequate investment** in infrastructure leading to capacity constraints in HIV-AIDS clinics.⁴
- **Stigma: PLHIV** continue to face **high levels of stigma and discrimination** throughout the country.¹
- **Low risk perception:** Risk perception is **low** among certain target populations, making prevention uptake a challenge.⁴
- **Young adults:** Half of new infections among adults occur among **15 and 24 year olds**.⁴ Young women in this group represented a **third of all new infections** in 2015.⁴



* Recent data does not include the first of the three 90's. The most recent data, from [KAIS 2012](#) recorded **47% aware of their status**.

Sources: (1) Kenya Aids Strategic Framework 2014/15-2018/19, Ministry of Health, 2014; (2) Kenya Prevention Revolution Roadmap, Ministry of Health, 2014; (3) Kenya AIDS Response Progress Report, National Aids Control Council, 2016 (4) https://www.prepwatch.org/wp-content/uploads/2017/05/Kenya_PrEP_Implementation_Framework.pdf; (5) <https://www.avert.org/professionals/hiv-around-world/sub-saharan-africa/kenya> (6) Graphic from AVERT (modified by FSG); Data: UNAIDS Special Analysis, 2018



Kenya: Status of oral PrEP rollout

Status of oral PrEP Rollout

- Oral PrEP is included in Kenya's strategic HIV/AIDS documents including the **Kenya AIDS Strategic Framework (2014-2019)** and the **HIV Prevention Revolution Roadmap (2014)**.
- In 2016, Kenya became the **second** country in sub-Saharan Africa to issue **full regulatory approval of oral pre-exposure prophylaxis (PrEP)**.¹ Rollout began in 19 high and medium incidence counties in 2017, and by 2018, rollout touched almost every county.⁶
- Kenya is currently **conducting research into the uptake and impact of oral PrEP**, specifically with young women and girls in high-incidence areas.¹
- Kenya has a **mature HIV care and treatment program**, so there is existing infrastructure at both the facility and community level for rolling out oral PrEP.³
- As of February 2018, there were 30,000 people enrolled with **20,000 people active on oral PrEP**, representing clients across the country from over 800 facilities.^{2,6} The government aims to reach 500,000 people facing substantial ongoing risk with oral PrEP by 2022.³ People who face such ongoing risk include sex workers, MSM, PWID, and SDC in high and medium incidence counties.³ SDC are the most frequent users, while AGYW are the lowest users.⁶ Oral PrEP is **available for free for all populations at substantial ongoing risk**, and anyone else willing to pay can access it from pharmacies and private hospitals.⁶
- At LVCT Health demonstration sites in Kenya, there were several challenges for women accessing oral PrEP, including the fact that women find it **difficult to visit clinics** for oral PrEP services (often due to stigma). Women also noted challenges with taking oral PrEP, including **side effects** and the **daily pill burden**.⁵
- Providers and staff at these demonstration sites shared solutions they used to overcome barriers to access for women including **testing in the community** rather than a health clinic, reaching women where they access **family planning** or other services, and **peer-to-peer** encouragement.⁵ These strategies are now being used all around the country.



Kenya: Ring trials activity

Kenya has **not been the site for any phase III trials or open-label extensions**, but will be a site for the **REACH study for young women** which is expected to provide safety, adherence and acceptability data on the ring for girls and young women ages 16 to 21.

Study	Phase	Results	Partners
REACH (ages 16-21) MTN-034	II a	(Pending) Will collect safety and adherence data over the course of study product use for young women. Will also examine the acceptability of the study products. (6 month ring, 6 month oral PrEP, then choose between the ring, oral PrEP, or neither for 6 month)	<ul style="list-style-type: none">• Led by: MTN• Funding: US NIH, US NIMH, US NIAID. US NICHD• Sponsors: IPM, Gilead Sciences, Inc.• Key Site: KISUMU CRS Clinical Research Center



Kenya: Key questions raised about the ring

The following questions were raised in consultations with key stakeholders.

Strategic questions

- 1 What is the acceptability of the ring for Kenyan women and men? How comfortable are women with using the ring? Can male partners feel the ring during sexual intercourse?
- 2 How much will the ring cost? If it will not be given for free, what would be a sustainable price? Will the funding for the ring take away from oral PrEP?
- 3 What supports can we put in place for adherence? How do we ensure that people attend appointments at health facilities at the right time?
- 4 How will women be identified to participate in a demonstration study? Would women already using oral PrEP who have an issue with “pill burden” be an appropriate target group? If so, what is the best way to transition a woman from oral PrEP to the ring? Will the ring result in a decrease in oral PrEP use?

Technical questions

- What is the disposal process for the ring?
- When will the ring contain contraception in addition to HIV prevention?
- What are the side effects of using the ring? Are they similar to the side effects of using oral PrEP?



Kenya: Interviews

Civil Society

1. Winnie Wadera, Alice Visionary Foundation Project
2. Jeff Mwaisagu, International Centre for Reproductive Health (ICRH)
3. Jane Thiomi, LVCT Health

International Donors / Partners

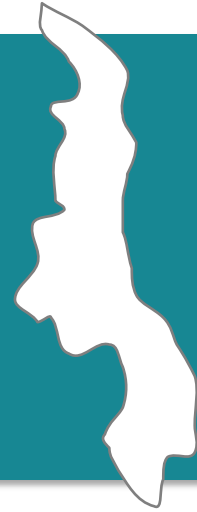
4. Vincent Ojiambo, USAID

Researchers / Academia

5. Dr. Nelly Mugo, KEMRI
6. Jordan Kyongo, LVCT Health

Informal conversations at the International AIDS Society (IAS) International AIDS Conference 2018 also informed this analysis.

MALAWI





Malawi: Potential for the Ring

SLOWER ADOPTER due to limited resources, gradual adoption of oral PrEP, and policymakers that prefer a robust body of evidence. However, civil society stakeholders are energized, organized, and eager to participate in ring advocacy.

Opportunities

- **Stakeholder interest:** There is **cautious interest** in building out the evidence base to support introduction of the ring in Malawi. Policymakers, implementation partners, and civil society representatives seemed open to discussing a new prevention option.
- **Active and respected civil society:** Civil society plays a strong role in influencing policymakers in Malawi. They are well organized, with structures for communication and coordination, such as MANASO. They are optimistic about ring.
- **Technical advantages of the ring:** In early conversations, stakeholders seemed supportive of the ring since it is a women-owned product. They are particularly interested in additional HIV prevention options for AGYW. Additionally, policymakers seemed open to the ring since it does not carry the same risk of resistance as oral PrEP.

Challenges

- **Robust evidence required:** Policymakers will need to be **engaged carefully** in the process once there is a robust body of evidence. Civil society can be a persuasive voice for policy change.
- **Health system capacity:** Malawi has **resource and health system constraints**, and a low physician and nurse to population ratio. Given these constraints, policymakers emphasize a low burden on the health system and cost-effectiveness as important criteria for new products.
- **Questions about the feasibility for Malawi:** On a recent study tour to South Africa, policymakers from Malawi felt discouraged by progress with oral PrEP, and especially with challenges in adherence. The policymakers felt since **South Africa was facing challenges, it would be impossible for Malawi to succeed** given the difference in resources.



Malawi: Assessment overview

High-level assessment for the ring

A computer monitor displaying a bar chart and a pie chart.	HIV epidemic characteristics	SIGNIFICANT NEED: There is a particularly high prevalence rate, at 9.2%. Estimates also suggest that an additional 36,000 people are infected annually, and that AGYW are highly vulnerable.
A building with a cross on top, representing a healthcare facility.	HIV prevention program	MODERATE OPPORTUNITY: Malawi is growing its investments in HIV prevention. In particular, policymakers are seeking additional HIV prevention options for AGYW.
A small bottle with a cross on it, representing a medicine or pill.	Oral PrEP experience	POTENTIAL LIMITATION: Malawi has moved slowly to introduce oral PrEP and is still in the demonstration project phase, as of August 2018.
A simple blue circle.	Ring trial experience to-date	MODERATE OPPORTUNITY: Malawi has been the site of several ring studies, but many stakeholders were not familiar with the ring.
Two overlapping speech bubbles, representing communication or dialogue.	Stakeholder reactions to the ring	MODERATE OPPORTUNITY: Policymakers seemed cautiously interested in the ring, and saw benefits over oral PrEP in their context. Civil society advocates were eager to be engaged further.
A clipboard with a checklist and a pencil, representing a process or document.	Product introduction process	MODERATE OPPORTUNITY: There is a clear process for product introduction in Malawi, although the perceptions of a few key decision-makers that have not yet been engaged will be critical.

Additional details on following slides



Malawi: HIV context

Malawi has an estimated

1.0 million

people living with HIV,
which accounts for

**9.2% of the
adult
population**
and

**36,000 new
infections**

occur annually ¹

**Women are
disproportionately
affected** ²

Prevalence among adult
women (aged 15-64) is
12.8%, compared to 8.2%
among Malawian adult men

**The gender disparity
is largest among
young adults** ²

HIV prevalence among 25-
to 29-year-olds is **three
times higher among
females** (14.1 percent)
than males (4.8 percent).

**The health
system is deeply
burdened** ³

Malawi has one of the **most
severe health workforce
crises** in Africa, with a low
physician-to-population ratio
at 2:100,000 and a nurse to
population ratio at
28:100,000.



Malawi: HIV prevention context

Context

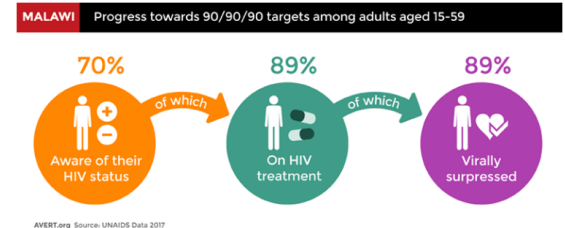
- **Political landscape:** Policymakers in Malawi are **cautious** about committing to another intervention without robust evidence. This caution has slowed oral PrEP adoption in Malawi. Additionally, in 2019 there will be a presidential election, and stakeholders shared that it is **politically unpopular** to provide access to technology that could be perceived to increase promiscuity.
- **Recent progress with prevention and treatment:** Through significant investment from donors and the government, a focus on education, and a combination prevention strategy, Malawi has made significant progress towards the 90-90-90- goals. Incidence has declined from **98,000 new infections in 2005, to 36,000 new infections in 2016.** ¹

National Policies and Strategies for HIV Prevention

- The recent National Strategic Plan focuses on advancing **condom** availability and use, **HIV education** / behaviour change, **PMTCT**, and **VMMC**. Oral PrEP is referenced as under **research to inform policy**.
- Malawi has been very successful and a **leader regionally with PMTCT**, and was the first country to implement the Option B+ approach. ²
- Target populations in the Prevention Strategy include **MSM, FSW, AGYW (10-24), and serodiscordant couples**.
- In 2016, Malawi received 86% of funding for its HIV response from donors and 14% from domestic funding. ³ The majority of funding (47%) is spent on treatment and care, 5% on PMTCT and **23% on prevention interventions.** ⁴
- The NSP for HIV and AIDS and the National HIV Prevention Strategy are **developed by NAC** in coordination with partners every 5 years. Both were last written for the years 2015-2020, and are revised every 2.5 years, with a full review in 2020.

Remaining Challenges with HIV Prevention

- **Protecting AGYW:** Two-thirds of the population in Malawi is under 25. Policymakers are seeking additional approaches to cover AGYW, as they are very vulnerable. ²
- **Human resources for health:** In Malawi there are 3.5 healthcare staff per 1,000 ART patients, relative to the WHO recommendation of 7/1000. Fewer than 2,000 FTE are currently actively providing ART for half a million patients. ⁵
- **Socio-cultural practices:** Recognized to increase risk for young women, socio-cultural barriers include the lower socio-economic status of women, gender based violence, and initiation ceremonies for young women, all of which remain a challenge for HIV prevention. ²





Malawi: Status of oral PrEP rollout

Oral PrEP Rollout

- Oral PrEP is currently **under demonstration in Malawi**. Policymakers wanted to see evidence that was generated within the country, so it is currently written into the national guidelines as oral PrEP demonstration and research to “**generate evidence to inform policymaking.**” Current demonstration projects include:
 - **LINKAGES Malawi**, sponsored by PEPFAR and USAID and among KPs and target populations, expected to roll out in late 2018
 - Also sponsored by PEPFAR, **Lighthouse through CDC** will roll out a demonstration project focused on AGYW in late 2018
 - **PrEP Operational Research Project**, sponsored by Médecins Sans Frontières and among MSM and FSW
 - A planned **observational study sponsored by IMPAACT Network** to assess the acceptability of oral PrEP among pregnant and breastfeeding AGYW
- Malawi has been the site of both **clinical trials and demonstration projects**. For these projects, Gilead’s Truvada (TDF/FTC) has been registered and approved for prevention, and registration of generic versions of TDF/FTC for prevention is planned.
- Oral PrEP is **not currently included in the current Global Fund grant**. One stakeholder shared that the Global Fund did advocate for including oral PrEP, but policymakers did not include oral PrEP in the grant request.
- The two biggest concerns that policymakers in Malawi have about oral PrEP are the **potential to build resistance and difficulty in ensuring adherence** among oral PrEP users.
- On a recent study tour, an implementing partner took the Deputy Director of the Department of HIV / AIDS to learn from oral PrEP progress in South Africa. Ultimately, Malawian policymakers were **discouraged by South Africa’s continued challenges with adherence**. With fewer resources, policymakers felt Malawi be unable to succeed with oral PrEP rollout. This concern has led to minimal enthusiasm for oral PrEP from policymakers, and has slowed down the demonstration and implementation of oral PrEP.



Malawi: Ring trials activity

Malawi has been involved in the **phase III trial ASPIRE**, and the associated **open-label extension HOPE**.

Study	Phase	Results	Partners
ASPIRE (ages 18-45) MTN-020	III	The ring reduced risk of HIV-I infection by ~27% overall compared to a placebo. HIV risk was cut by 56% in women older than 21, who appeared to use the ring most consistently	<ul style="list-style-type: none">• Led by: Microbicide Trials Network (MTN)• Funding: US NIH, US NIMH, US National Institute of Allergy and Infectious Disease (IND Sponsor: IPM)
HOPE (ages 18-45) MTN-025	IIIb OLE	(Preliminary) Risk reduced by ~54%	<ul style="list-style-type: none">• Led by: MTN• Funding: US NIH, US NIMH, US National Institute of Allergy and Infectious Disease (IND Sponsor: IPM)

- Malawi **accounted for 10%** of the women enrolled in the ASPIRE and HOPE studies.
- **Blantyre and Lilongwe** were the two sites for the studies.
- The **key contacts** at the ASPIRE and HOPE study sites in Malawi are: Bonus Makanani and Linly Seyama (Blantyre) and Lameck Chinula and Tchangani Tembo (Lilongwe).



Malawi: Impressions of the ring

Opportunities

“We’ve been trying to find ways to protect AGYW since they are vulnerable. I see this as **an opportunity for AGYW.**”

– Policymaker

“This is the first mention of the ring, but I think it might be promising. With the progress we are making with the three 90’s **we are looking toward prevention** soon. Since the ring is topical, I think we will favor that.”

– Policymaker

“For communities that do know about the ring, **there is high acceptability**, because it is a longer-lasting option compared to condoms or oral PrEP. There is high acceptability among young women.”

– Civil society representative

“I’m excited about the ring because of the potential for AGYW. Women are vulnerable. **We need more options to empower choice.**”

– Civil society representative

Challenges

“If we invest in the ring it is **at the expense of another HIV prevention intervention.** We need to be certain how many infections the ring will prevent over other interventions and in what populations.” – Policymaker

“To what extent should civil society get involved with ring advocacy now? We still have not completed PrEP, and **we need to choose our battles wisely.**”

– Civil society representative

“There has been **sensitivity around PrEP, which could easily extend to the ring.** The challenge has been getting the government onboard; they want to see evidence generated in Malawi.” – Donor

“I’m excited for the ring, but there have not been discussions about the ring. **People do not know about the ring.** Also, we need to make sure that adherence for AGYW goes up.”

– Civil society representative



Malawi: Key questions about the ring

- 1 To what extent do **young women adhere** in a real-world setting? How can **adherence be promoted**?
- 2 How do you identify the **right population** that has risk high enough? How do you **reach** this population?
- 3 How does the ring's **cost-effectiveness compare** to other prevention methods (e.g., condoms, oral PrEP, VMMC)? What is the **distinct impact** of the ring over other prevention intervention options?
- 4 Is there “**risk compensation**” on the ring? What does behavioral data demonstrate about the impact of the ring on **condom use** and other **reproductive health practices**?
- 5 What are the **implications on the health system**? What additional demands will the ring place on the health system? Can the health system meet those demands?

Technical questions

- Is the ring efficacious? Is it safe?
- Is there a risk of drug resistance with the ring?



Malawi: Interviews

Polymakers

1. Dr. Andrina Mwansambo, National AIDS Commission, Head of Policy Support and Development
2. Chimwemwe Mablekisi, National AIDS Commission, Director of Programs
3. Joel Suzi, National AIDS Commission, Head of Behaviour Change Communication
4. Shawn Aldridge, National AIDS Commission, Senior Technical Advisor
5. Michael Odo, Department of HIV/AIDS, Technical Advisor

Civil Society

- | | |
|---|---|
| 6. Abigail Dzimadzi Suka, MANASO | 15. Sammie Mac Jessie, Bry Foundation |
| 7. Maureen Luba, COMPASS and AVAC | 16. Brian Dazos, Médecins Sans Frontières |
| 8. David Kamkwamba, JONEHA | 17. Ulanda Mtamba, AVAC Fellow / AGE Africa |
| 9. Dingaani Mithi, JournAIDS | 18. Antonio Yon, MANASO |
| 10. Grace Kumwenda, Pakachere Institute | 19. Cait Orwig, MANASO |
| 11. Foster Mapijala, Youth Hub | 20. Tiferanyi Vizyalowe, CEDEP |
| 12. Linly Dymuka, SAT | 21. Vincent J Ngosi, MANASO |
| 13. Mwendo Phiri, Youth champion | 22. Edward Phiri, Oridoc |
| 14. Dennis Mseu, MATERELAT | 23. Mercy Chikadza, MANASO |

International Donors / Implementing Partners

24. Aayush Solanki, CHAI / PMM, Program Manager
25. Rachel Goldstein, USAID, Health Officer
26. Stephanie Weber, PEPFAR
27. Nicole Buono, CDC, Health Services Branch chief
28. Andrew Auld, CDC, Country Director
29. Jill Peterson, FHI360

TANZANIA





Tanzania: Potential for the Ring

LATE ADOPTER due to a conservative policy environment and a slow pace of product introduction that may delay the launch of a demonstration project for the ring. However, there was interest from all stakeholders to provide another HIV prevention option.

Opportunities

- **General interest in the ring:** Most stakeholders in Tanzania were interested to learn more about the ring and cautiously optimistic about exploring the possibility once there is greater evidence and after WHO guidelines. Stakeholders liked that the product was women-owned and only required monthly action.
- **Civil society interest:** Civil society partners are excited about another prevention option, and in bolstering the range of options available.
- **Recent movement with product introduction:** Tanzania recently introduced oral PrEP and HIV self-testing. Several stakeholders felt that these products laid groundwork that could expedite introduction of the ring. The experience of introducing these new products has clarified the overall process for introducing new HIV prevention products.
- **Strong partners:** Implementation partners have good government relationships and have been necessary champions for new prevention approaches.

Challenges

- **Protracted process and challenging political environment:** PEPFAR and USAID representatives expressed skepticism about Tanzania's ability to move quickly on the ring based on the lengthy process to introduce oral PrEP and a new Tanzanian government with conservative SRH policies.
- **No fixed process for product introduction:** Personal relationships, implementation partner champions, and persistence from PEPFAR were the driving factors behind oral PrEP introduction, resulting in a long and often unclear process.
- **Minimal role for civil society:** Civil society plays a limited role in influencing policymakers. The government recently limited the ability for CSOs to serve key populations.
- **Limited NACP capacity:** Tanzania recently introduced oral PrEP and HIV self-testing, which require significant time and capacity from the National AIDS Control Programme (NACP) in the MoH.



Tanzania: Assessment overview

High-level assessment for the ring



HIV epidemic characteristics

SIGNIFICANT NEED: Estimates of incidence show 55,000 new infections annually, and women face greater risk of contracting HIV.



HIV prevention program

MODERATE OPPORTUNITY: Tanzania implemented VMMC effectively, but tends to be a slow adopter of new products. The current conservative administration may oppose the ring on political grounds.



Oral PrEP experience

MODERATE OPPORTUNITY: Tanzania recently began a phased introduction of oral PrEP. Stakeholders thought this recent movement could either create momentum for the ring or diminish capacity to introduce a new product.



Ring trial experience to-date

POTENTIAL LIMITATION: While some stakeholders were familiar with the ring, Tanzania has not been involved in any phase III or OLEs for the ring.



Stakeholder reactions to the ring

MODERATE OPPORTUNITY: Stakeholders seemed interested in the ring. The MoH saw benefits of adding an additional option, and civil society advocates are eager for a women-owned product.



Product introduction process

POTENTIAL LIMITATION: Tanzania has a protracted process to product introduction, with few clear steps and which can be challenging to navigate. Champions with close government relationships are critical to making progress.

Additional details on following slides



Tanzania: HIV context

Tanzania has an estimated

1.4 million

people living with HIV, which accounts for

4.7% of the adult population

and

55,000 new infections

occur annually ¹

Women are disproportionately affected ²

HIV prevalence for all **women is 6.4%**, compared to 3.1% for men.

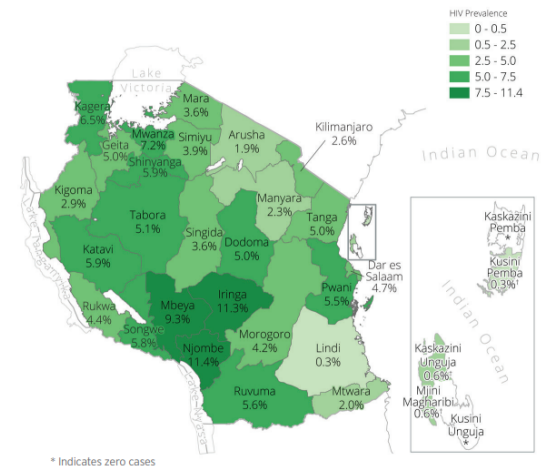
Gender inequities contribute to a greater HIV burden ³

Approximately **35%** of both AGYW and women report **intimate partner violence** in the last 12 months.

Prevalence among young women is more than double men ²

Prevalence among women in all age groups from 15 to 39 is **more than double that of males** in the same age groups.

Prevalence varies regionally, and is highest in the regions near the Southern Highlands





Tanzania: HIV prevention context

Context

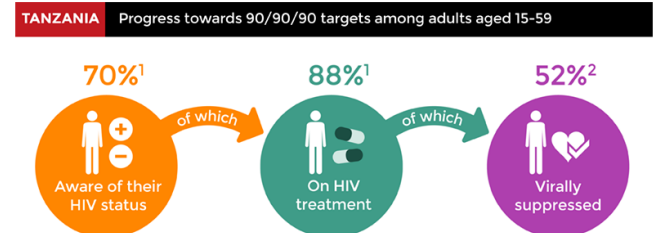
- **Political landscape:** Tanzania is known to be a **slow adopter of new technologies** and approaches. The current political administration in Tanzania is conservative and has limited key population services and civil society action.
- **Recent progress with prevention and treatment:** Tanzania has made significant progress toward the first of the two 90's, which has contributed to decreasing new infections from **82,000 in 2010 to 55,000 in 2016.**¹

National Policies and Strategies for Prevention ²

- The four **strategic areas of primary investment** in the most recent NMSF from 2013 include: (1) Comprehensive sexuality, gender, and health education; (2) Condom promotion and programming; (3) HIV counselling and testing; and (4) Antiretroviral therapy.
- Additionally, the strategic areas for **secondary investment** include VMMC, provision of safe blood, treatment of STIs, and targeted behaviour change communications.
- There are two National HIV plans that are important: the **National Multi-Sectoral Framework (NMSF)**, developed by TACAIDS, which focuses on multiple sectors; and the **Health Sector HIV and AIDS Strategic Plan (HSHS)**, developed by NACP, which solely discusses the health sector. Both are developed every four years, and are currently under review for the fourth iteration, for the years 2018-2022. In between four year periods, NACP and TACAIDS create operational plans to clarify strategies to meet their goals.

Remaining Challenges with Prevention

- **Health system infrastructure:** Weaknesses in the supply chain infrastructure has hindered the distribution of SRH products. For example, many clinics have stock outs of condoms and other products. The success of HIV interventions is contingent on the strength of the health system.
- **Services for key populations:** Adding onto existing stigmas, recent administrative policies have limited access to health services for KPs.
- **Protracted government processes:** Decision making within the Government of Tanzania is concentrated at the top, which creates protracted processes for evolving policies and requires close personal relationships.



Source: (1) UNAIDS data 2017 (2) Tanzania Ministry of Health 2017



Tanzania: Status of oral PrEP rollout

Oral PrEP Rollout

- Oral PrEP is currently in **very early implementation** stages. There are an estimated **500-700** current oral PrEP users in Tanzania. ¹ Phased implementation is underway, and has started in the capital city of Dar es Salaam with plans to expand to two additional regions in the Southern Highlands soon.
- National stakeholders are utilizing a **phased implementation approach** to learn from early implementation before scaling-up oral PrEP. Key questions include feasibility, acceptability, and integration with other packages. Stakeholders **opted to skip national demonstration projects for phased implementation**.
- Advocacy efforts that have led to implementation in Tanzania include **strong championing from implementation partners** with good government relationships, and **pressure from PEPFAR, USAID, and Global Fund**, which at one stage involved the US ambassador to Tanzania.
- Tanzania was the site of a few clinical trials for oral PrEP. Gilead's Truvada (TDF/FTC) is currently registered and approved for prevention, and generic versions are pending registration.
- Tanzania has **adapted WHO guidelines** to better match the capacity of their health system, and minimize the burden on providers. These guidelines have been shared in regions where oral PrEP is available.
- Oral PrEP introduction in Tanzania was **slower relative to other countries in the region**. The main drivers for the protracted process include a lack of a clear process for product introduction, concerns about encouraging promiscuity, and regulatory challenges with the Tanzania Food and Drugs Authority, which is the regulatory body associated with the Ministry of Health.



Tanzania: Ring trial activity

Tanzania has **not been the site for any phase III or open-label extensions for the ring**. Tanzania was only involved in **phase I/II studies** to assess the safety of the ring in 2009 (details below).

Study	Phase	Results	Partners
Phase I/II (ages 18-40) IPM 015	I/II	No safety concerns or clinically relevant differences were observed between the dapivirine and placebo ring groups.	<ul style="list-style-type: none">Led by International Partnership for Microbicides

- One of the ten sites of the study was in Tanzania. The study site was the **Kilimanjaro Christian Medical Centre (KCMC)** in Moshi, Tanzania, and the site enrolled **9 of the 280 women** that participated in the study.
- IPM colleagues shared that Tanzania was **not included in the phase III studies** because the prevalence at the study site was not considered to be high enough.



Tanzania: Impressions of the ring

Opportunities

“Everyone is **excited about the ring**. At the MoH, we are interested to see what it can offer Tanzania. We believe it will be received well because it is non-intrusive, self-driven, and convenient.” – Policymaker

“I think given the timing of PrEP being considered for roll out and scale up, **it’s a nice time to start** thinking about how to pair the PrEP work we’ve done with the dapivirine ring.” – International donor

“The ring might take a similar process to PrEP and self-testing. If we get prepared and involve the policymakers now, it might be able to **shorten the process** after those two products.” – Implementation partner

“The ring is **easier to use and simpler than PrEP**. The government will like that, especially if it is cost effective.” – Civil society representative

Challenges

“Tanzania has been **slow to adopt new efforts**. There is a great emphasis on showing that a product is effective in the local context. Decision makers want to see studies conducted here.” – International donor

“Unlike some other countries, the **MoH has been conservative**. Each new product comes with negotiating and discussion.” – Implementation partner

“There’s **tremendous stigma** currently among healthcare providers, and those of us who are FSWs **cannot go to access health services**. We used to have drop-in centers, which the administration recently closed. Now we cannot go anywhere.” – FSW community organizer

“The **introduction process is a hoop but not a roadblock**. The government is resistant to new things, which will be a challenge. There has been a lot of demos recently, and a lot of the international community pushing Tanzania, which has made the government uncomfortable.” – International donor



Tanzania: Key questions about the ring

Strategic questions to inform introduction

- 1 How do you **ensure adherence** among users?
- 2 How would the ring impact the **behaviors of end users**? Would the ring decrease use of condoms? Would it increase promiscuity among AGYW?
- 3 What would be the **ultimate cost** for end users? What **service delivery mechanisms** would be used? Distribution through which facilities?
- 4 What would be the implications on the **health system and health care workers**? What types of **investments and trainings** are required?

Basic Technical Question about the Ring

- How long does the ring have to be inserted before sex to be effective?



Tanzania: Interviews

Polymakers

1. Dr. Leonard Maboko, TACAIDS, Executive Director
2. Dr. Aafke Kinemo, National AIDS Control Program, Coordinator

Civil Society

3. Albert Komba, Jhpiego (Sauti Program), Chief of Party
4. Richard Muko, National Council for People Living with HIV and AIDS, Program Technical Manager
5. Dr. Magnus Ndolichimpa, Jpheigo, Learning Collaborative Participant
6. Kelly Curan, Jpheigo, Head of HIV Program
7. Laura Glish, PSI, Technical Advisor, Reproductive Health
8. Alex Ngaiza, PSI, Program Manager
9. Peter Masika, Tanzania Youth Alliance, Country Director
10. Jason Reed, Jhpiego, Epidemiologist and Senior Technical Advisor
11. Joan Chamungu, Tanzania Network of Women Living with HIV and AIDS positive woman
12. Lulu Nyenzi, Women with Dignity
13. Sia Edward, Connect Community with Advocacy & Empowerment Tanzania
14. Hellen Benedict, Totoz Sisters
15. Maua Abdul, Zamzam Women Development

Researchers

16. Dr. Jessie Mbwambo, Muhimbili University of Health and Allied Sciences (MUHAS)
17. Dr. Samuel Likindikoki, MUHAS

International Donors and Funders

18. Siobhan Malone, Bill & Melinda Gates Foundation
19. Jessi Green, PEPFAR
20. Kelly Hamblin, USAID, Senior Supply Chain Advisor

RWANDA





Rwanda: Potential for the Ring

LATE ADOPTER due to limited awareness of the ring and modest interest among key stakeholders. However, there is interest among CSOs and the pace of product introduction can be quite quick if policymakers are enthusiastic.

Opportunities

- **Potentially rapid introduction:** The pace of introduction could **potentially be fast**, if the RBC is on board. In fact, if the government wishes to, they have a tendency to **skip pilot projects** and move straight to national roll out.
- **Few stakeholders:** The process for getting approval for demonstration projects in Rwanda seems to **involve fewer stakeholders than in other countries** (e.g., Rwanda does not have a National AIDS Commission).
- **Resonates with civil society:** Civil society actors felt that the ring would be **well-received**, particularly since it would empower women, but cited a strong need to **raise awareness**.
- **Positive legal climate:** Selling sex is **becoming decriminalized**, so there may be **less concern about moral pushback** than in other countries.
- **National HIV Strategic Plan revision:** The current National Strategic Plan (NSP) demonstrates a **strong commitment** to preventing new HIV infections. The NSP is currently being **revised**, so it is an opportune time to be discussing the ring.
- **FSW intervention:** Rwanda has a low HIV prevalence overall compared to other places, but many stakeholders cited the **sex worker prevalence of almost 50%** and believed the ring would be a useful intervention for FSW. However, the ring may not be the intervention most suitable for FSW given that efficacy remains lower than oral PrEP.

Challenges

- **Less familiarity with the ring:** Overall, there is **limited knowledge** about the product. There were many questions about whether the ring could be used as treatment, so **clear messaging** is required.
- **Moderate government support:** The key government stakeholder, Dr. Sabin Nsanzimana (RBC), wants to see more data about the **efficacy** and the **acceptability** before he is enthusiastic about the potential for the ring.
- **Less infrastructure for research:** Rwanda participated in Phase I and II dapivirine gel trials, but due to **challenges with processing lab samples** and the lab not being certified in good clinical laboratory practice (GCLP), Phase III dapivirine ring trials were not conducted in Rwanda. Lab capacities may need to be developed for further demonstration.
- **Costs:** As with other countries in the region, the **costs** of funding another HIV prevention technology is a limitation.
- **Social acceptability:** Health care providers shared that many women seem to **prefer pills or injections over insertables** (e.g., IUD) due to concerns of side effects and losing foreign objects inside the body.



Rwanda: Assessment overview

High-level assessment for the ring

A blue icon of a computer monitor displaying a bar chart and a pie chart.	HIV epidemic characteristics	MODERATE NEED: Overall, Rwanda has a relatively low HIV prevalence (3.1%) and 7,500 new cases per year. However, it is estimated that a majority (65%) of new infections are among serodiscordant couples (SDC).
A blue icon of a hospital building with a cross on top.	HIV prevention program	MODERATE OPPORTUNITY: FSW, AGYW, and SDC are focus populations in the national plan; however, there is limited funding for the HIV response.
A blue icon of a pill bottle with a cross on the label.	Oral PrEP experience	MODERATE OPPORTUNITY: Rwanda has not yet included oral PrEP in national plans, but plans to include oral PrEP in the new NSP this year. An oral PrEP demonstration project may be on the horizon.
A blue icon of a ring, representing the product being assessed.	Ring trial experience to-date	POTENTIAL LIMITATION: Rwanda has not been involved in any phase III or OLEs for the ring. Rwanda was involved in Phase I/II but discontinued due to lab resource constraints.
A blue icon of two speech bubbles, representing stakeholder reactions.	Stakeholder reactions to the ring	MODERATE OPPORTUNITY: Many stakeholders were not familiar with the ring, but seemed interested in the product and saw benefits of adding an additional option to the prevention toolkit for women.
A blue icon of a clipboard with a checklist.	Product introduction process	STRONG OPPORTUNITY: The introduction process in Rwanda is straightforward and can be quite quick, but it hinges heavily on the perceptions of a few key stakeholders.

Additional details on following slides



Rwanda: HIV context

Rwanda has an estimated

222,000

people living with HIV, which accounts for

3.1% of the adult population

and

7,500 new infections

occur annually¹

Overall, Rwanda has a **low HIV prevalence** compared to other countries in the region and 67% of people living with HIV are on treatment.¹ However, **female sex workers, serodiscordant couples, youth and MSM** remain populations facing the most risk of HIV infection and the government has identified these groups as key populations of focus in the National Strategic Plan.

Women are affected more than men¹

HIV prevalence is higher for women ages 15-49 (3.8%) than for men of the same age (2.3%)

Female sex workers are disproportionately affected^{1,2}

HIV prevalence is 45.8% for sex workers. 20% of new HIV infections are projected to be from female sex workers and their networks

HIV among adults is highest in Kigali City²

HIV prevalence is higher in Kigali City (7.3%) than in the other provinces (average 2.4%)

Serodiscordant couples comprise the majority of new projected HIV infections²

The majority of new infections (65%) are projected to come from stable heterosexual relationships, including serodiscordant couples



Rwanda: HIV prevention context

Context

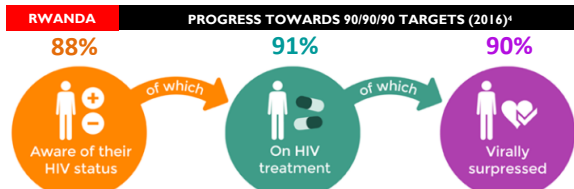
- **Political landscape:** Rwanda has seen significant gains in economic development and enactment of progressive health policies, including a near-universal health care system and declaration of health as a human right in 2003.^{6,7} Life expectancy has doubled from 35 in 1995 to 67 in 2017. Moreover, sex work may soon become decriminalized, which could improve access to health care for FSW.³ However, civil society and media activity is limited by government regulation.⁵
- **Recent progress with prevention and treatment:** Rwanda has met two of the three 90-90-90 goals: 91% of people aware of their HIV status are on HIV treatment of which 90% are virally suppressed. Awareness of HIV status is also high, at 88%.

National Policies and Strategies for Prevention

- **Four key populations:** The majority of prevention efforts are directed towards (1) FSW and their clients; (2) MSM; (3) Youth (especially young women ages 15-24); and (4) SDC
- **Wide array of prevention efforts:** Prevention efforts include promoting condoms, HCT, VMMC and newborn circumcision, post-exposure prophylaxis (PEP), wraparound support for survivors of gender-based violence, and “prevention with positives” (treatment with ART and behavior-change for PLHIV). Oral PrEP is not included but is supposed to be in the new plan^{2,3}
- **Desire to integrate HIV with SRH:** SRH/family planning is not well integrated with HIV services, and is stated as a goal^{2, 3}
- **NSP currently being renewed:** The NSP incorporates input from communities, CSOs, government, and development partners. The current NSP was for (2013-2018) and is in the process of being renewed^{2,3}

Remaining Challenges with Prevention

- **Inconsistent condom use during high risk sex:** Condom use at last high-risk sex for adults ages 15-49 was 54.7%¹ The NSP reported limited accessibility of condoms at community level as a challenge for the prevention program²
- **Low percentage of men are circumcised:** 29.6% of men ages 15-49 are circumcised¹
- **High rate of intimate partner violence:** In 2010, 44.3% of Rwandan women ages 15-49 have experienced recent intimate partner violence¹
- **Low knowledge of HIV prevention among youth:** Only 51% of young people (ages 15-24) are knowledgeable about HIV prevention¹
- **Decreased funding for the HIV response:** The NSP highlights that “the difficult international financial environment has affected HIV funding internationally and Rwanda is no exception to this”²
- **Barriers to access:** FSW and MSM face particular barriers to access including discrimination and stigma²



Sources: (1) <http://www.unaids.org/en/regionscountries/countries/rwanda> (2) National Strategic Plan on HIV and AIDS 2013-2018 (3) FSG interviews (4) Graphic from AVERT (modified by FSG); Data: UNAIDS special analysis 2017 (5) Human Rights Watch World Report 2018: Rwanda Events of 2017 (6) Universal health coverage in Rwanda: a report of innovations to increase enrolment in community-based health insurance, Makaka, Andrew et al., The Lancet, Volume 380, S7 (7) The Global Fund <https://www.theglobalfund.org/en/portfolio/country/?k=a76e4125-b5f5-41c8-8bcc-82d9dc5d1342&loc=RWA>



Rwanda: Status of oral PrEP rollout

Oral PrEP Rollout

- **Oral PrEP is not currently in the treatment guidelines.** Resource limitations were cited as a main reason why there was pushback on oral PrEP
 - *“We had to figure out how to rationalize very few resources. Do we prefer to provide testing, buy condoms, and treat those who need treatment or spend money on prevention?”* -Civil society representative
- **Oral PrEP will likely be included in the new version of the National Strategic Plan.** The current plan ends this year, and stakeholders mentioned that oral PrEP was talked about a lot at a TWG meeting for likely inclusion in the plan
- **An oral PrEP demonstration project may be on the horizon.** Starting this October, PEPFAR may conduct a demonstration project for oral PrEP. Project San Francisco, a potential civil society implementing partner, mentioned that if a demonstration project happens, they would be an implementing partner. Despite several attempts to connect, it has been difficult to reach PEPFAR to confirm whether or not a demonstration project for oral PrEP is moving forward



Rwanda: Ring trial activity

Dapivirine Ring Trials

- Rwanda has **not been the site for any phase III or open-label extensions**. Rather, Rwanda was involved in **phase I/II studies** to assess the safety of dapivirine gel from 2009-2011.
- IPM colleagues shared that Rwanda was not included in the phase III studies because of **complications with processing of lab samples** and **good clinical laboratory practice (GCLP) certification**

Study	Phase	Results	Partners
Phase I/II (ages 18-40) IPM 003	I/II	Microbicide dapivirine was found to be safe and acceptable ²	<ul style="list-style-type: none">• Led by: International Partnership for Microbicides• Site: Project Ubuzima• Site Investigator: Gilles Ndayisaba
Phase I/II (ages 18-40) IPM 014A	I/II	Microbicide dapivirine was found to be safe and acceptable ²	<ul style="list-style-type: none">• Led by: International Partnership for Microbicides• Site: Project Ubuzima• Site Investigator: Gilles Ndayisaba



Rwanda: Impressions of the ring

Opportunities

“From what I’m seeing, it will be **well received**. Especially for key pops it will be useful. **Women’s control** is important. This will be a good product to **empower women**.”

– Civil society representative

“If a person is resistant to condom use they may be reluctant to use a pill. I think the ring presents **many advantages compared to oral PrEP**. There are many FSWs whose **clients don’t want to use condoms**.”

– Civil society representative

“HIV is chronic and treatment is very expensive, so I am an **advocate for HIV prevention**. We are not going to forget the treatment but we **need to put all our efforts into prevention**. If there is something like the ring that can help women, that would be a very good idea.”

– Donor

“The National HIV Strategic Plan is **being revised**. This would be the most appropriate place to put the ring in.”

– Civil society representative

Challenges

“I personally think that people should be given options, but we have to consider those **options come with a cost and who should cover that cost?**”

– Civil society representative

“A lady may feel comfortable with the ring but if the husband is not comfortable, the **husband may complain** just from knowing it’s there even if he can’t feel it.” – Donor

“I haven’t been so excited about the ring. Clients **fear external devices** entering their body. There is a fear of it getting **lost** inside and of **side effects**. Women prefer pills or injections compared to something that is inside the body.”

– Policymaker

“**Treatment is the first priority**. Once someone is suppressed HIV is harder to transmit. We are focusing on those who are affected to suppress and then on prevention.”

– Civil society representative



Rwanda: Key questions about the ring

- 1 To what extent does ring **efficacy increase** during a demonstration project?
- 2 How do Rwandan women view the ring? Is **acceptability** higher than it was for other ring products?
- 3 How does **sexual behavior** change as a result of dapivirine ring use?
- 4 What is the **cost** of the dapivirine ring and what is the **cost/benefit** analysis compared to other prevention options and HIV/AIDS treatment?
- 5 How can **harder-to-reach populations** (e.g., FSW and “VIP sex workers”) gain access to the ring? Will they be available at health posts or kiosks? Is it possible to make the ring **available without a prescription**?



Rwanda: Interviews

Polymakers

1. Dr. Sabin Nsanzimana, Director of the HIV program, HIV/AIDS, STIs and Other Blood Bone Infection Division of the Rwanda Biomedical Center

Civil Society

4. Wandera Gihana Manasseh, Executive Director, Society for Family Health (SFH)
5. Dr. Aflodis Kagaba, Executive Director, Health Development Initiative (HDI)
6. Cat Kirk, Director of Maternal and Child Health, Partners in Health (PIH)
7. Dr. Karita Etienne, Country Director, Project San Francisco (PSF)
8. Dr. Alfred Twagiramungu, Jhpiego
9. Dr. Eugene Rugwizangoga, Technical Advisor, Jhpiego
10. Michelle Marie Umulisa, Rinda Ubuzima and Partners in Health
11. Sage Semafara, Executive Secretary, R.R.P+ Rwanda Network of People Living with HIV/AIDS

International Donors / Partners

12. Dr. Jules Mugabo, HIV, STIs, Hepatitis and Tuberculosis Programmes, WHO