

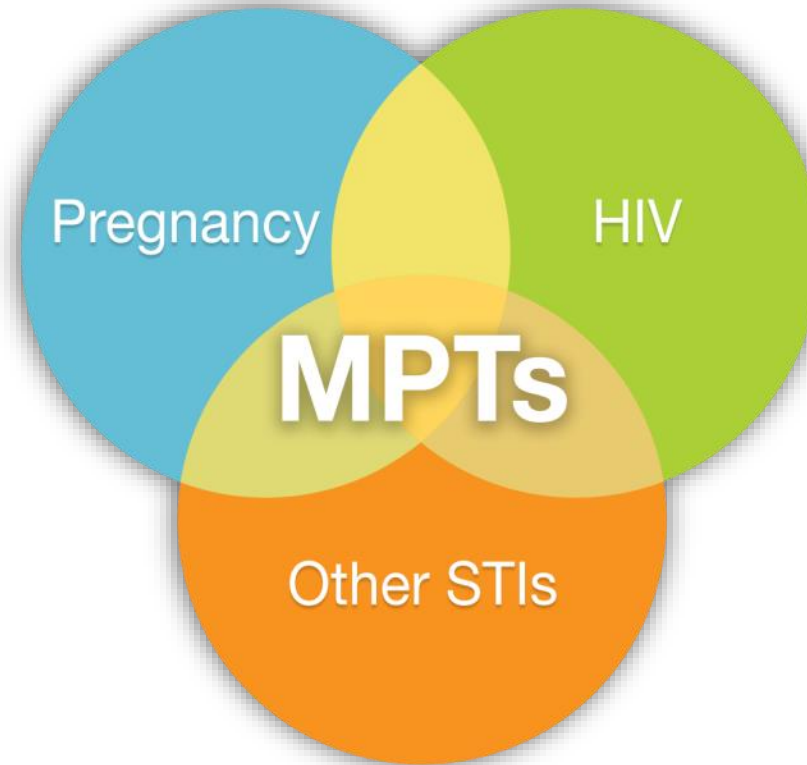
# Multipurpose prevention technologies: the vision, the approaches, the challenges

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Population Council

∴∴ HPTN ANNUAL ∴∴  
∴∴ MEETING 2021 ∴∴∴

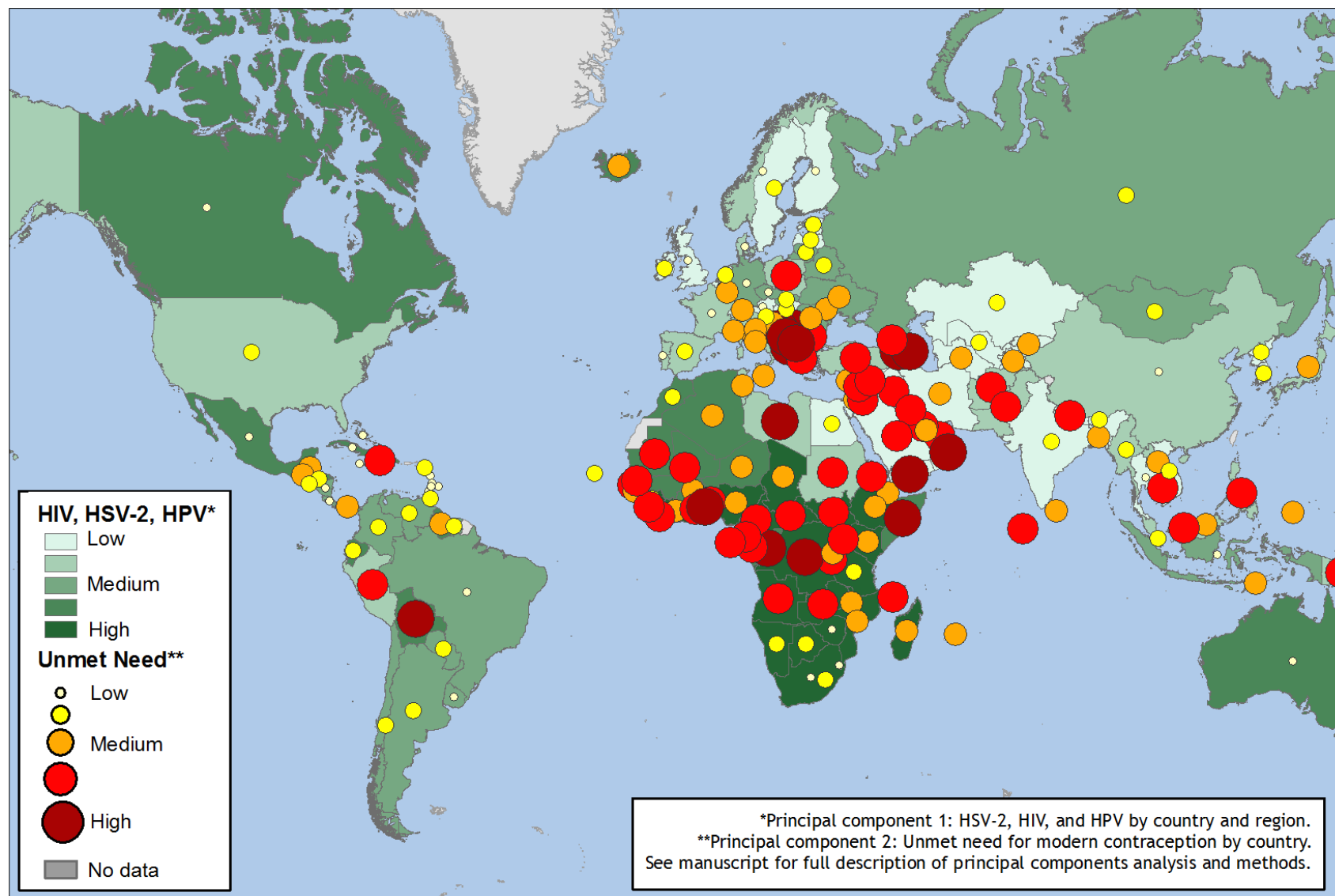


# Multipurpose prevention technologies



Source: Adapted from Initiative for Multipurpose Prevention Technologies

# Interlinked HIV/STI risk and unmet need for modern contraception among women



Names and boundary representation are not necessarily authoritative

GIS guidance and Principle Component Analysis provided by the **GEOCENTER**

# Women want MPTs

83% of women prefer  
HIV/STI prevention  
products with  
contraception vs.  
HIV/STI prevention  
alone



Share your wisdom  
Learn about women's health  
Shape our future



**Share.Learn.Shape.**

**An online women's health survey**

Your answers can have a direct impact on  
new ways to prevent sexually transmitted  
diseases (STDs), including HIV.

**Take the survey**

# Why MPTs?: Addressing stigma challenges

Factors associated with providers' willingness to prescribe PrEP (n=316)

	Adj. IRR <sup>1</sup> (95% CI)
Negative attitudes toward AGYW sexuality	0.81 (0.66–0.99)*
Behavioral disinhibition scale	0.89 (0.79–0.99)*

<sup>1</sup>Adjusted for provider demographics, prior PrEP knowledge, other facility factors (e.g., stockouts)

\*p<0.05

*Some of us are very critical and judgmental. We just judge someone, 'Ooh you came again? Last time you had gonorrhea, did you do it again?'*

—Service provider, age 32

Pilgrim N, Jani N, Mathur S, Kahabuka C, Saria V, Makyao N, Apicella L, Pulerwitz J. (2018) "Provider perspectives on PrEP for adolescent girls and young women in Tanzania: The role of provider biases and quality of care," *PLoS ONE* 13(4): e0196280. doi: [10.1371/journal.pone.0196280](https://doi.org/10.1371/journal.pone.0196280)

“

*When the peers of my age see a person taking PrEP, they will think that the person has AIDS or they are very unfaithful hanging out with many partners...I will be considered as a bad person in the community.*

—Young woman, age 22, Tanzania

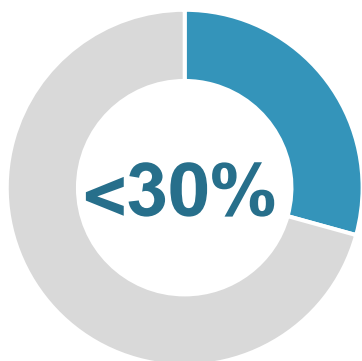
*...Personally, I cannot go and tell my father that I am going for PrEP services. He will stop me and ask, ‘who said that you are sick?’*

—Young woman, age 20, Tanzania



# Why MPTs? Addressing adherence/uptake challenges

- Major concerns emerging from early PrEP studies



Participants with detectable tenofovir (TDF) in plasma in the FEM-PrEP trial

- Many women more concerned about pregnancy than HIV
- Condoms currently the only dual protection



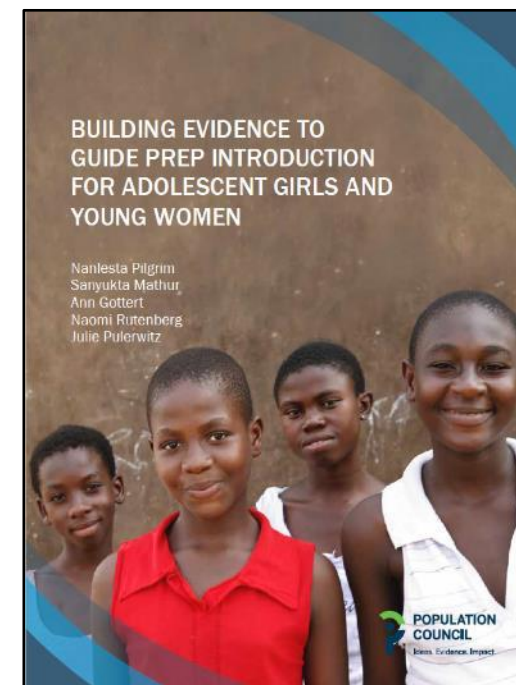
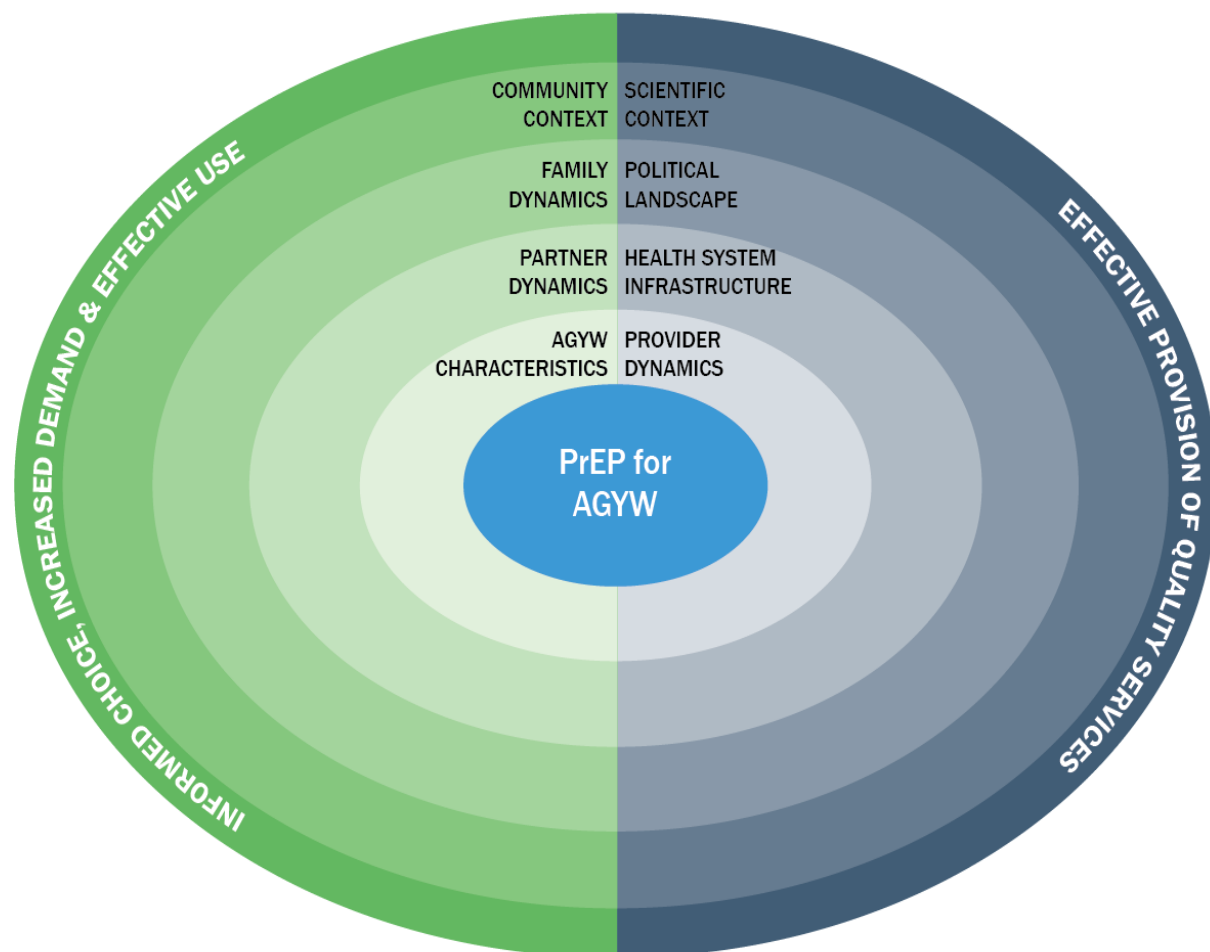
# Why MPTs? Addressing integration challenges

- For the individual, integrated option will be easier and preferred for many
  - Choice/ options essential to address the changing needs along lifespan
- Will require integrated services at the provider level
  - Appropriate recommendations taking into account multiple indications.
- Facility level integration as well

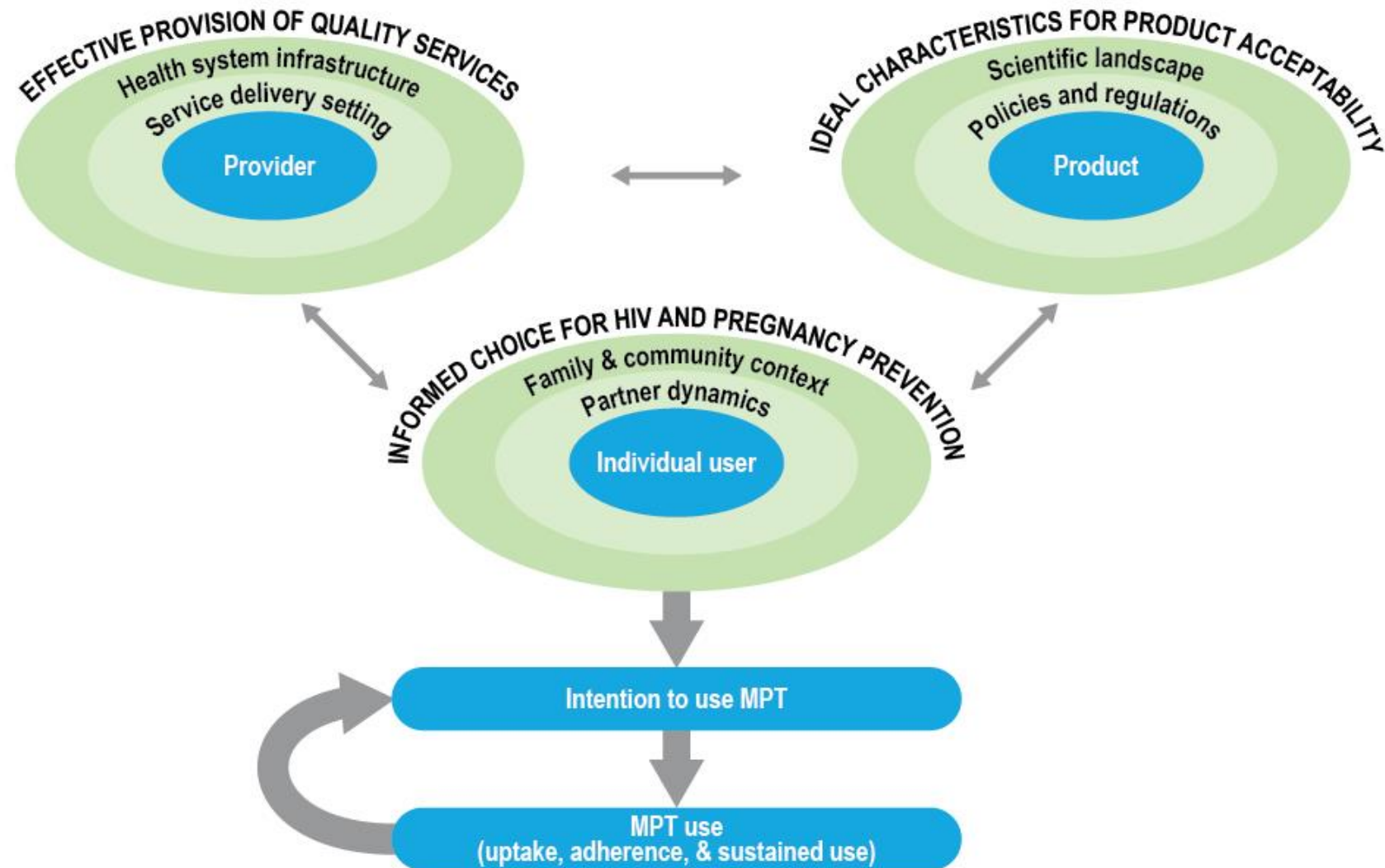




# Framework for PrEP introduction: a model?



# MPT development/ introduction framework



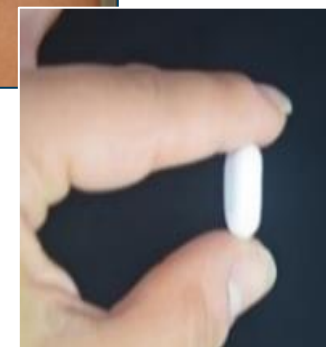
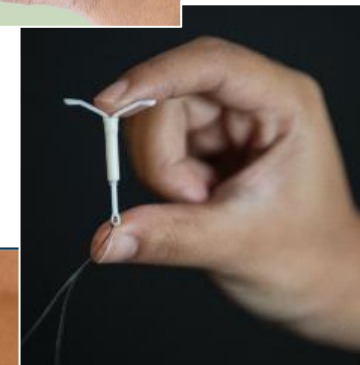
Source: Adapted from Friedland, B.; Mathur, S.; Haddad, L. B. "The promise of the dual prevention pill: A framework for development and introduction," *Under review Front. Reprod. Health*.

# Product development: A focus on choice, convenience and control

**Provider administered**  
Implants, IUDs

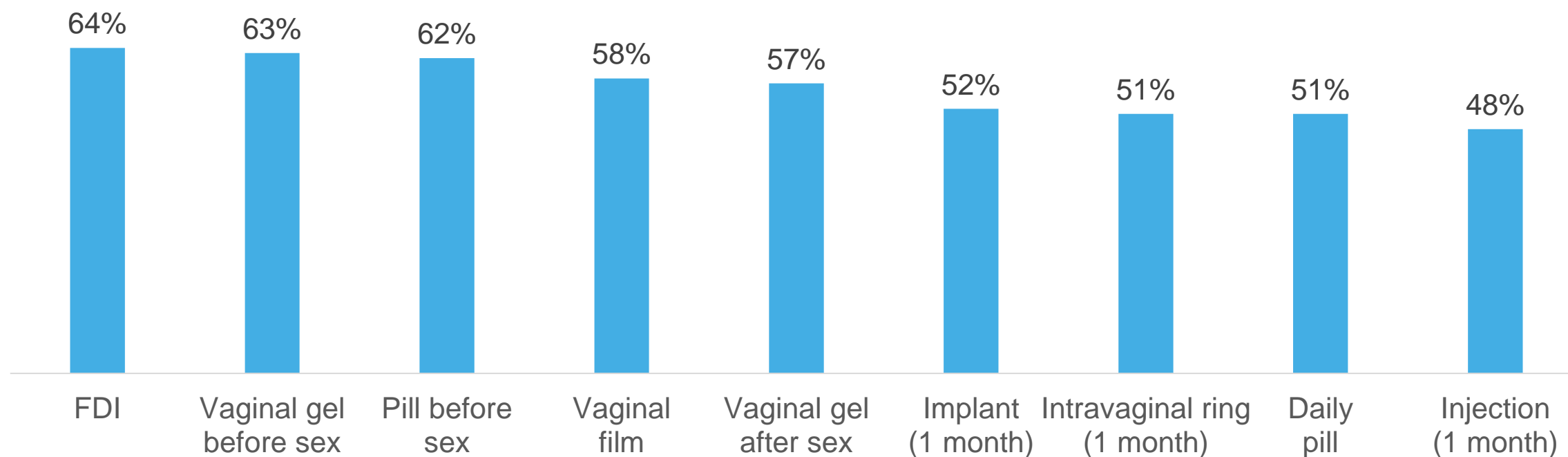
**User controlled**  
Daily oral tablets  
Intravaginal rings  
Patch  
Films, gels, and inserts

- Long-acting, short-acting, on demand
- Hormonal/non-hormonal contraceptive
- ARV vs non-ARV
- Systemic (absorbed in blood) vs topical



# Positive reaction to a variety of products

Interest in using 9 different HIV/STI prevention products (n=558)



# MPT Pathway: A Typology

## INDICATION COMBINATION

**Pregnancy  
+ HIV**

**Pregnancy  
+ STIs (non-HIV)**

**STIs  
+ HIV**

**Pregnancy  
+ STIs  
+ HIV**

## FORMULATION/ DELIVERY VEHICLE

**DRUG + DRUG**

**DRUG + DEVICE**

## ACTIVE PHARMACEUTICAL INGREDIENT (API)/ DEVICE STATUS

**APPROVED +  
APPROVED**

**APPROVED +  
EXPERIMENTAL**

**EXPERIMENTAL +  
EXPERIMENTAL**

**REGULATORY PATHWAY**  
**# OF INDICATIONS + # OF API/DRUG ~ # YEARS**



## MPT Product Development Database

Multipurpose Prevention Technologies (MPTs) are an innovative class of products that deliver varied combinations of HIV prevention, other STI prevention, and contraception and will improve the lives of women and families worldwide.

This database includes MPT products that are currently in active development. The database outlines detailed product information and can be searched to display products by desired criteria as selected from the drop-down boxes or by entering a keyword in the search box. Click on the product name to access detailed information on each product. Please note there are other MPT candidates not listed that may move forward pending funding. [Click here to learn more about the inclusion criteria and information update methodology.](#)

Click on the tables for MPT products in the development pipeline, listed by:

### Indication Combination



### Delivery Method



### MPT Database Feedback

Know of an MPT product not included in this database or have updated information for listed products? Let us know [here!](#)

Hormonal/Non-Hormonal

Show All Hormonal Types



Delivery Route

Show All Delivery Routes



Delivery Method

Show All Delivery Methods



Development Stage

Show All Stages



Indication

Show All Indications



Product Developer

Show All Developers



Product Sponsor/Funding

Show All Sponsors



Active Ingredient

Show All Active Ingredients



# Dual prevention pill (DPP)

**Delivery system:** oral pill

**APIs:** Combines 2 approved drugs (Oral contraceptive and HIV PrEP)

## Opportunities:

- Streamlined regulatory pathway: no efficacy trials required, only bioequivalence
- WHO/CDC guidelines recommend PrEP and combined oral contraceptives prescribed together

## Considerations:

- Packaging
- Clinical guidance, e.g., missed pills



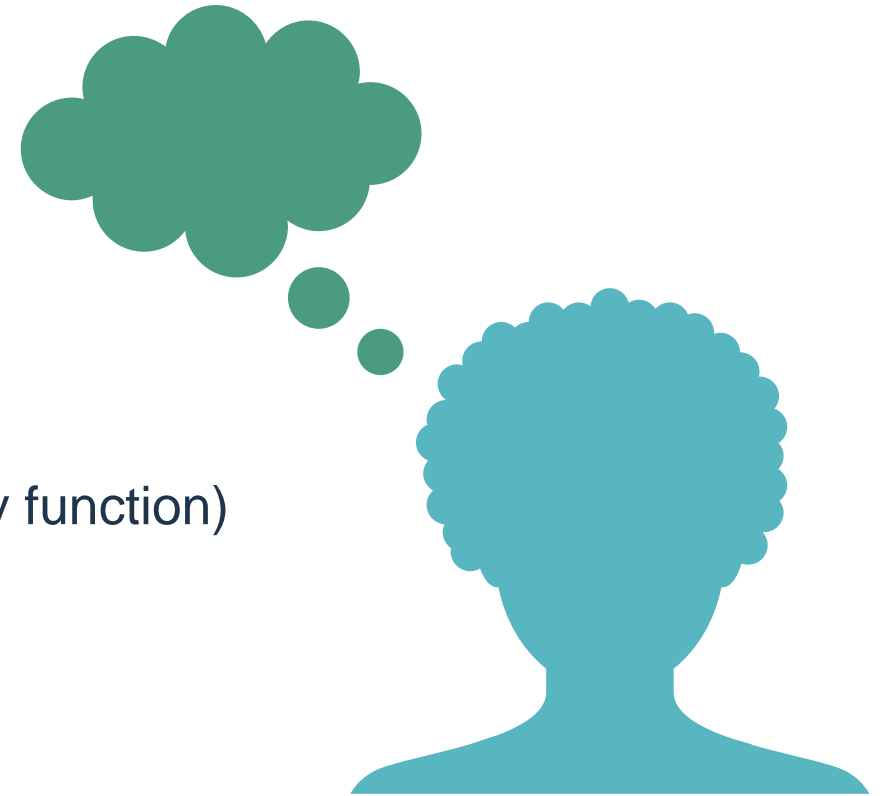
# Emerging insights: Women's views on DPP

## Women perceived the DPP favorably

- Convenience (1 pill for 2 needs, go to only 1 clinic)
- Easy to use (other methods involve pain)
- Condoms not ideal (discomfort, partners do not like, and sex often unplanned)

## Concerned about:

- Side effects (physical appearance, depression, and kidney function)
- Stigma/negative treatment from health care providers
- Need to visit clinic to collect pills
- Relationship conflict/lack of support from partner
- Parental approval/support



# Emerging insights: Provider views of DPP

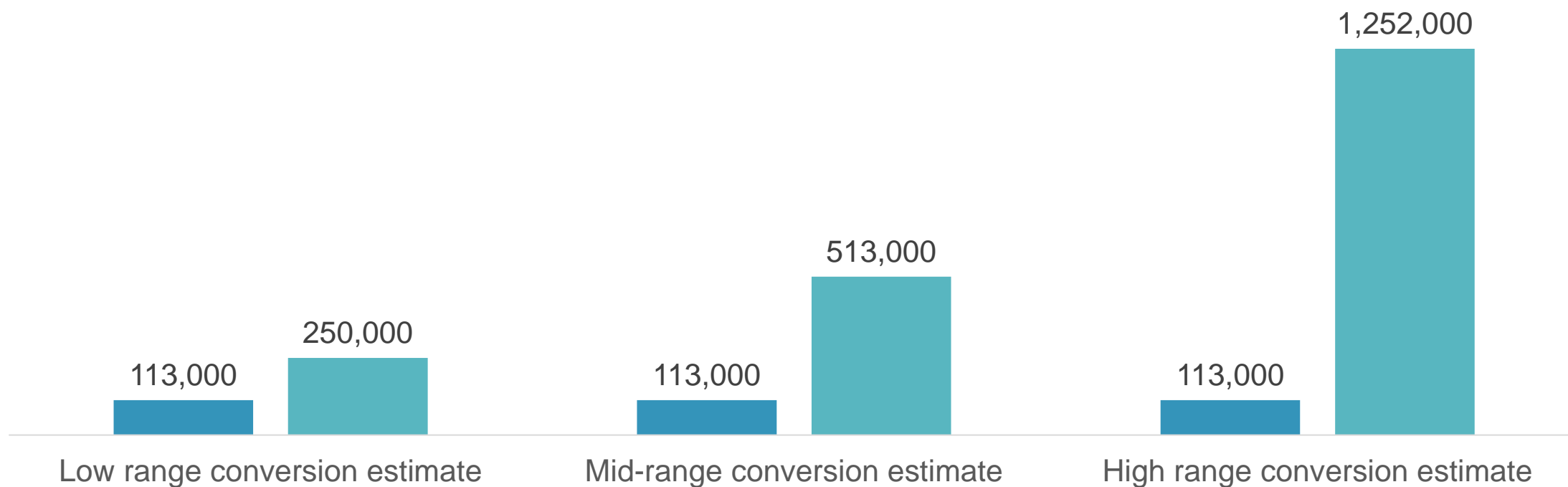
- See this as an important option for women
- Concerned about reactions from partners/  
intimate partner violence
- Recommendations for successful roll-out:
  - Women will need counseling as they initiate and to help adhere to the dosing regimen
  - Providers need training and support to manage workload
  - Offer through clinics, but consider getting it out of the health facility to reach more women



# Potentially a 2- to 10-fold increase in PrEP usage

Estimated DPP users compared to current PrEP users

■ Current PrEP users (women and men) ■ Estimated DPP users





# EEQ IVR

**Delivery system:** intravaginal ring (IVR)

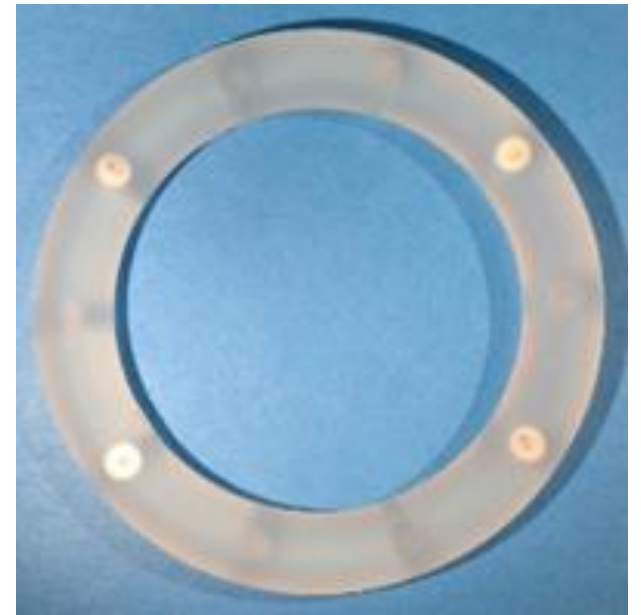
**APIs:** Combines etonogestrel [ETG] and ethinyl estradiol [EE] with Q-Griffithsin (Q-GRFT)

**Opportunities:**

- NuvaRing (for ETG / EE) is approved & 20 years on market
- GRFT is a highly potent plant-based HIV inhibitor—non-ARV so less potential for resistance

**Considerations:**

- GRFT in early stages of clinical development
- Optimizing physical characteristics (e.g., to maximize comfort)
- Medical guidance for taking them out



# Vaginal insert: GRFT/CG FDI

**Delivery system:** fast-dissolving film/insert (FDI)

**APIs:** Combines Griffithsin (GRFT)—anti-HIV—plus carrageenan (CG)—anti-HSV, HPV

## **Opportunities:**

- FDIs are on-demand, portable, inexpensive
- Both plant-based vs ARV

## **Considerations:**

- GRFT in early clinical development (1 Phase 1 trial)
- Since on demand, developing with optimal window of effectiveness



# Key questions for MPT introduction

- How do we ensure access to a range of products, including MPTs, for people with changing lifetime needs for both HIV / STI prevention and around pregnancy?
- What is the best way to integrate MPTs into different clinical settings? (Implementation science research)
- As products are introduced, how do key socioecological factors (e.g., stigma; partner communications/negotiations) affect their uptake and success?
- What will a cost analysis of MPT delivery vs separate products tell us?
- What will be the most compelling way to market MPTs (e.g., contraception + HIV or HIV + contraception?)

# Thank you!



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# HPTN ANNUAL MEETING 2021

A decorative graphic consisting of a grid of orange dots of varying sizes, arranged in a pattern that suggests a digital or networked theme. The dots are positioned to the right of the text, creating a visual balance and adding a modern, tech-oriented feel to the design.