

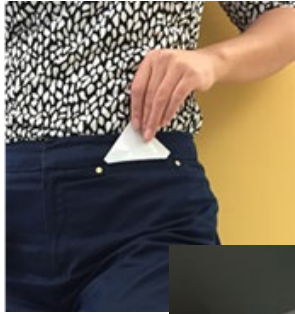
Monthly Dapivirine Vaginal Film and Monthly Dapivirine Dual-Purpose Film

MATRIX Stakeholders Meeting and Consultation, Nairobi, Kenya
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One-Month Dapivirine Vaginal Film



- Designed to provide protection from HIV for 1 month
- Given that the dapivirine ring is approved in several African countries, there is already data on the safety and efficacy of dapivirine in women.
- Women can insert the film themselves and it bioerodes so no need for removal

Why film?

Ease of Use & Privacy:

Women control use and insertion of film
Can be used discreetly and inserted
anytime in private
Not expected to impact sex

Unique & Convenient Platform:

Removal not required
Complete drug release
Small and portable

Low Cost:

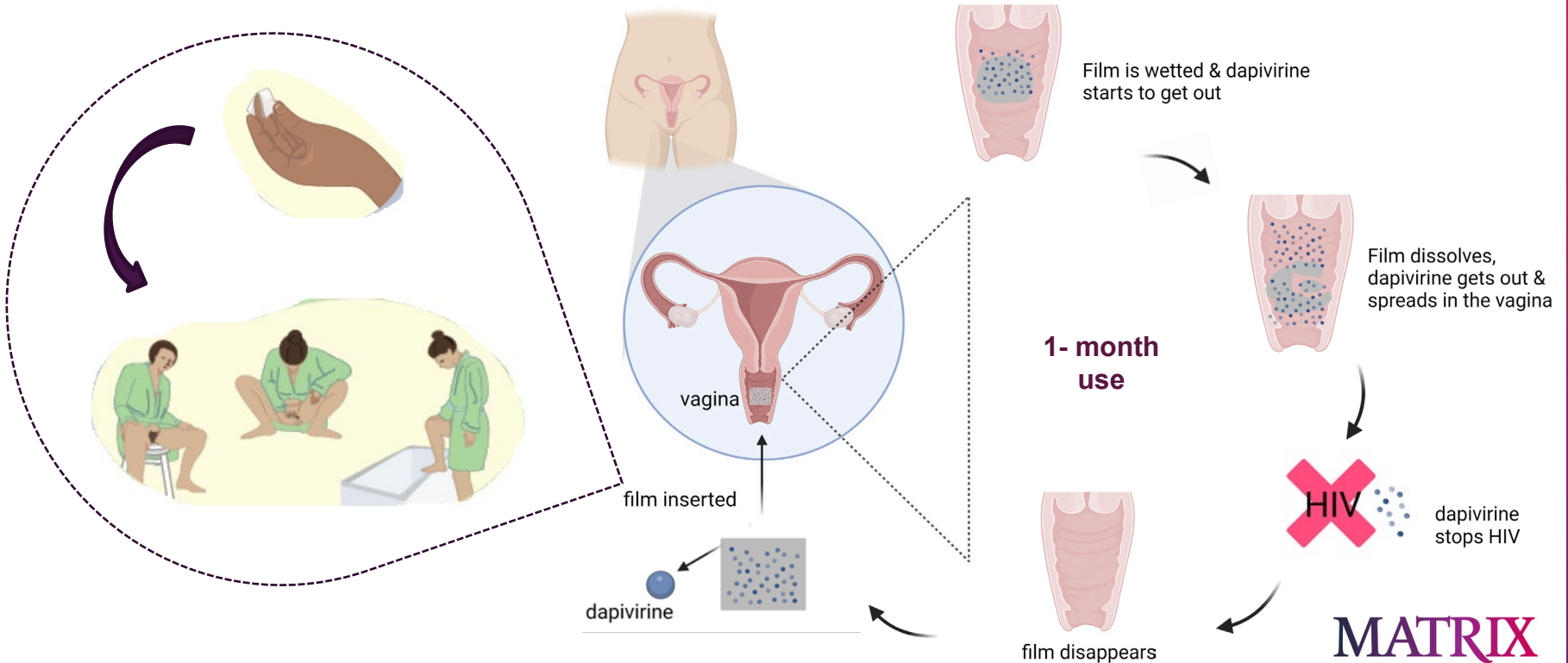
Inexpensive to manufacture
No applicator required

Safe with No Messiness:

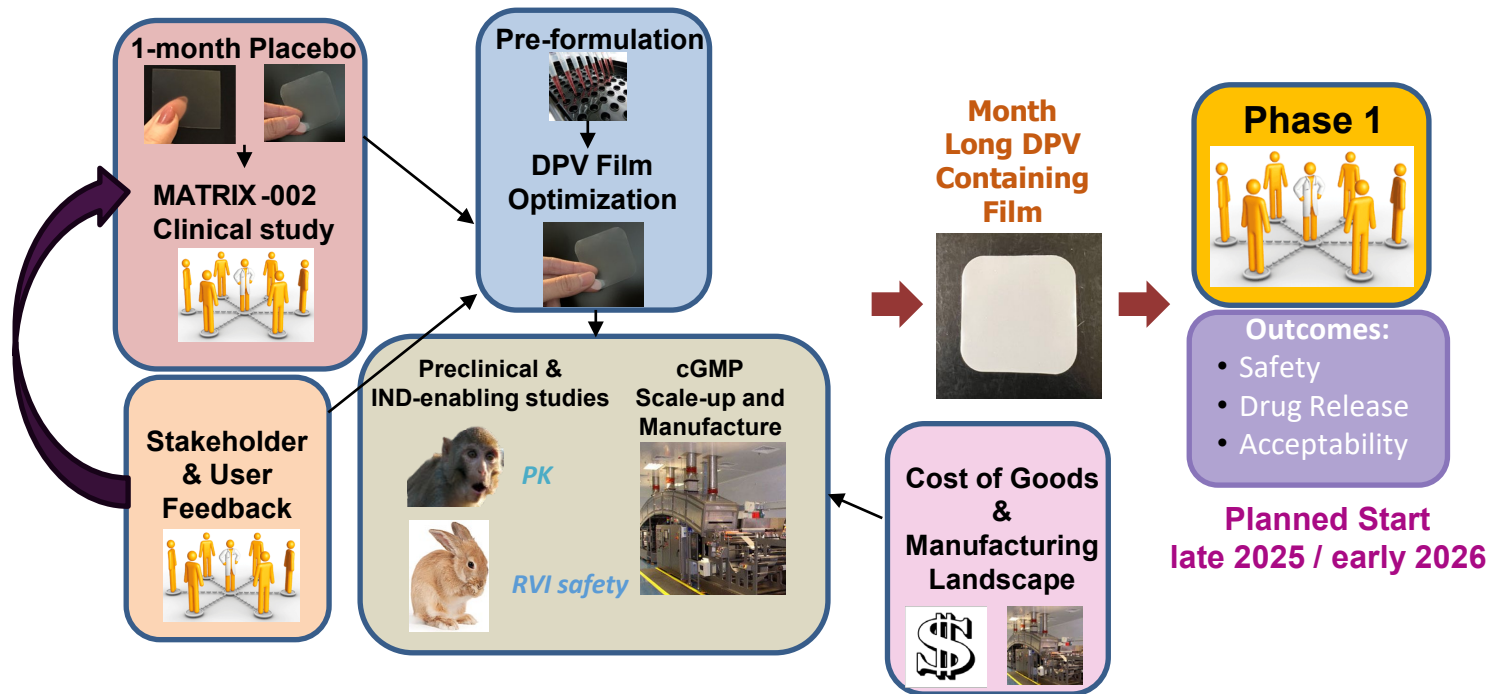
Minimal impact on vaginal health
Minimal to no additional vaginal
discharge



How does the dapivirine film work?



Monthly Vaginal Film Development Pathway



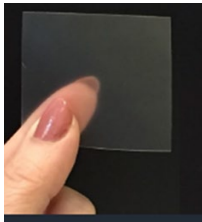
Stakeholder Feedback

Film generated feedback around film shape and film insertion

"How can we expect to put something square in a round hole?"

[after immersing the product in water] "it immediately becomes soft, it is not hard anymore, but I think many women would prefer something without sharp edges and not square."

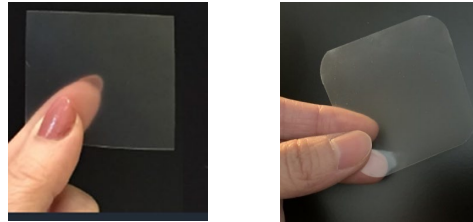
"[The film] was easy [to insert]. So, once you put it in there, then if you remove the finger it will stick in there...With the film actually my partner couldn't feel if there is something in there." - Former QUATRO participant



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MATRIX-002:

A Study to Assess the Acceptability and Safety of Two Placebo Prototype Vaginal Films

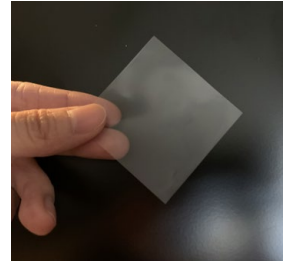


Protocol Co-chairs:

Nyaradzo M. Mgodzi, MBChB, MMed (Zimbabwe)
Alexandra Minnis, PhD (USA)

Why are we doing a placebo film study?

- Compare two film shapes for ease of insertion
- Currently no acceptability/safety data with 1 month film platform
- Feedback to facilitate user informed optimization in film design
- Goals:
 - Establish safety of platform
 - Establish acceptability (user/partner)
 - Establish usability and adaptability (learning curve?)
 - Confirm utility of film insertion instructions
 - Impact of sex and vaginal product use/practices
 - Partner Feedback



MATRIX-002: Study Overview

Study Population - 100 participants and up to 30 sexual partners at **5 trial sites in 4 countries**

Kenya Kenya Medical Research Institute

South Africa

- Aurum Institute
- Wits RHI

Zimbabwe - Harare Health and Research Consortium

United States - University of Pittsburgh/Magee-Womens Research Institute



How is the study designed?

- Women are **randomly assigned** to use **one of the two placebo films**
- Participants use their assigned film twice – for 1-month each
 - During the **first month** of film use, women **refrain from sex and vaginal products**
 - During the **second month** of film use, there are **NO restrictions on sex and vaginal product use**
 - Participants **insert the films themselves** in the clinic each; Study staff provide guidance and instructions
- Participants undergo physical and pelvic exams and different tests and procedures and are asked questions about their experience and likes and dislikes with using the film
- Up to 35 participants and 30 sexual partners asked to participate in an in-depth interview at the end of the study

What have we learned to date from the Design to Delivery (D2D) Hub?

Market segmentation survey and 3 design consultations

Kenya, South Africa, Zimbabwe

- **Likes:** discreet, self-administered, low cost, no pill burden
- **Questions/concerns:** Impact of menses/sex, side effects, time to protection, square corners
- **Other insights gained**
 - Potential end-users are willing to prioritize film over tampon use
 - Health care providers indicated advantages of single and multi-packaging

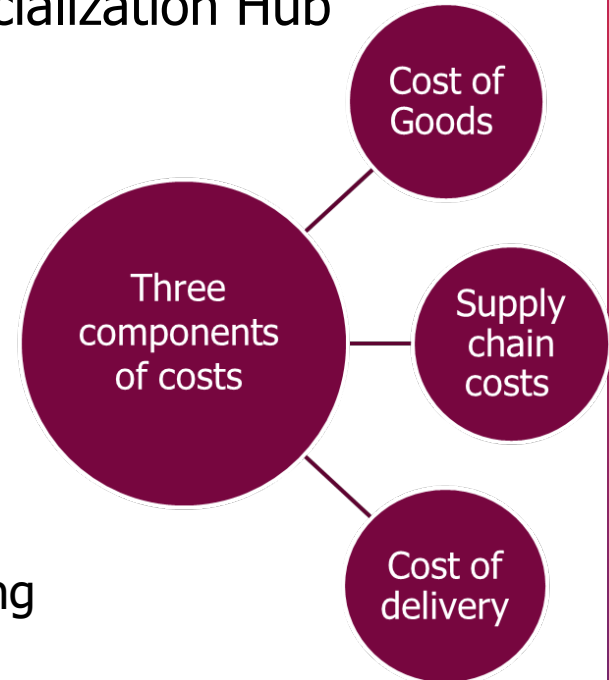
This information is used in MATRIX-002 and proposed Phase 1 study

- Film shape evaluation in MATRIX-002
- Informed sociobehavioral research (SBR) questionnaires

What have we learned to date from our BACH Hub?

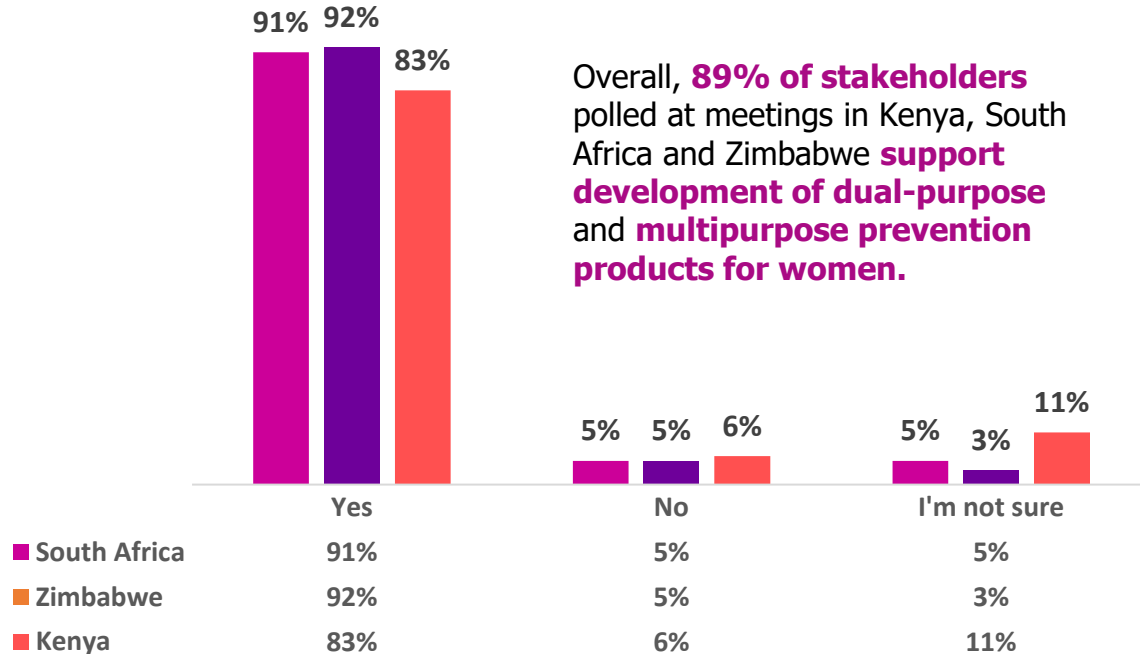
BACH – Business, Market Dynamics and Commercialization Hub

- Cost of Goods (manufacturer provided the costs)
 - Increased scale and local manufacturing can further reduce costs
- Supply Chain Costs
 - Shipping from India less expensive than from US
- Delivery Costs (assumes 3-month testing)
 - Differ by country
 - Testing at Pharmacy vs. Clinic
- Product costs can be reduced by optimizing delivery pathways, reduced testing/refills, local manufacturing



Support for dual-purpose products

Should the development of MPTs be a priority for the field?

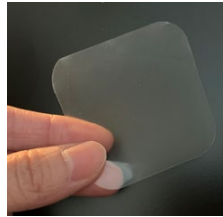
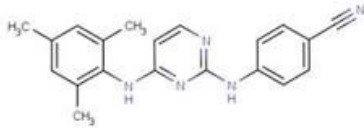


- In 2022, in-country stakeholders consultations were conducted in Kenya, South Africa and Zimbabwe
- Stakeholders included policy makers, researchers and civil society, as well as community representatives, former study participants, adolescent girls and young women and potential end-users.
- Anonymous polling software was used to seek views on certain questions and stimulate further discussion

One-Month Dual Purpose (DPP) Vaginal Film

Dapivirine

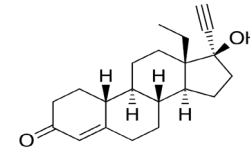
Non-nucleoside reverse transcriptase inhibitor (NNRTI)



Designed to provide protection from HIV and unintended pregnancy for 1 month

Levonorgestrel

Hormonal contraceptive



Current status of the dual-purpose film development

Dual-purpose
30-day film

- **Initial prototype developed**

- ✓ Currently being evaluated in pigtail macaque model
- ✓ Formulation optimization

- **Scale up and manufacturing**

- ✓ Contract manufacturer for clinical trial material production identified
- ✓ Facilities to accommodate hormonal product manufacture in place
- ✓ Manufacture on full line planned for next month

- **End-user and stakeholder feedback**

- ✓ Design consultations for dual purpose products in process

- **Assessment of regulatory requirements**

Planned Phase 1 Clinical Study Start early 2027

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Next Steps



Dapivirine Film

- Complete MATRIX-002
- Seek regulatory feedback regarding Phase 1 clinical study plan
- Complete animal tox testing for regulatory filings
- Complete scale up and clinical trial product manufacture
- Phase 1 Clinical study initiation

Dual Purpose Film

- Complete studies required for regulatory filings to enable Phase 1 clinical testing
- Manufacture clinical supplies
- Seek funding/partners for Phase 1 Clinical Study

Design to Delivery (end-user and social Behavioral Research)

- Rapid Response Network: baseline sexual practices; feedback on acceptable impact of DPP film on menstruation
- Participator Engagement: packaging preferences; access and delivery

BACH Hub (business, market dynamics and commercialization)

- Market Demand/Forecast
- Cost Effectiveness
- Potential Investors

Acknowledgements

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Advancing R&D of Innovative
HIV Prevention Products for Women

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Acknowledgements



VALUE PROJECT TEAM



Dapivirine Vaginal Film and Dual-Purpose Vaginal Film

Questions and Discussion

The bioerodable one-month dapivirine film is being developed as a low-cost HIV prevention option that would provide complete drug release and minimal waste.

- Would there be an accelerated approval pathway available for this product given that dapivirine has already been approved in Kenya in a vaginal ring dosage form?
- What do you see as the pathway for regulatory approval for a product like the dapivirine film with or without contraceptive?