



Combination Strategies for HIV Prevention and Contraception

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AVAC

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Who we are



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What to expect from today's presentation

1. Current HIV prevention landscape
2. The case for multi-purpose prevention technologies (MPTs)
3. What's in the MPT pipeline
4. Spotlight on the Dual Prevention Pill
5. Bringing MPTs from “bench to bedside”

But first...we want to hear from you!



How would you describe your **knowledge of MPTs?**

Scan the **QR code**



OR

Go to **Menti.com** and type

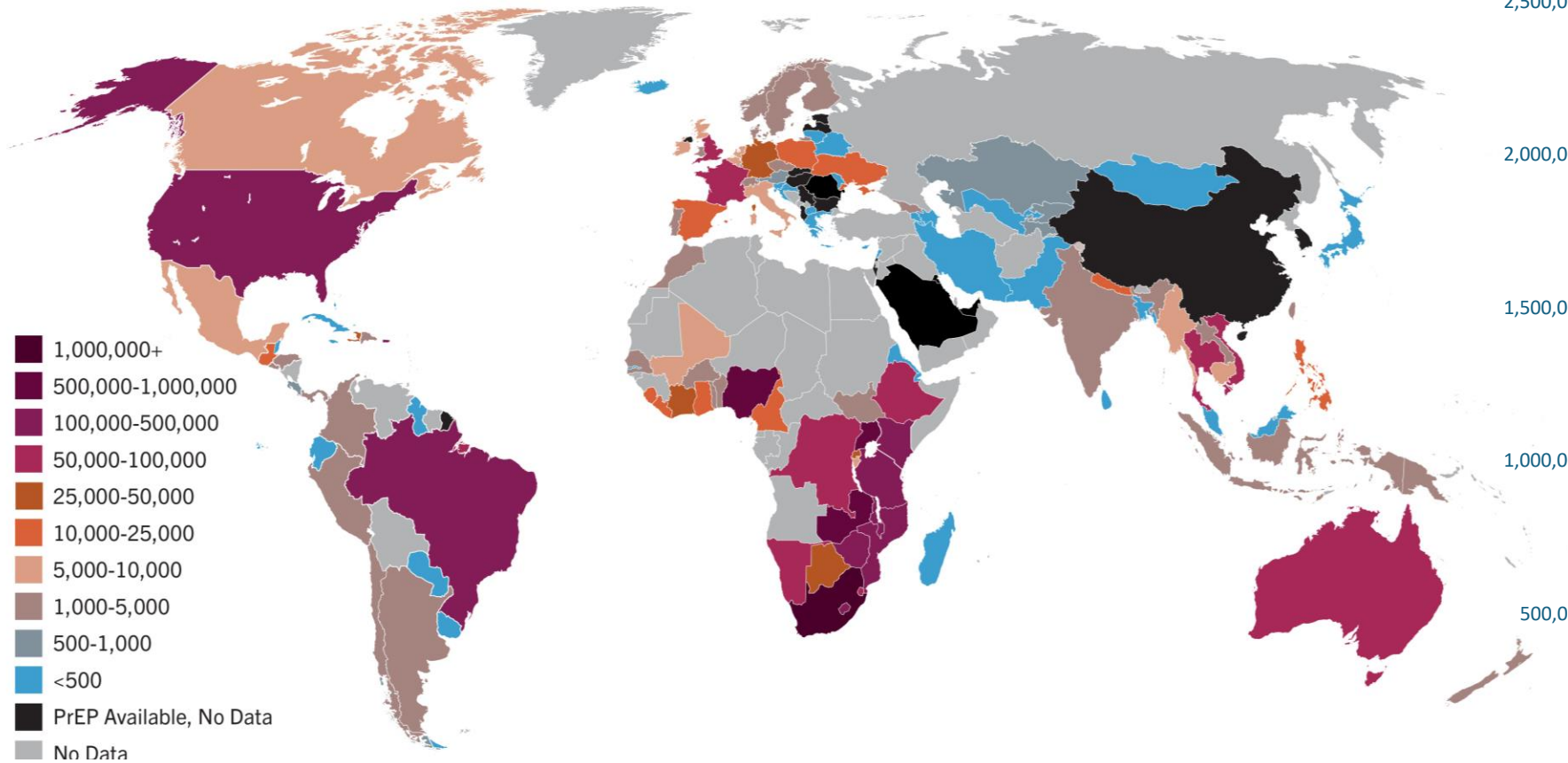
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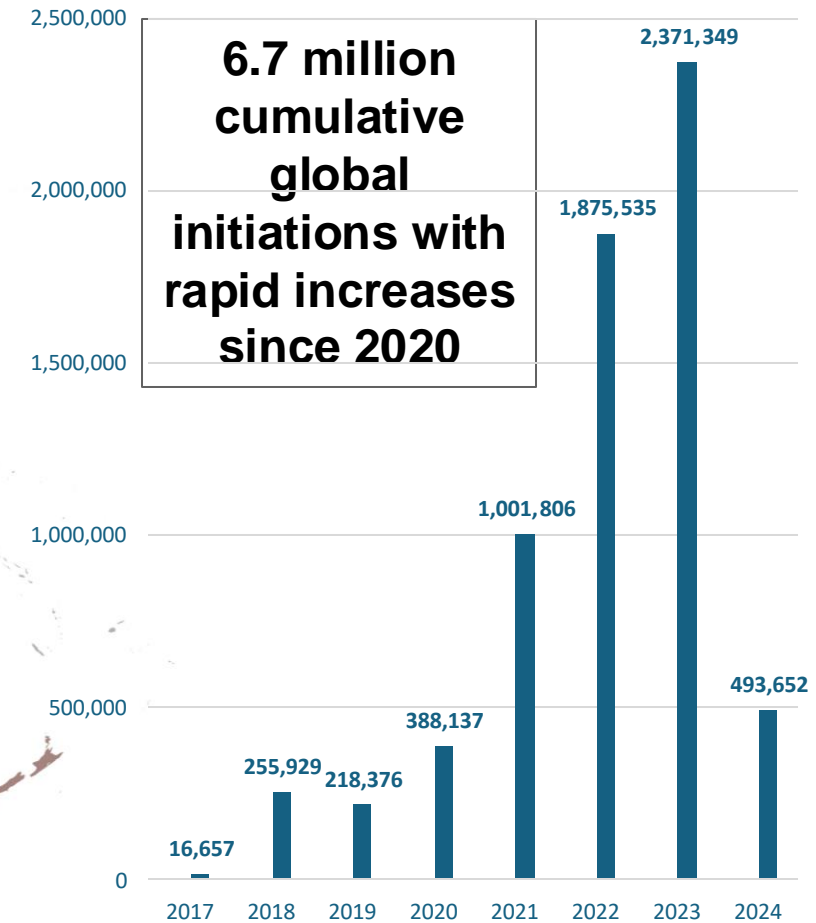
Current HIV prevention landscape

Oral PrEP uptake is growing rapidly, with sub-Saharan Africa (SSA) comprising 80% of global initiations

PrEP Initiations by Country, March 2024

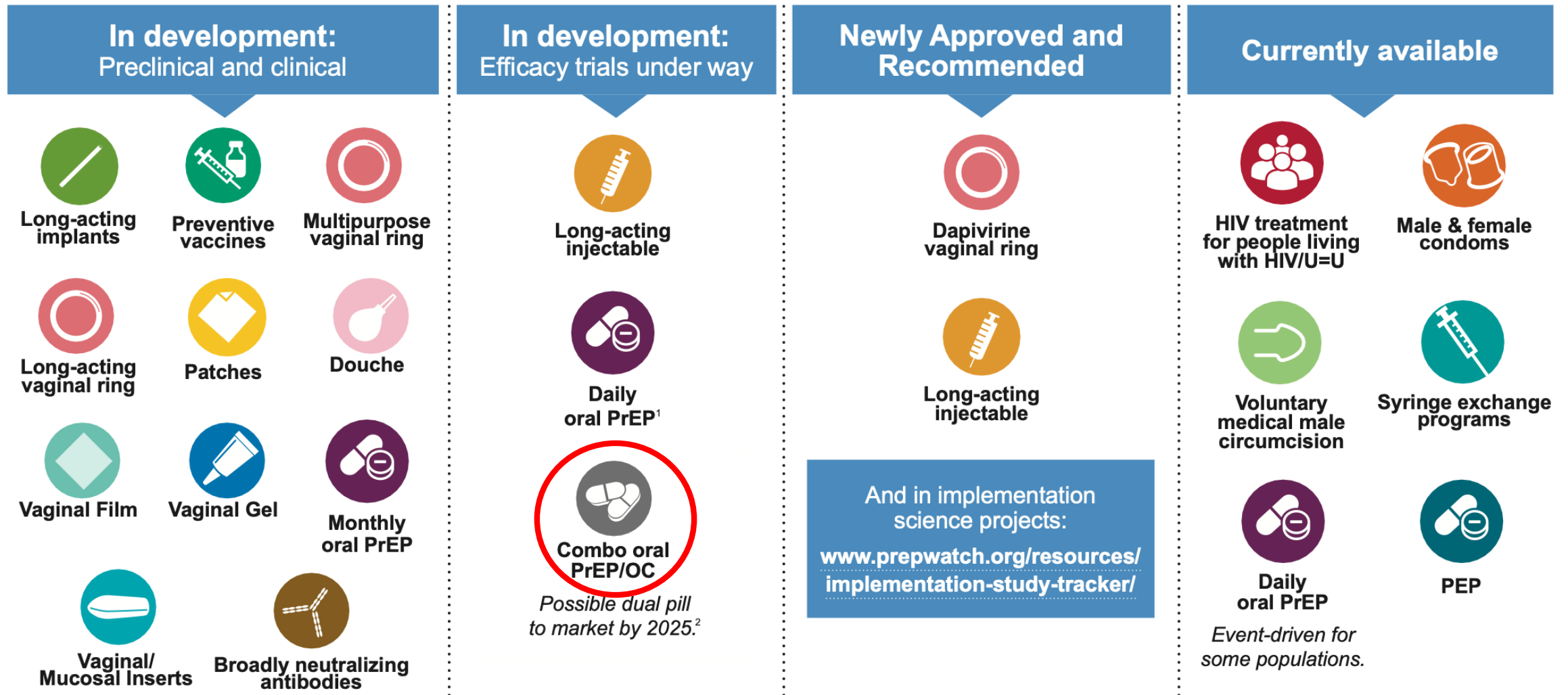


PrEP Initiations Over Time



The current HIV prevention pipeline is crowded...

...but most products are in early development and few new products are coming to market soon



¹In Oct 2019, US FDA approved F/TAF for adults and adolescents who have no HIV risk from receptive vaginal sex; still in development for cisgender women.

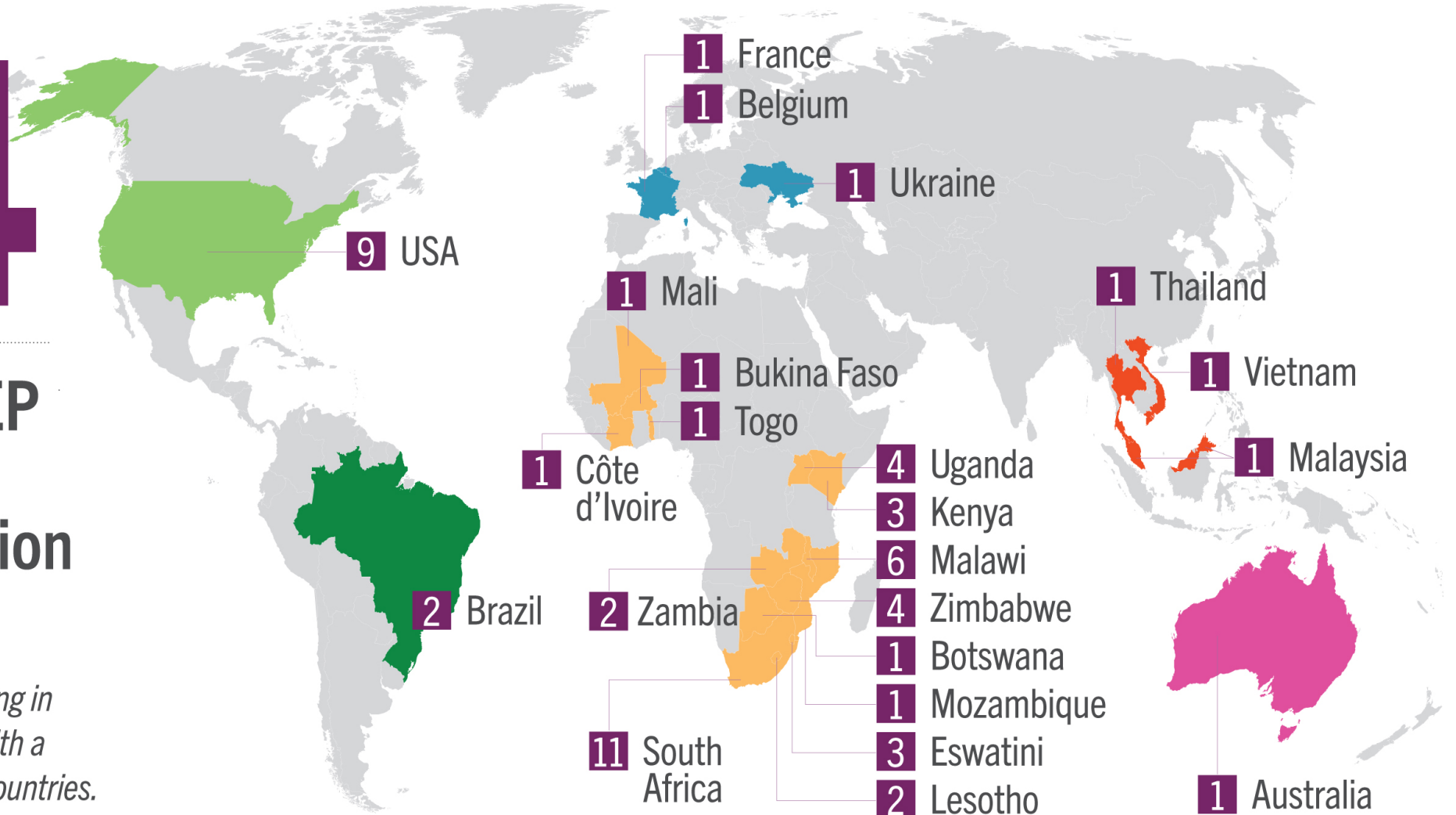
²Efficacy trials not required; bioequivalency of the two approved products when dosed together may be all that is required.

PrEParing for new products

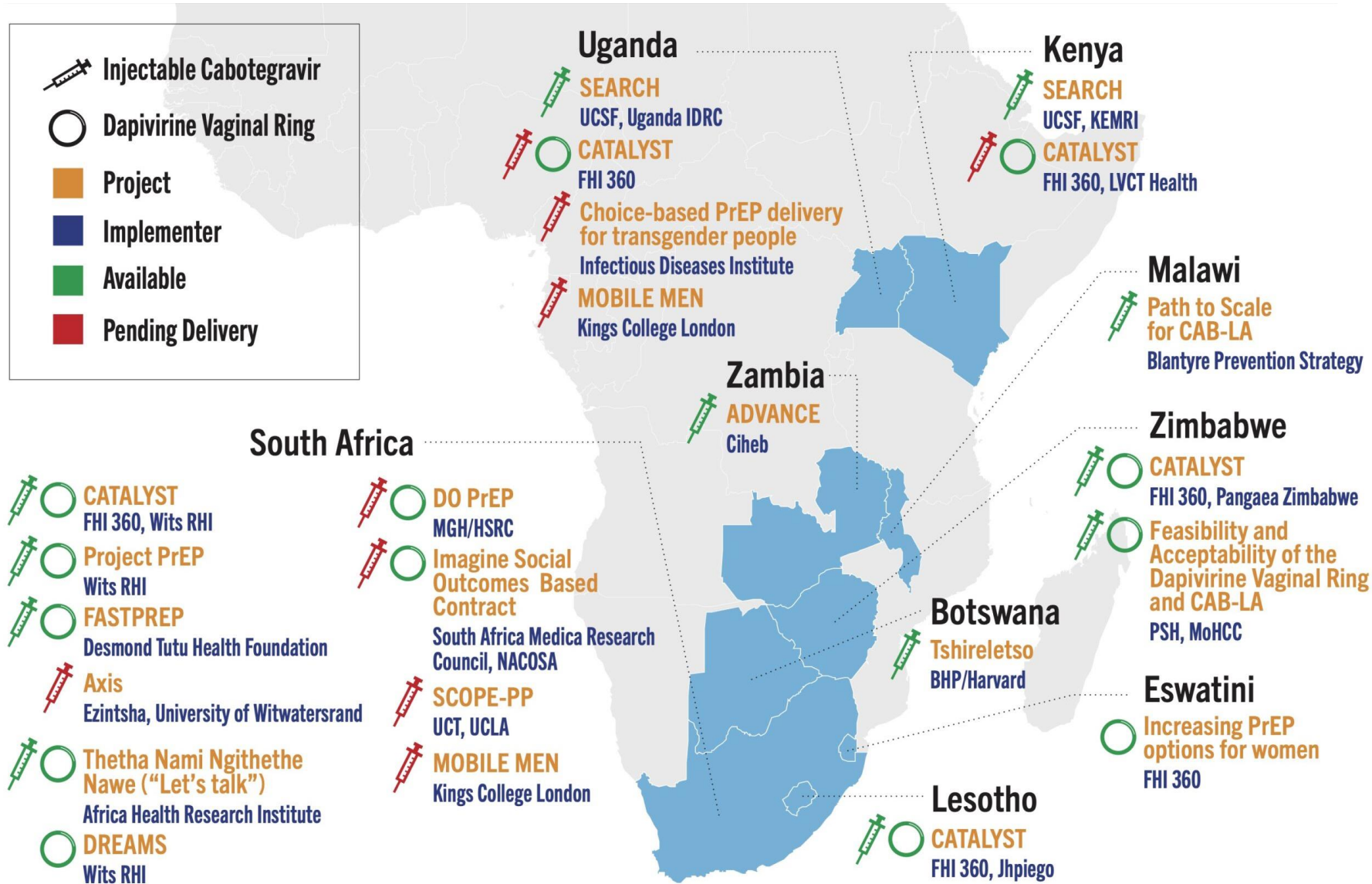
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CAB for PrEP and DVR Implementation Studies

Some studies are happening in more than one country, with a total of 44 studies in 23 countries.



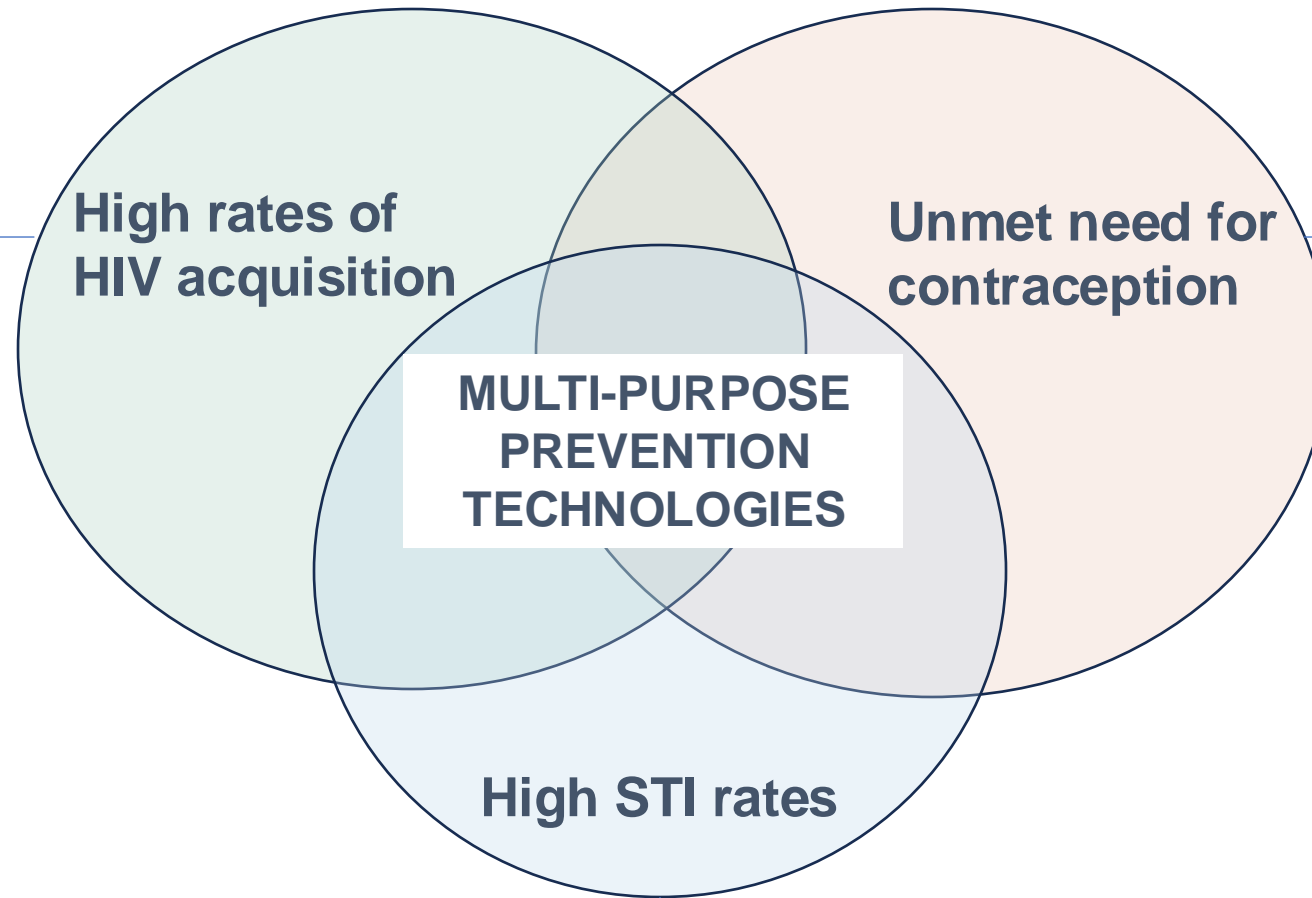
New product introduction: Spotlight on Eastern and Southern Africa





The case for MPTs

Cisgender women and girls have overlapping unmet need for HIV prevention, contraception, and STI prevention



In SSA, women and girls ages 15-49 account for 68% of new HIV infections in this age group; 20-30% in all other regions – **with disparities among women**

9% women and girls ages 15-49 have an unmet need for family planning globally; 15% in lower-income countries – **higher for those married/in-union**

High rates of STIs among women in PrEP studies; STI rates increasing in Africa and Americas regions

Enter: Multipurpose prevention technologies (MPTs)

One product, multiple forms of protection

- MPTs are products designed to **simultaneously address more than one** sexual and reproductive health (SRH) need
- Internal (female) and external (male) condoms, which protect against pregnancy, HIV and other STIs, are **the only MPTs currently available**
- Historically, cisgender **women-centered SRH products have not been an investment or research priority unless pushed by advocates**, and underrepresentation of cisgender women in clinical trials is well-documented



External and internal condoms, the only MPTs available

Studies suggest higher demand for MPTs compared to single-indication HIV prevention products

STUDY	SETTING	★ KEY LEARNING ★
<p>Preferences for Long-Acting PrEP Products Among Women and Girls</p>	<p>Eswatini, Kenya, South Africa</p>	<p>Participants preferred products with added pregnancy prevention 2.46 times more and with added STI protection 2.81 times more</p>
<p>Tablets, Ring, Injections as Options (TRIO) study</p>	<p>Kenya, South Africa</p>	<p>Most women preferred an oral pill with dual protection to a single-indication product, including an injection</p>
<p>CUPID study</p>	<p>Uganda, Zimbabwe</p>	<p>91% heterosexual couples preferred MPTs over separate HIV prevention/FP products</p>
<p>Divergent Preferences for HIV Prevention</p>	<p>South Africa</p>	<p>MPTs that prevent HIV and pregnancy would quadruple demand among adolescent girls compared to HIV prevention-only products</p>





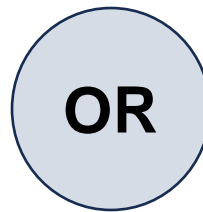
What's in the MPT pipeline

But first...we want to hear from you!



Given the array of prevention options currently available,
do you think new MPTs are necessary?

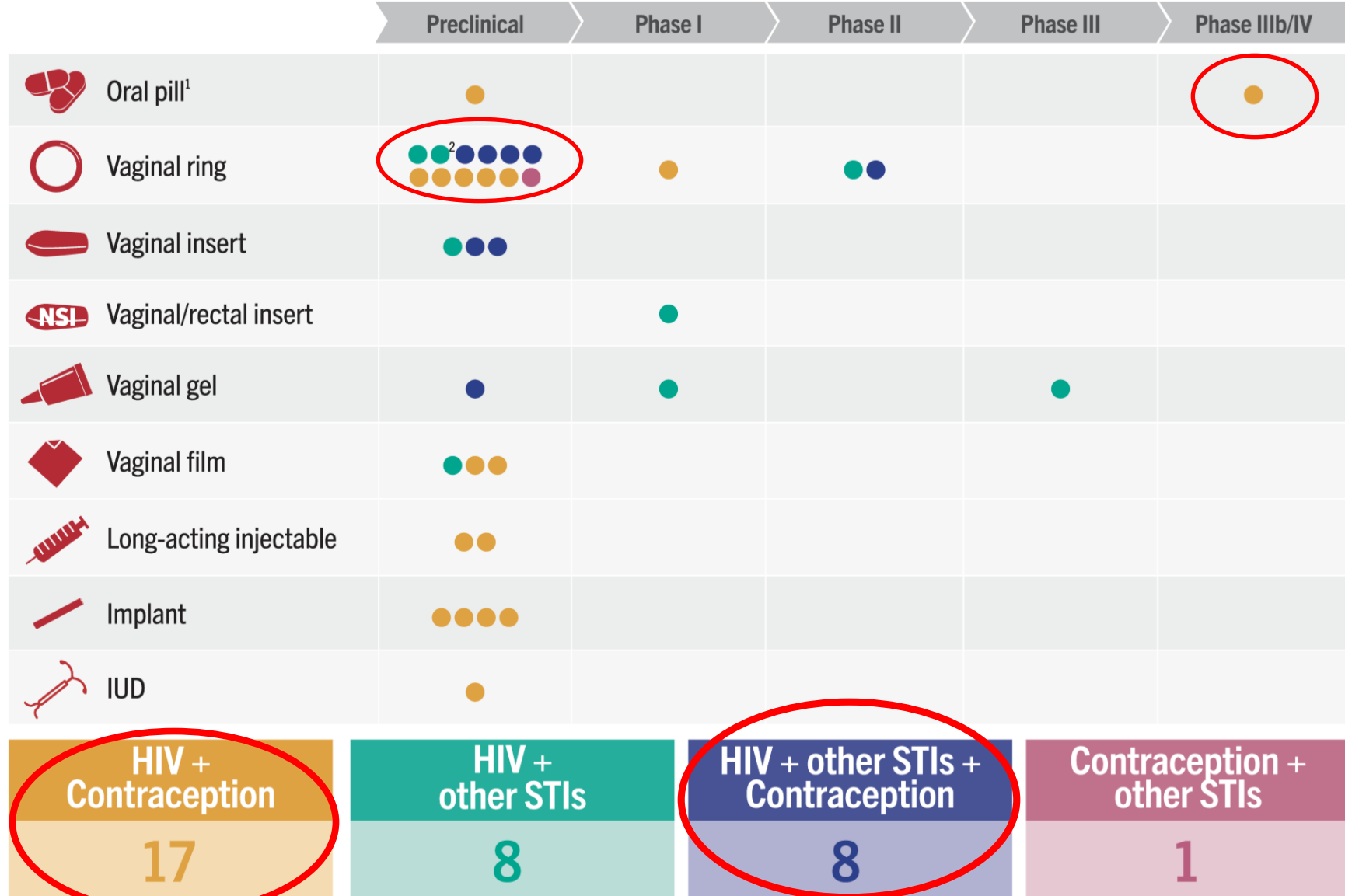
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At a glance: The MPT R&D pipeline



Adapted from: *The Initiative for MPTs (IMPT) Product Development Database; Treatment Action Group (TAG) 2023 Pipeline Report; MATRIX R&D Landscape Review 2024.*

MPTs in Phase I trials

Vaginal Ring

- Combines Dapivirine/LNG to **prevent HIV and pregnancy**
- Lasts for 3 months
- User-controlled
- [IPM-056 study](#) in the USA
- Developed by Population Council



Fast-Dissolving Insert

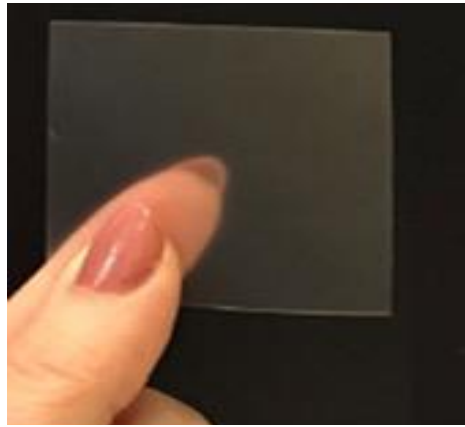
- Combines F/TAF and Elvitegravir to **prevent HIV and herpes** (though F/TAF not yet approved for cisgender women)
- Provides protection for up to 3 days
- Used on-demand as PrEP or PEP
- [MATRIX-001](#) study investigating **vaginal usage** in Kenya, South Africa, USA (the first Phase 1 study on this MPT in African women)
- [RITE PrEP](#) study investigating **rectal usage** in the USA
- Developed by CONRAD



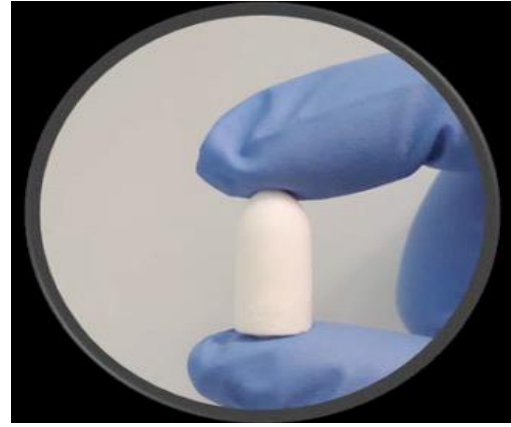
MPTs in pre-clinical stages



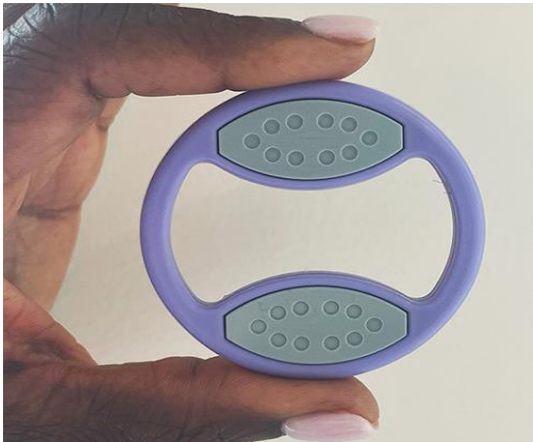
Injectables



Vaginal Films



Inserts



Vaginal Rings



Vaginal Gels






Implants

Each designed to address multiple SRH needs, including prevention of:

- Pregnancy
- HIV
- Gonorrhea
- HPV
- Herpes
- Chlamydia
- Bacterial Vaginosis
- Zika Virus

Pushing a pipeline of dual-purpose products for cisgender women

	Product	Phase	Indications	Duration	User-control
	Non-antiretroviral/ non-hormonal dual- purpose vaginal ring	Phase I (placebo rings)	HIV and pregnancy prevention	Monthly	Women insert themselves
	Dapivirine- levonorgestrel vaginal film	Pre- clinical	HIV and pregnancy prevention	Monthly	Women insert themselves
	TAF/EVG fast- dissolving insert	Phase I	HIV and herpes simplex virus (HSV) prevention	Up to 3 days	Women insert themselves (on demand)

Beyond HIV and pregnancy: MPTs with STI prevention

	Preclinical	Phase I	Phase II	Phase III	
HIV + other STIs					
HIV, Gonorrhea					
HIV, HPV					
HIV, HPV, HSV					
HIV, HSV					
HIV, BV					
HIV, HSV, HPV, BV					
HIV + other STIs + Contraceptives					
HIV, HSV, Pregnancy					
HIV, HSV, HPV, Pregnancy					
HIV, HSV, Chlamydia, Gonorrhea, Pregnancy					
HIV, HSV, BV, Chlamydia, Gonorrhea, Pregnancy					
Other STIs + Contraceptives					
HSV, Zika, Pregnancy					
HIV + other STIs + Contraception		HIV + other STIs		Contraception + other STIs	
8		8		1	

¹ Bacterial vaginosis (BV) is not sexually transmitted but can be linked to sexual activity. While BV is not an STI, it has been included here for consistency.
Adapted from: *The Initiative for MPTs (IMPT) Product Development Database; Treatment Action Group (TAG) 2023 Pipeline Report; MATRIX R&D Landscape Review 2024.*



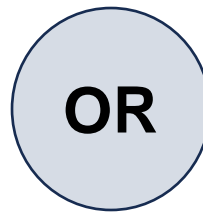
Spotlight on the Dual Prevention Pill

But first...we want to hear from you!



Have you heard of the Dual Prevention Pill **before today?**

Scan the **QR code**



Go to **Menti.com** and type

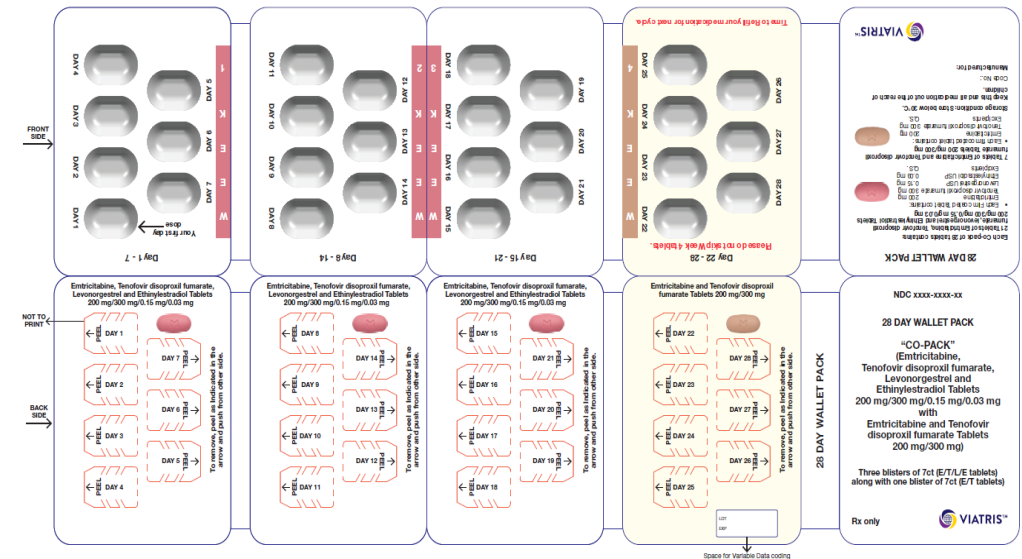
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What is the Dual Prevention Pill (DPP)?

- Daily pill that prevents both HIV and pregnancy
- Co-formulated tablet that **combines oral PrEP (TDF/FTC) + combined oral contraception (LNG/EE) (COC)** in a single pill
- **28-day regimen** of 21 PrEP/COC pills (pink) and 7 days PrEP-only pills (peach)
- **Packaging will be wallet pack** to more closely resemble OC packs, with tear-off weekly sheets with instructions
- Developed by Viatris; **could receive regulatory approval in 2025**

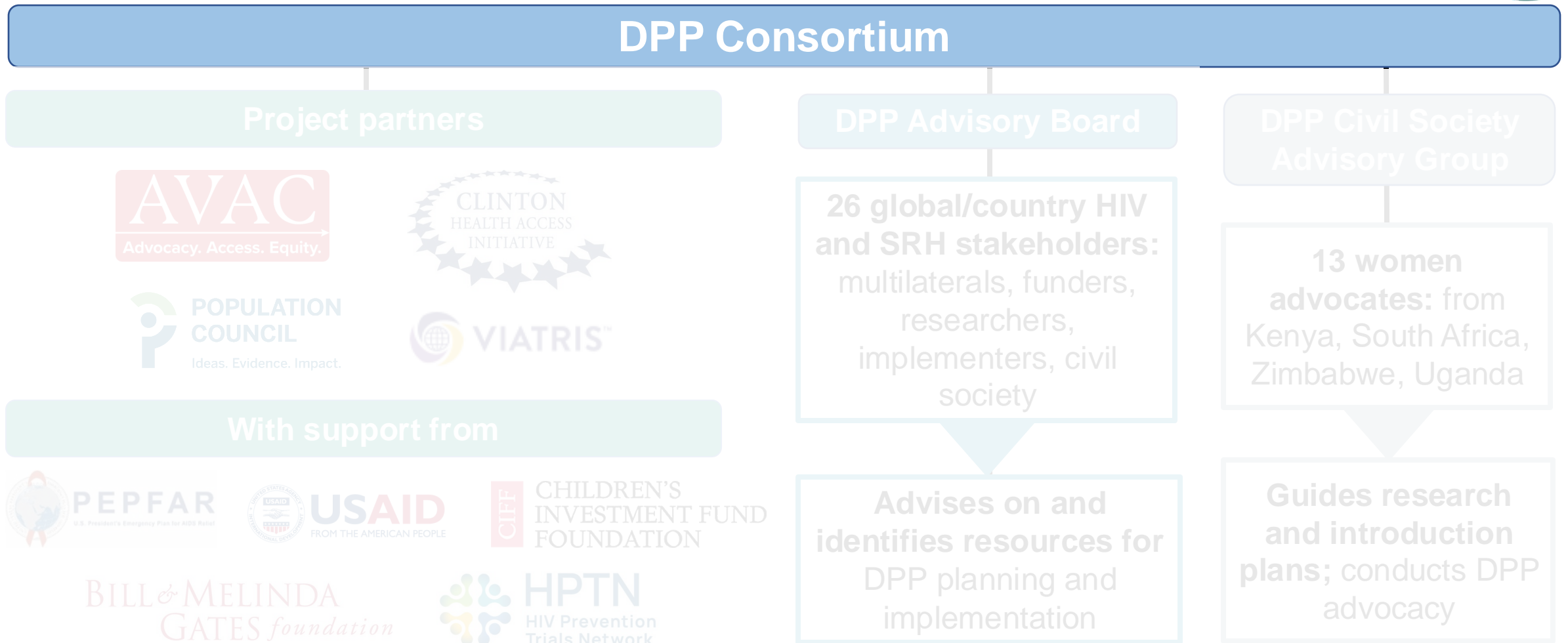


Viatris DPP tablet colors



Illustrative mock-up of DPP packaging by Viatris

The DPP Consortium is a coalition of organizations working together to catalyze DPP and future MPT introduction



DPP Civil Society Advisory Group (CS AG) has shaped project outputs

From 2021-2023, the group has...

- ✓ Provided input on **recruitment materials for acceptability studies** in South Africa, Zimbabwe
- ✓ Gave feedback on design of **human-centered design research** and DPP **creative concepts**
- ✓ Developed **DPP FAQs and messaging on bioequivalence (BE) studies** to build literacy
- ✓ Conducted **regulatory engagement** in Uganda, a model that could be adapted to other countries
- ✓ Begun engaging with **HPTN 104 community engagement team** to explore partnership

In 2024, the group plans to...



Establish partnership with HPTN 104 community working group



Support HPTN 104 community consultation



Validate DPP branding



Engage country-level MOHs and regulatory agencies

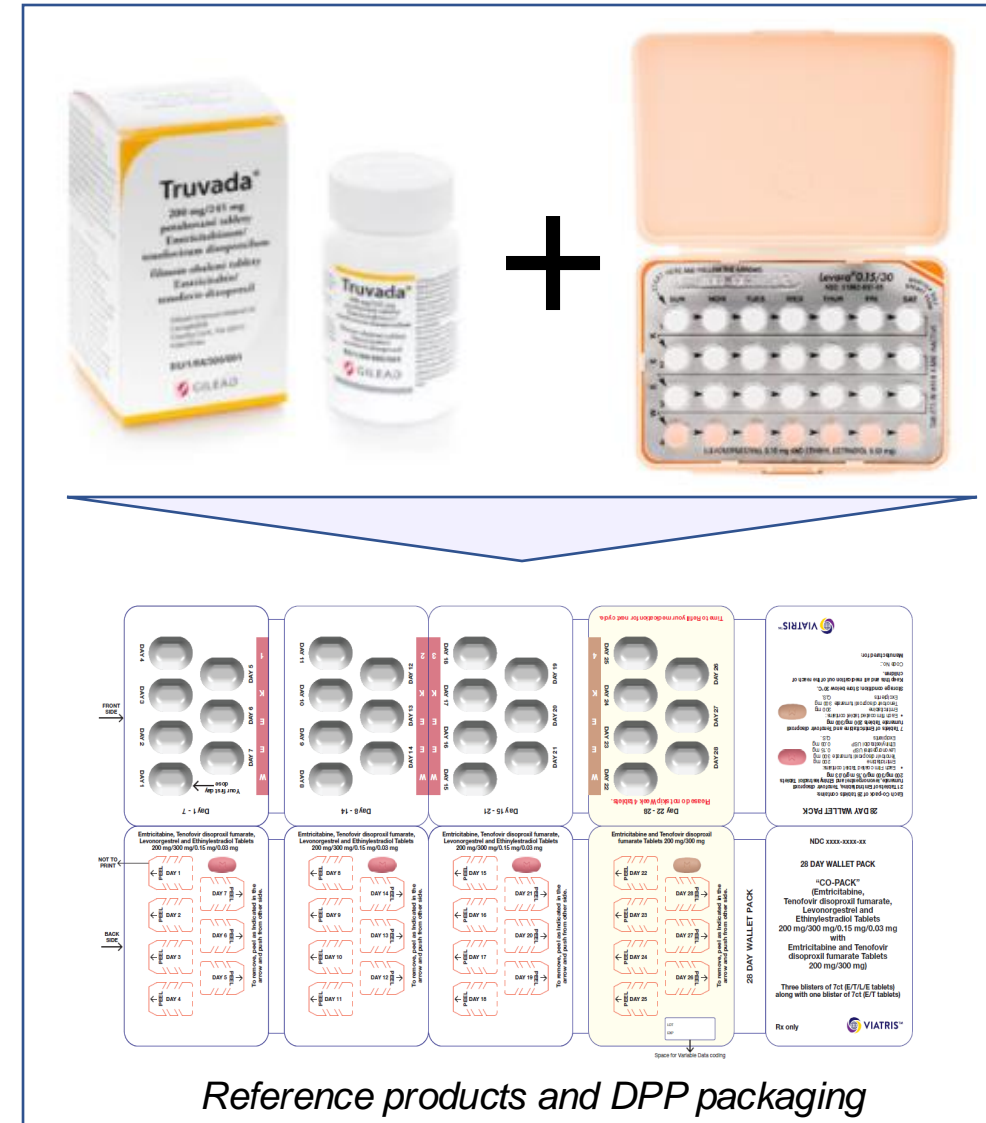


Co-create DPP communications and advocacy plan



Product Development: A bioequivalence study for the DPP bypasses the need for a long clinical trial, which could speed up regulatory approval

- Bioequivalence (BE) studies compare the body's absorption rate of a **new, “innovator”** drug product with **existing, approved “reference”** products
- Products with comparable rates are considered “bioequivalent” and are **expected to have the same safety and efficacy**
- Because the DPP combines oral PrEP + COC, BE studies comparing DPP vs. oral PrEP and COC taken separately are sufficient evidence for regulatory review, which should **accelerate time to market**
- DPP **achieved positive BE results** in pilot study in Sept. 2023
- Larger, pivotal BE study in progress; results expected Aug. 2024
- DPP **pill colors, packaging, brand names** validated with users
- New MPT development catalyzed for **F/TAF-based DPP**



Reference products and DPP packaging

Research: Acceptability studies in Zimbabwe and South Africa offer the first evidence on user experiences with an over-encapsulated DPP



The Details

- **What:** Compare women's experiences (acceptability, adherence, preferences) for over-encapsulated DPP vs. 2 separate pills (oral PrEP + COC)
- **Where:** South Africa, Zimbabwe
- **When:** 2021-2023
- **Who:**
 - N=30 AGYW (16-24) in Chitungwiza (Harare)
 - N=96 women (16-40) in and around Johannesburg

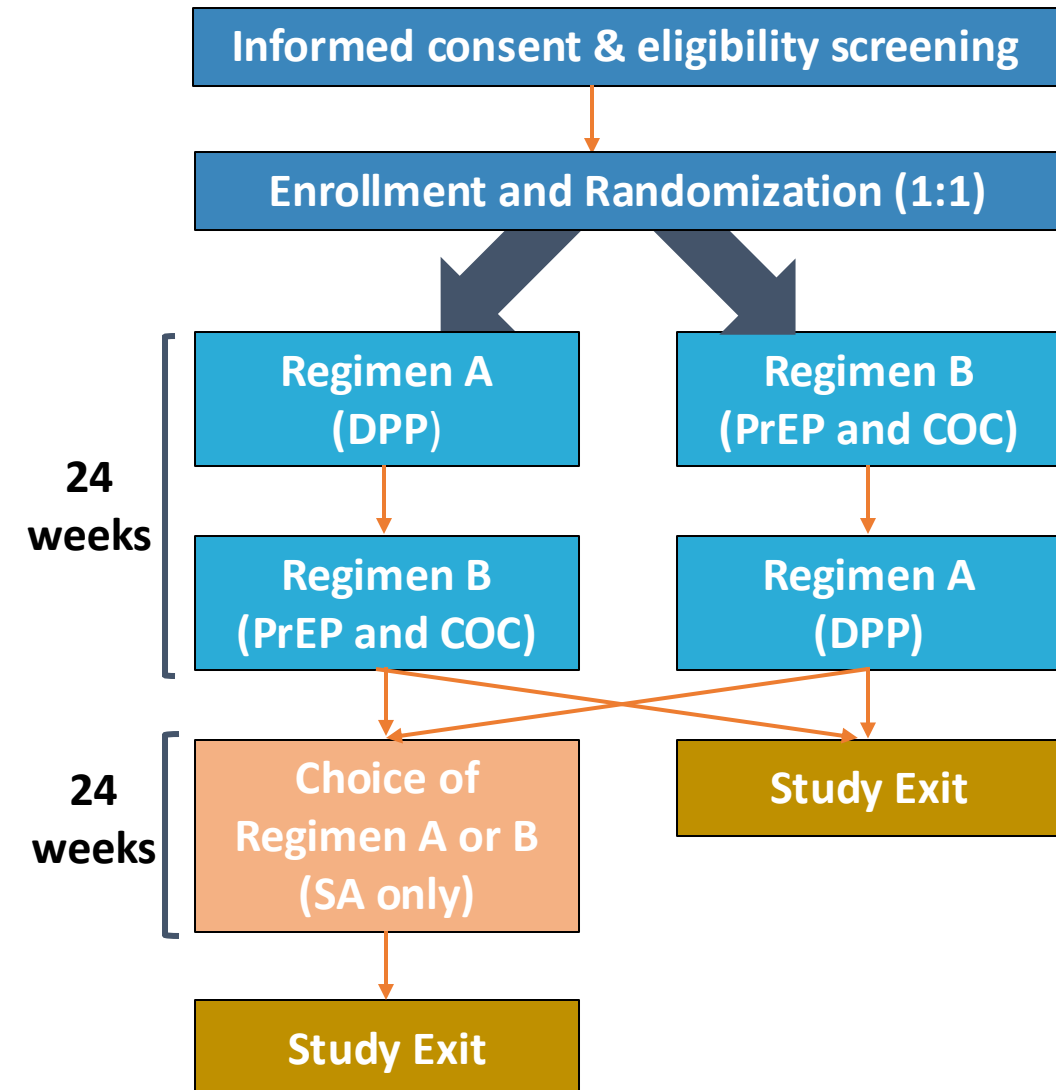
Regimen A: Over-encapsulated DPP



Regimen B: Oral PrEP + COC



Study Design



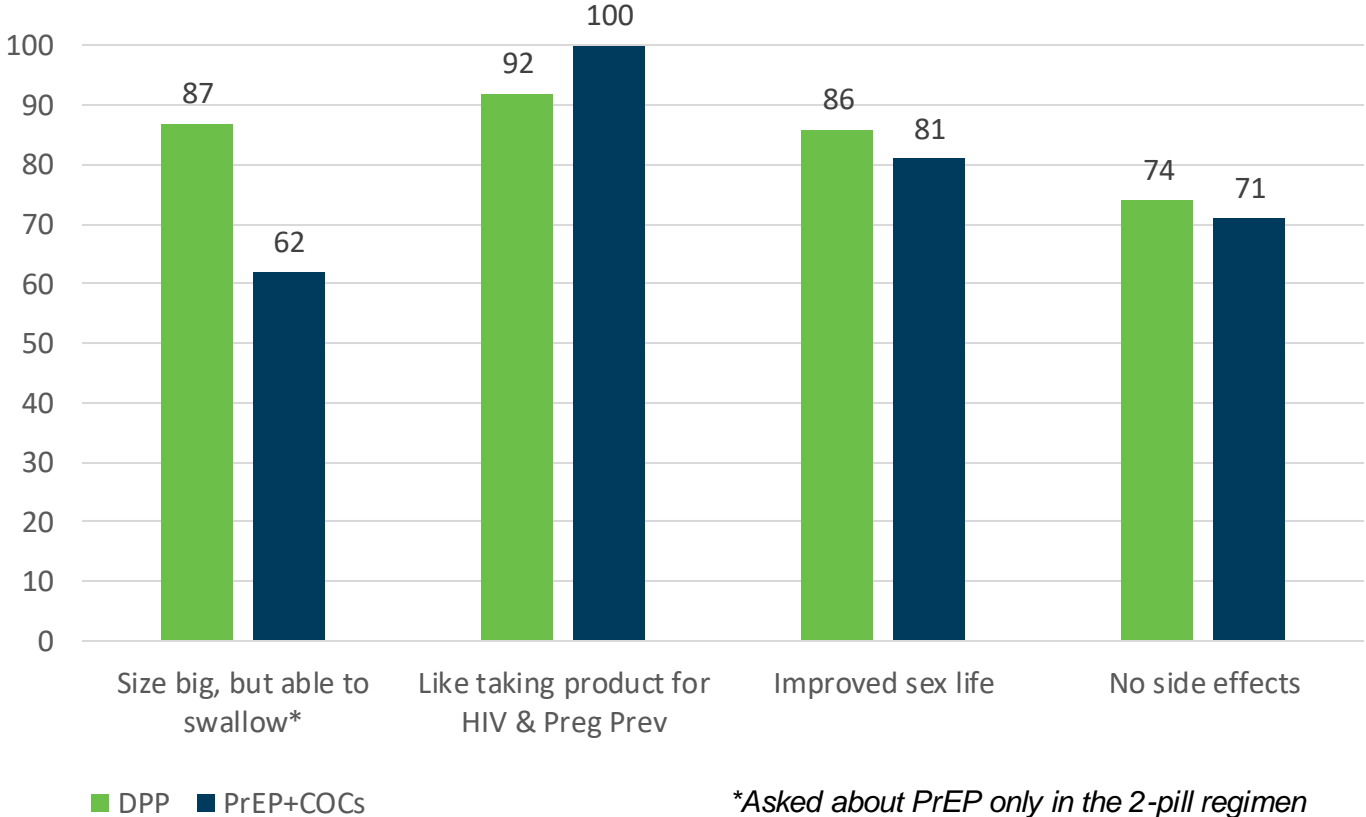


Research: In Zimbabwe, 62% of AGYW preferred the over-encapsulated DPP while 38% preferred the 2-pill regimen

Key Takeaways

- Choice is important: expanding options can increase demand
- 93% willing to use DPP if available; 100% if it included STI prevention
- Pill size and packaging were barriers; consider tools to enhance discretion and social support
- Varied delivery preferences: offer the DPP through diverse channels and providers

Components of Acceptability (N=25)





Research: Participants in acceptability studies and HCD research noted perceived benefits of the DPP

“Using the DPP is important because when I am taking that one pill, I will be protecting myself from pregnancy and HIV. It is different from taking two separate pills.”

Participant, Zimbabwe acceptability study

“According to him, condoms should be used by those who do not trust each other and those that go outside [of the relationship].”

Participant, HCD research, Kenya

“...For those who feel they want to hide because they are taking PrEP, it will be easier because they only have one pill to take and so ‘no one should know what I am taking.’”

Healthcare provider, HCD research, Kenya



Nyagah, W. et al. (2023); Friedland, B. (2023) (on file).

Research: HPTN 104 will evaluate adherence to the co-formulated DPP across 5 sites, beginning in 2024

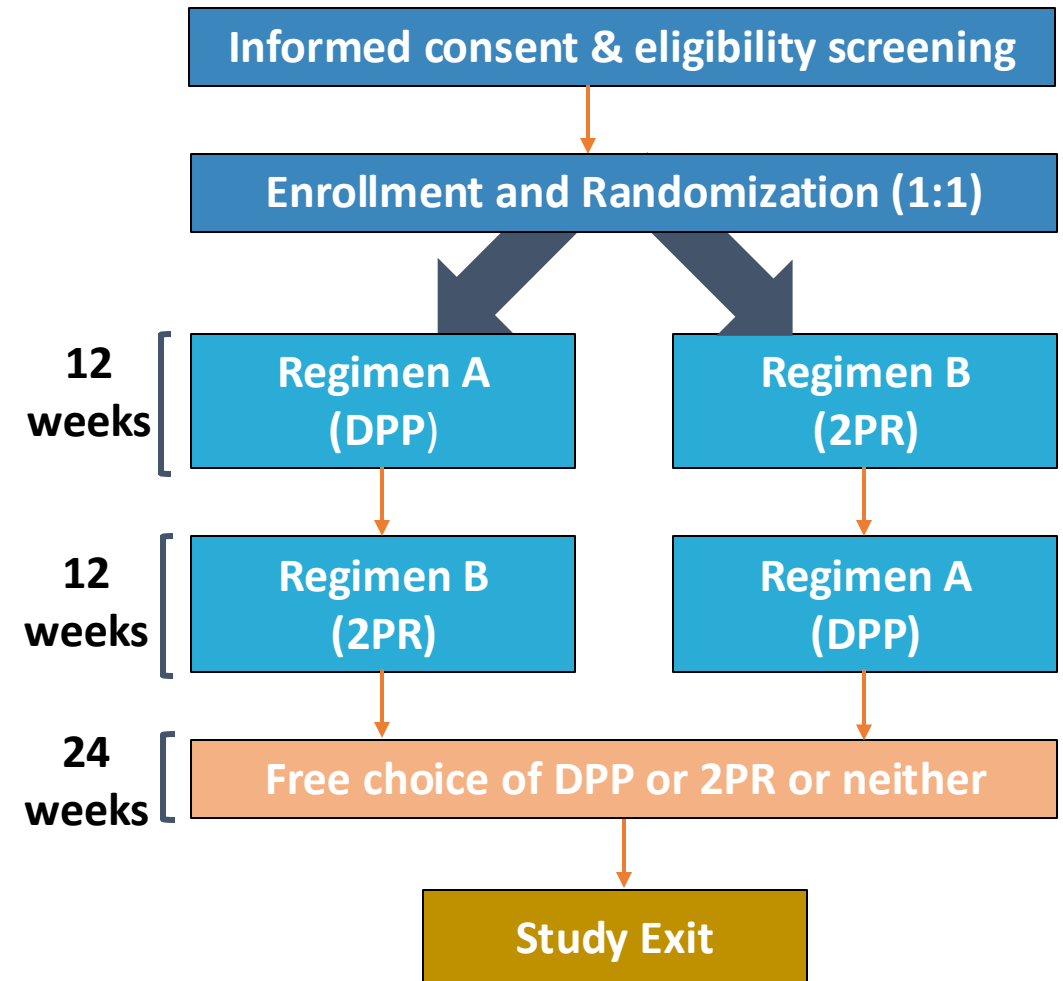


The Details

- **What:** Open-label, multisite, randomized, crossover trial: DPP vs. oral PrEP + COC (2PR)
- **Where:** Eswatini, South Africa, Uganda, Zimbabwe, US
- **When:** 2024-2026
- **Who:** N=300 people of childbearing potential ages 16-39

HPTN 104 will offer the **co-formulated DPP** – making it the first study to evaluate the DPP product that will go to market

Study Design

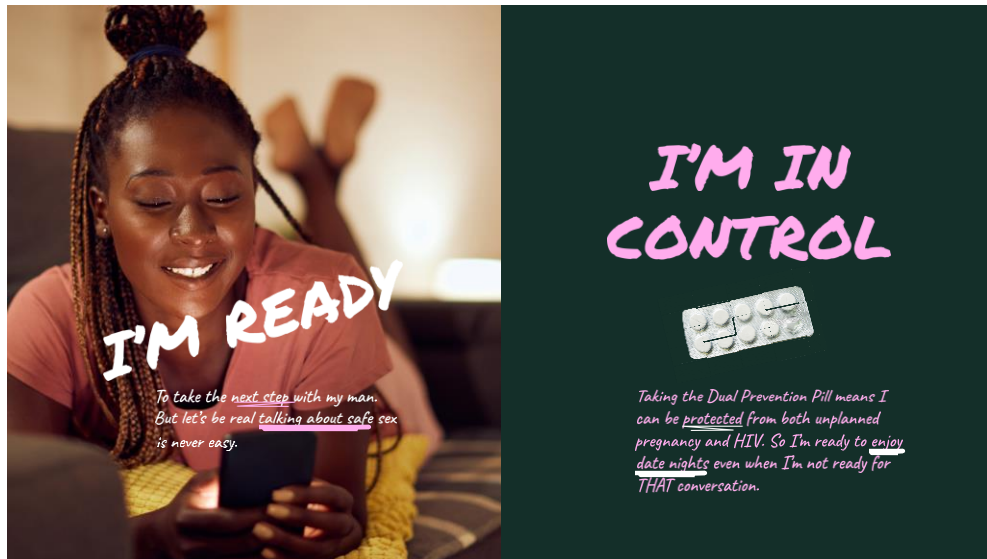


Market preparation: Evidence generation in Kenya, South Africa, and Zimbabwe has identified potential approaches to introducing the DPP



➤ Demand Generation

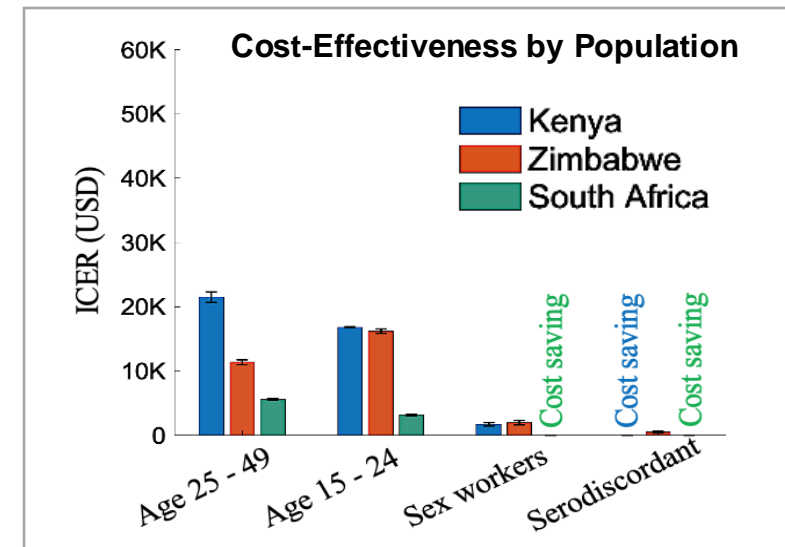
- Women struggle with the unpredictability of life, with uptake of OC/PrEP often triggered by the negative actions of partners
- DPP can help users navigate the “moments” they need to take control of their sexual health
- Users are motivated when their individuality is celebrated around goals, enjoyment, or self-care



Sample DPP creative concept

➤ Delivery Platforms

- DPP more likely to be cost-effective in settings with high HIV incidence, when it increases adherence
- Public HIV and FP clinics, private provider networks, and pharmacies (where authorized) are initial recommended delivery channels
- Subsidy likely required to make DPP affordable for OC users



Cost-effectiveness modeling results

What's next for the DPP?

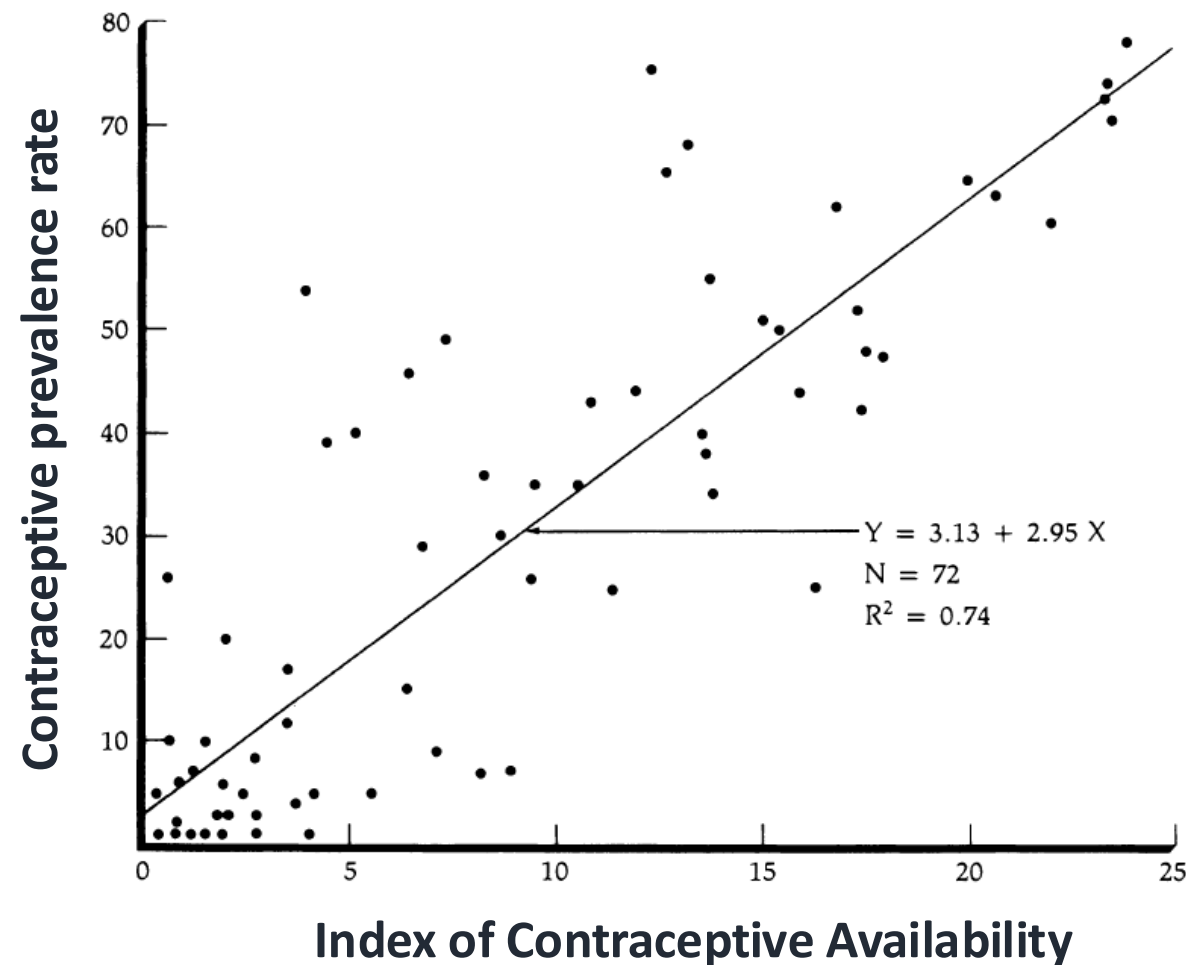
- 1** Support **multiple regulatory submissions, commercialization, secure supply, and market entry** of the DPP by 2025
- 2** Support **country introduction planning and implementation**
- 3** Lead DPP **global coordination, promotion, stakeholder engagement** to streamline collaboration and establish a platform for the MPT field



Bringing MPTs from “bench to bedside”

Choice matters

- WHO systematic review (231 articles) of contraception uptake showed increased choice associated with:
 - **Increased persistence** on chosen method
 - **Better health outcomes**
 - **12% increase in contraceptive prevalence** for each additional method
- Similar to contraceptive needs: different people have different HIV prevention needs at different times



SEARCH Dynamic Choice study

The first evidence on HIV prevention choice

Testing choice

✓ Rapid test ✓ Self-test

Product choice

 Oral PrEP  CAB for PrEP

 PEP

Service location choice

 Clinic

 Community sites via
community health workers

- HIV prevention **coverage increased to 69.7%** compared to 13% in the standard of care
- Both CAB and oral PrEP had high uptake
- Of 56% who chose CAB, 42% not on any prevention product in previous month
- **28% of participants used 2+ products during the study**

Ever use	Dynamic Choice HIV Prevention intervention	Standard of Care
CAB-LA	56%	0%
Oral PrEP	53%	19%
PEP	2%	1%
2+ products	28%	0.4%

 Kanya, M. BioPIC [webinar](#), Apr. 23, 2024

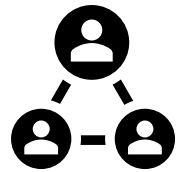
Moving a Product to the Real World



Advocacy priorities for MPTs



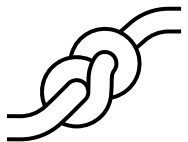
Press for resources to support a diverse pipeline – including vaginal and rectal products – that prevent HIV, other STIs, and pregnancy to meet needs of all people.



Demand people-centered research agendas. Ask researchers how user perspectives will be included in the research process. Researchers must make community engagement plans widely available, even if products are in early phase trials.



Urge the WHO, FP2030, UNFPA and UNAIDS to introduce targets that move MPTs through trials and into programs. Advocates can use these targets to hold governments accountable.



Advocate to scale up programs that integrate FP, HIV and other STI services now, pushing MOHs, funders, and implementers to prioritize models of integration that will address the immediate needs of populations and support future MPT introduction and access.



Push civil society at large to convene consultations with funders, procurers, and regulators – to ensure they are enacting changes to their systems to facilitate – and not slow down – MPT introduction.

Lastly...we want to hear from you!



What do you see as **advocacy priorities**
for the DPP and other MPTs?

Acknowledgements

DPP Consortium project partners



With support from



In collaboration with

DPP Advisory Board

DPP Civil Society Advisory Group

Thank you!

Questions?



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for HIV Prevention and
Contraception**