

The Dapivirine Contraceptive Film

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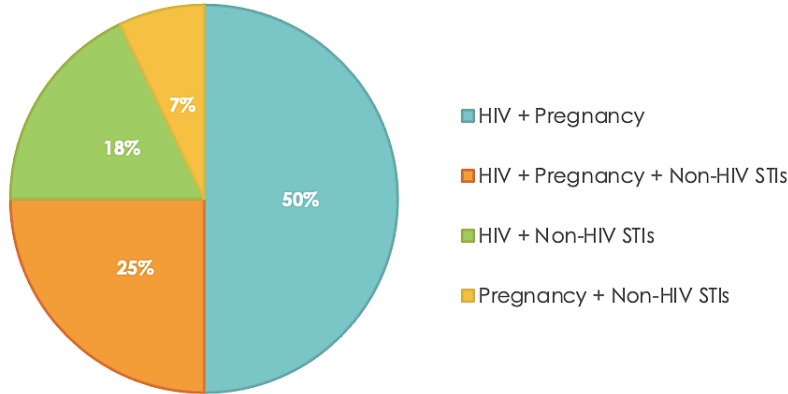
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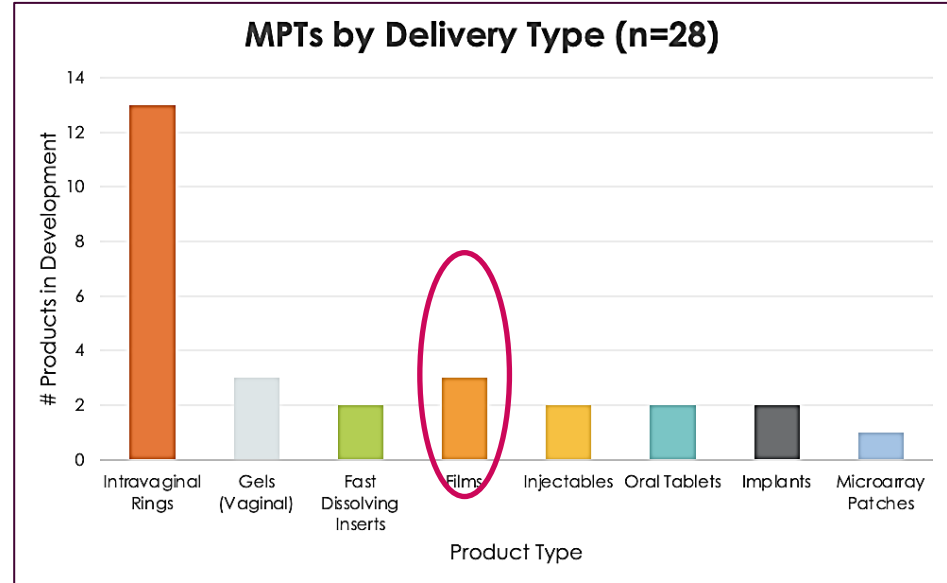
Multipurpose technologies (MPT): What is in the pipeline?

MPTs by Indication (n=28)

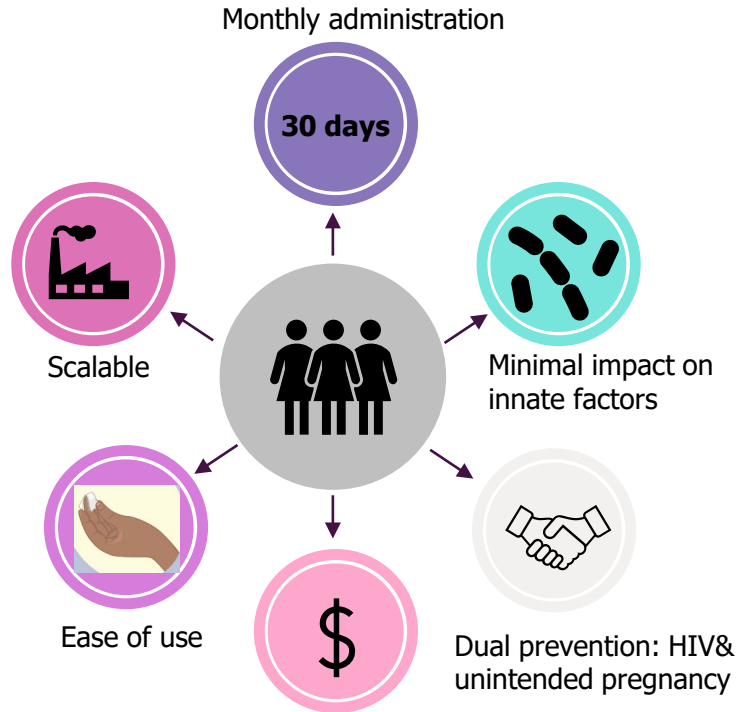
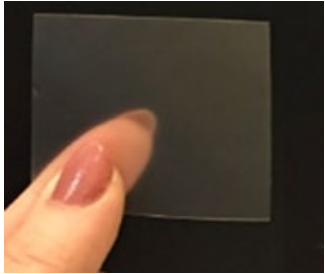
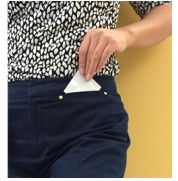


75% have HIV and pregnancy indication

MPTs by Delivery Type (n=28)

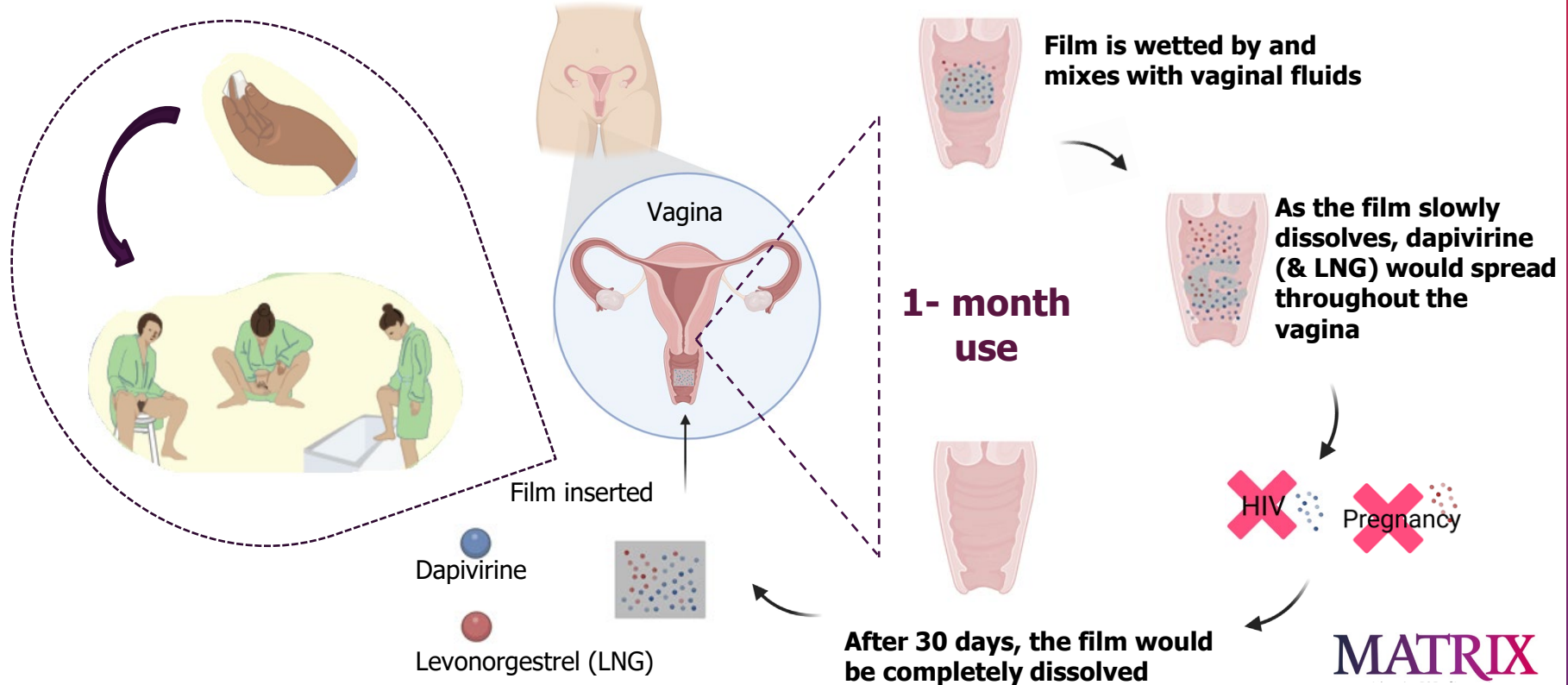


Dapivirine contraceptive film



- 2" x 2"
- Bioerodible (dissolvable)
- Contains: dapivirine & levonorgestrel

How would the film work?

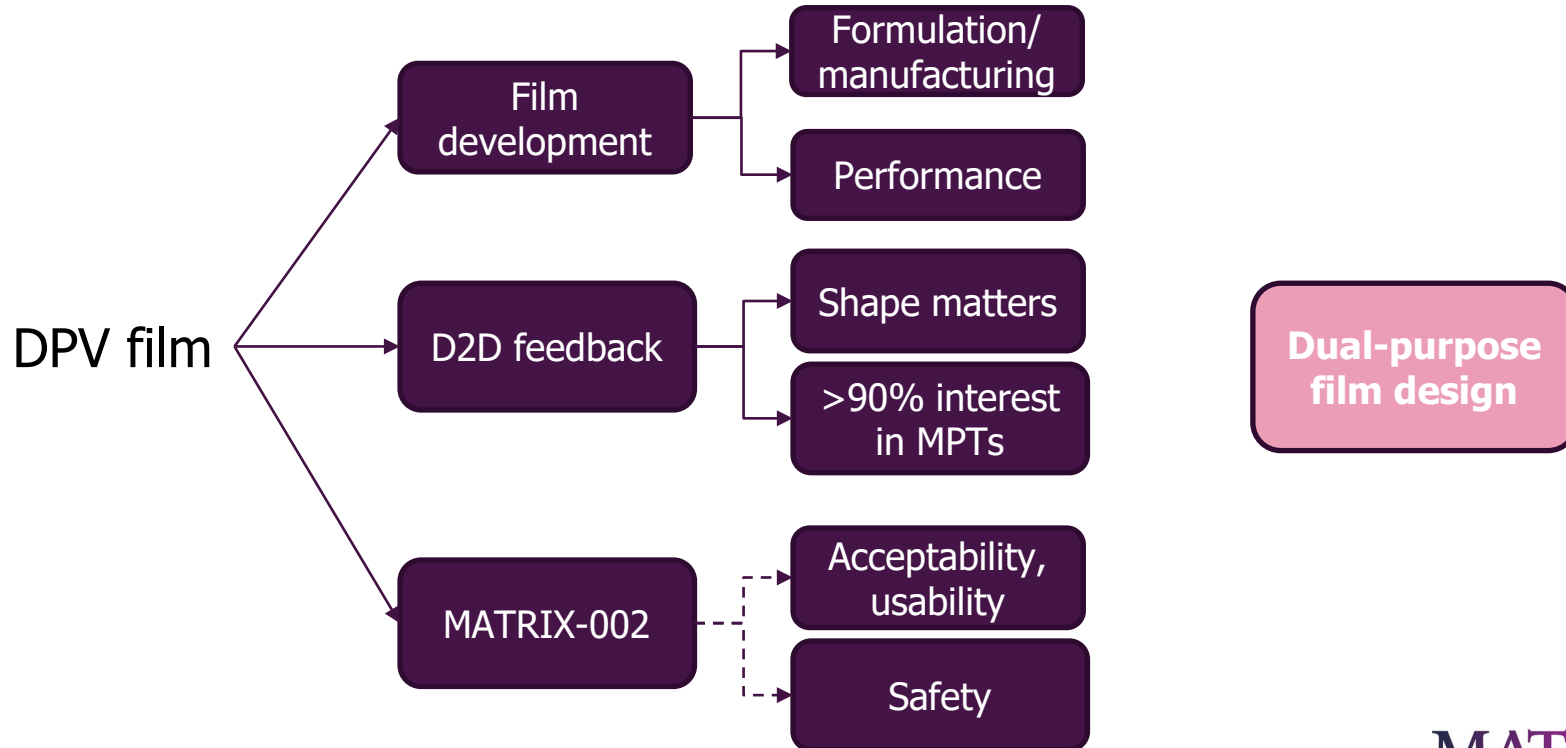


Why dapivirine (DPV) and levonorgestrel (LNG) combination?

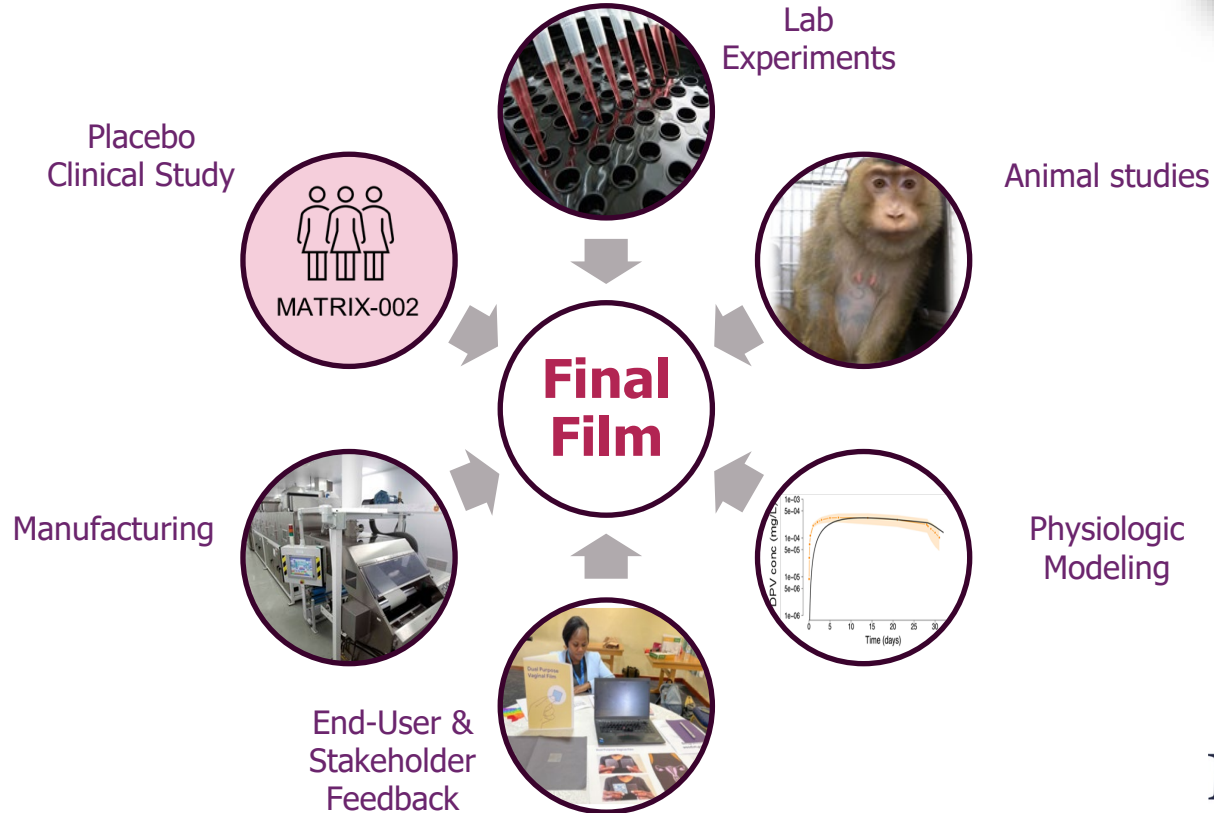
- Approved drugs in several target countries
- Several LNG products on the market
- DPV vaginal ring is approved
- Extensively investigated - Safety and Efficacy
 - LNG approved for >30 years
 - DPV evaluated in >40 clinical studies
- Regulatory approval pathway
- Drug-drug compatibility
- Cost



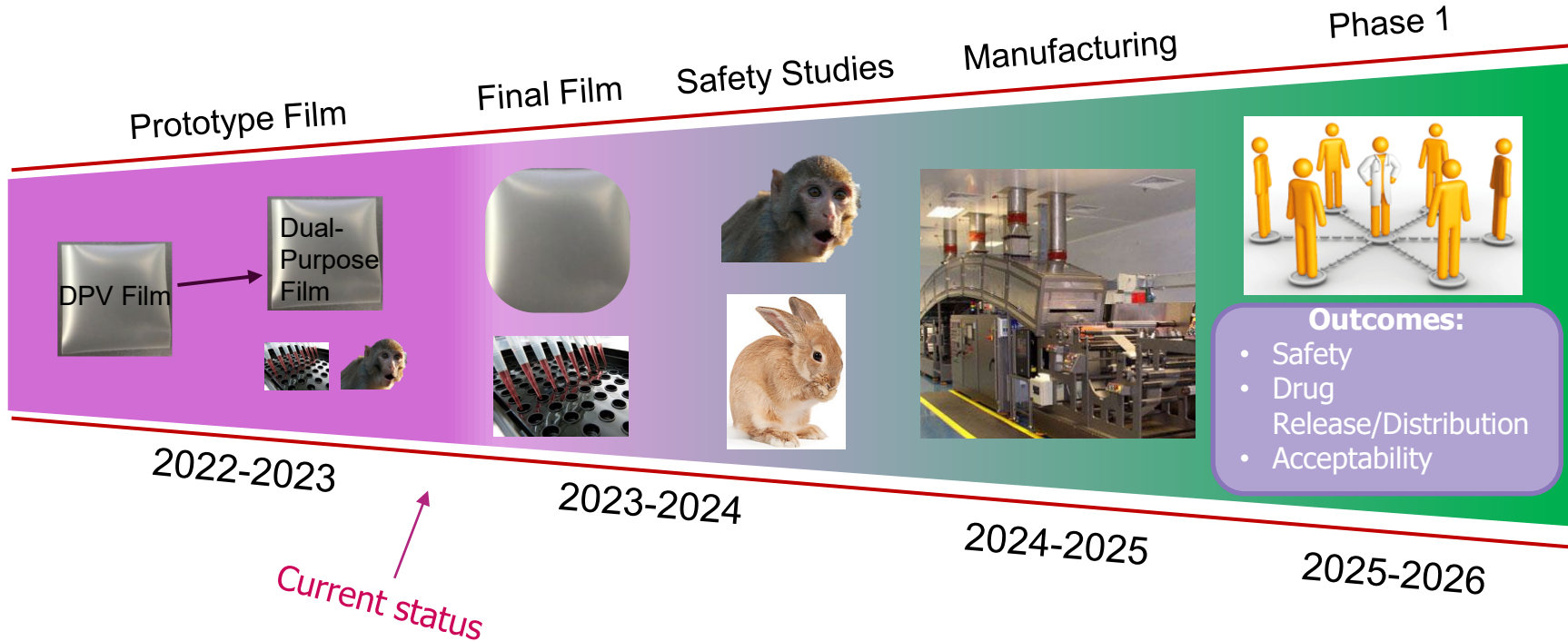
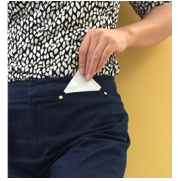
Synergy with the dapivirine film project



Feedback-driven development



Overall product development timeline (2022-2026)

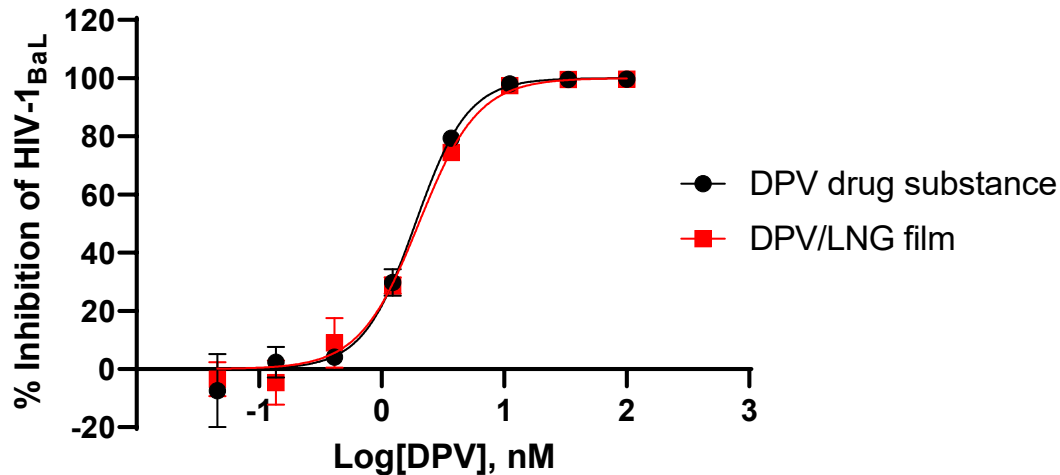


Where we are with development

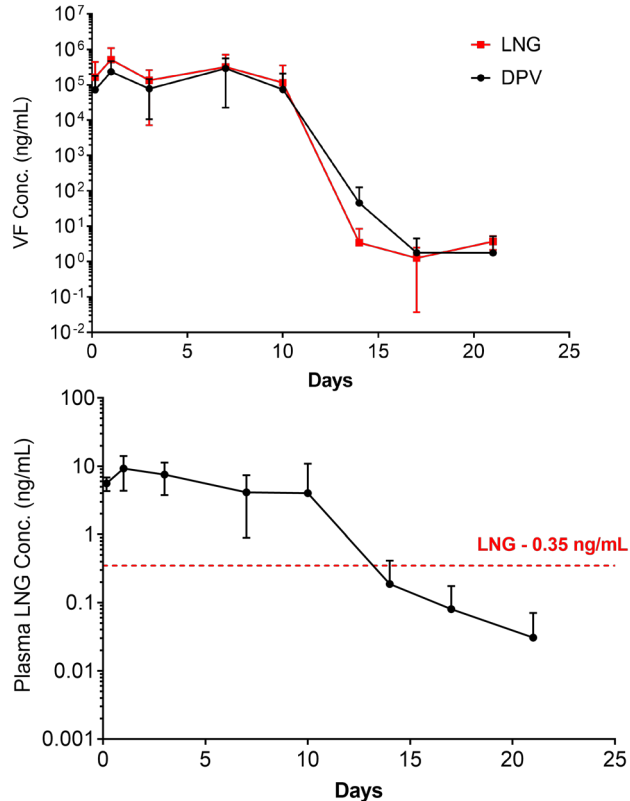
- Analytical methods developed
- Prototypes developed and evaluated in macaques
- Formulation and processing are being optimized to address *in vivo* performance challenges
- Initiated set-up of dedicated facility for manufacturing hormone containing product
- Scale-up on the commercial line is being planned
- Feedback from DPV film, D2D pillars, and MATRIX-002 will be incorporated into film design

Dual-purpose film retains anti-HIV activity

- Dose-response curve for prototype dapivirine/levonorgestrel (DPV/LNG) dual purpose film and DPV drug substance
- Anti-HIV activity tested in a cell-based model



Dual-purpose prototype film evaluation in macaques



Colposcope visualization of the dual-purpose film in the macaque vagina



↑
Film
Insertion
on Day 0

Film not
found

Challenges



Formulation development and *in vivo* performance

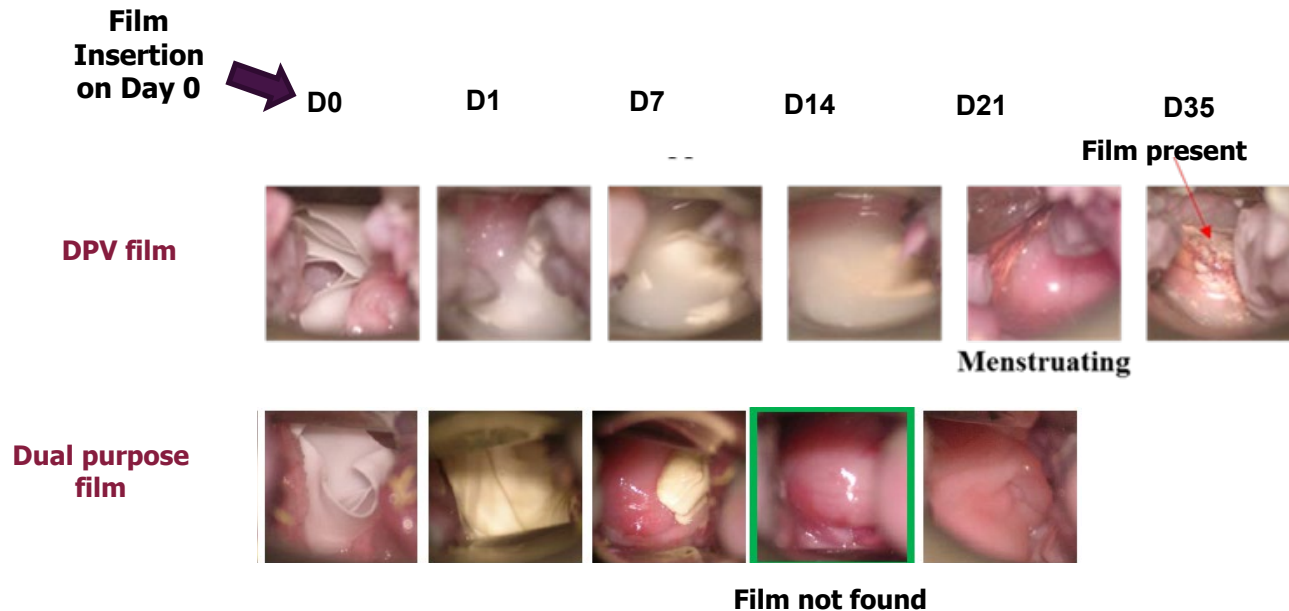


Manufacturing



Regulatory considerations

In vivo disintegration



Solutions:

1. Reduce LNG drug loading ✓
2. Change processing and excipient composition - ongoing

Manufacturing hormone containing products

- Special handling due to potential effects on reproductive functions and cross-contamination
- Waste management
- Dedicated facility with validated cleaning methods are required
- Our manufacturing partner, Benefit Coatings is on schedule to complete facility setup for handling hormone containing products end of 2023



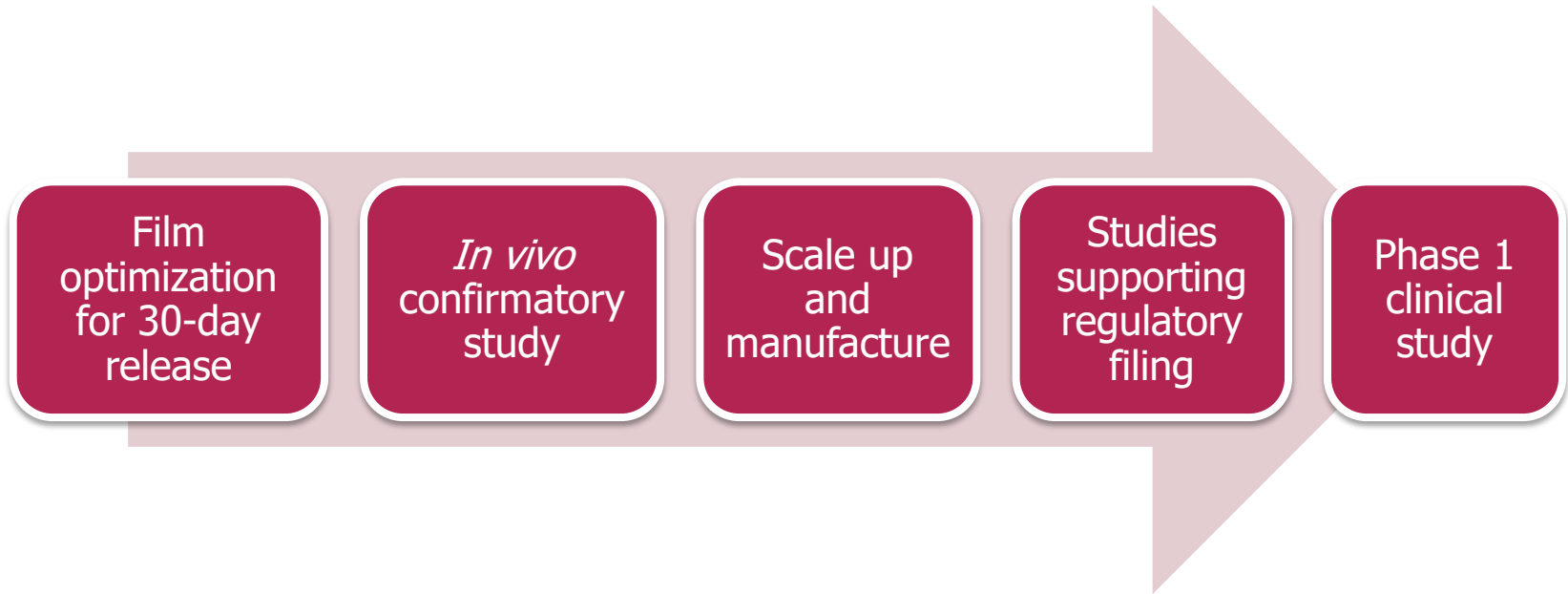
Regulatory



- Two drugs – two review divisions?
- Dual indication prevention product – first of its kind
 - Products with multiple actives and indications have been approved
- Data Requirements
 - DPV and LNG – approved and/or clinically evaluated
 - Bridging studies
- Prime working on input from regulators on MPT. This will facilitate regulatory strategy



Next steps



Acknowledgements

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Acknowledgements



VALUE Project Team

