

# Coordinating Implementation Science for CAB for PrEP: Linking Modellers with the Latest Implementation Science Evidence

## AVAC/BioPIC

26 March 2024, 9am- 11am EDT

### Background/Rationale

As countries continue to approve and begin to roll out injectable cabotegravir (CAB) for PrEP, many evidence gaps around effective delivery remain, particularly around testing and risk of HIV drug resistance, safety and implementation in diverse populations, patterns of use, optimum service delivery strategies, and cost and cost-effectiveness. While data gathered through the [Open Label Extensions and implementation science studies](#) will help to fill these gaps, the sample sizes for these studies are relatively small, which can limit the generalisability of the findings. Modelling can further support evidence generation by extrapolating from this data to estimate the impact of wider scale-up, which can aid Ministries of Health to make decisions on issues such as cost and price, target populations, and testing strategies.

To ensure that models are built using the latest evidence from real-world use of CAB for PrEP, that implementation science researchers can benefit from the latest modelling insights, and that both groups can remain aligned on evidence needs, BioPIC is promoting an open dialogue between modellers and implementation science study leads through biannual convenings. This meeting built on discussions from [the first such convening](#), held in September 2023.

### Meeting Objectives:

1. Modellers share latest modelling updates, including modelling of impact of voluntary generic licensing.
2. Implementation science researchers share the latest updates and insights from their studies to inform modelling exercises.
3. Formal framework for data sharing between modellers and implementation science researchers agreed to ensure both groups are kept up to date with the latest evidence and insights.

### Key Takeaways and Actions

- CAB for PrEP could have a much larger impact than oral PrEP at the same coverage rate, and could be cost-effective at more than twice the cost of oral PrEP in certain contexts.
- Early learnings on CAB implementation have started to provide insights on service delivery, user preferences, and switching patterns; more studies are starting to offer CAB.
- Areas requiring further enquiry include assessing user risk; patterns of use; cost effectiveness; and HIV testing and resistance.
- Implementation researchers and modellers will continue sharing data with each other, both through this forum and individually.
- The PrEP Choice Investigators Group is determining whether it will be possible to harmonise indicators across implementation studies.

- Implementation Science Researchers will continue to keep [list of indicators being collected in their studies](#) up to date so modellers know where to find data for modelling inputs.
- All participants will continue to support the maintenance of the [study dashboard](#) by alerting [Catherine Verde Hashim](#) of any changes.
- AVAC will schedule the next meeting for six months' time.

## Modelling Overview

- New modelling data from South Africa shows that CAB for PrEP is likely to have a much larger impact than oral PrEP at the same coverage level, and that expanding to both women and men may have a larger impact than expanding to men only, highlighting the importance of including heterosexual men in implementation studies.
- Previous modelling has shown that CAB for PrEP can be cost-effective at up to twice the cost of oral PrEP. Newer modelling has shown that CAB for PrEP could be cost effective at up to 50x the cost of oral PrEP, depending on a number of factors such as user risk profile, level of oral PrEP effectiveness, and background HIV incidence.
- The Medicines Patent Pool is undertaking a modelling exercise to estimate the impact of voluntary licensing of CAB for PrEP on health and economic outcomes.

## Implementation Studies Overview

See the [integrated study tracker](#) for full details on CAB for PrEP implementation studies

- [Early data from ViiV's EBONI and PILLAR studies](#) have highlighted the importance of tracking modifications to improve service delivery, and of ensuring adequate resources for sensitisation in communities that have not traditionally been the focus of PrEP campaigns.
- [Results from SEARCH shared at CROI](#) showed PrEP coverage in the study group offered choice between CAB for PrEP, oral PrEP, and PEP was much higher (70%) than in the group offered choice between oral PrEP and PEP (13%) and that nearly half of users who chose CAB for PrEP were not recent PrEP users.
- The LAPIS study has started to deliver CAB and has so far found it is easy to administer, sturdy when used with a cool box, and popular with users; while some CAB users are new to PrEP, others are switching from oral PrEP.
- Early insights from the FASTPrEP study show that CAB can be delivered from a mobile clinic, and that many choose oral PrEP or dapivirine vaginal ring (DVR) even when CAB is offered; so far most returning users are choosing the same method as their original method.
- CAB for PrEP delivery will start soon in PrEP1519, Path2Scale, and CATALYST.

## Areas Requiring Further Inquiry

### Assessing Risk

A challenge for implementers is how to carry out focussed delivery of CAB for PrEP to populations who would most benefit, particularly in a context where supply is constrained, without generating stigma. Historically, [risk screening tools based on behaviour haven't performed well](#), although [some success has been demonstrated with use of artificial intelligence-powered tools](#). In general, respondents may not answer questions accurately or may not be aware a partner is living with HIV, and use of individual risk assessments to exclude users seeking PrEP is not supported by WHO. Geographic focus may work better

to target PrEP delivery to populations at highest risk, but can also be stigmatising. Tools exist to look at combined risk metrics, such as UNAIDS' [SHIPP tool](#), which may perform better at risk assessment. Ultimately, implementers should remember that PrEP usage requires time, effort, and resources, and it's unlikely those that don't need it will be seeking it out. However, it's still important to understand risk, and [how well PrEP usage aligns with seasons of risk](#), to optimise service delivery for potential users who could most benefit. Stigma should also be addressed through improved communication to normalise PrEP use.

### **Patterns of Use**

The extent to which CAB introduction will impact the level at which PrEP is used dynamically is still unknown, as the duration of action may influence whether users choose to cycle on and off PrEP.

### **Cost-effectiveness**

Cost-effectiveness is strongly correlated with a user's level of risk; therefore, having tools that can accurately measure risk will be needed to accurately measure cost-effectiveness.

### **HIV Testing and Resistance**

A potential challenge for providers will be how to manage clients interested in CAB for short term use only, as those users may continue to be at risk of HIV after discontinuation and thus at heightened risk of developing integrase strand transfer inhibitor (INSTI) resistance.

Evidence is needed on outcomes associated with empiric use of tenofovir, lamivudine, and dolutegravir (TLD) for treatment amongst those with recent CAB exposure.

### **Additional Resources:**

- [Risk Assessment Tools and the Identification of Individuals at High-Risk of HIV infection in the Delivery of Oral PrEP](#), April 2018
- [WHO Guidelines on Long-Acting Injectable Cabotegravir for HIV Prevention](#), July 2022
- [A Plan for accelerating access and introduction of injectable CAB for PrEP](#), June 2022
- [Integrated Study Tracker](#), February 2024
- [BioPIC Think Tank Series Notes](#)
- [What can modelling tell us about the scale-up of CAB for PrEP?](#), November 2023