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Impact of Initiation Delay, Duration, and Prior PrEP Usage on FTC/TDF-Containing PEP Efficacy

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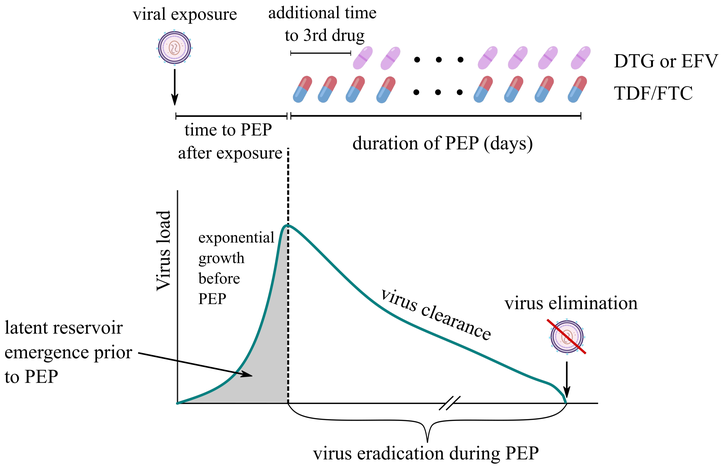
CROI 2025

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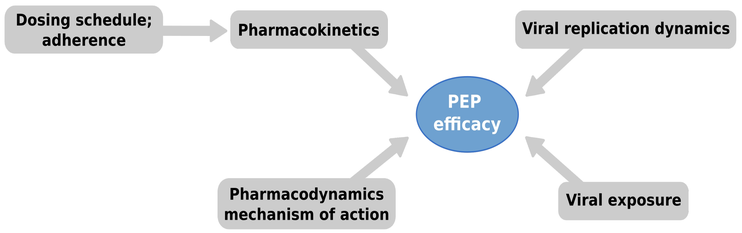
BACKGROUND

Pre- and post-exposure prophylaxis (PrEP and PEP) are important pillars of the HIV prevention portfolio to reduce the risk of infection. While the efficacy of PrEP has been elucidated in many randomized clinical trials, corresponding data for PEP is challenging to obtain in a controlled setting. Consequently, it is almost impossible to study the **impact of PEP initiation delay and PEP duration** on HIV risk reduction clinically. To address this limitation, we model these factors, focusing on **PEP regimens with an FTC/TDF backbone**, to provide insights that inform and optimize PEP recommendations.



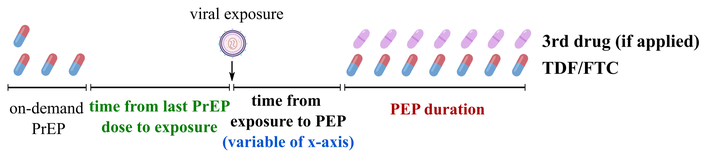
METHODS

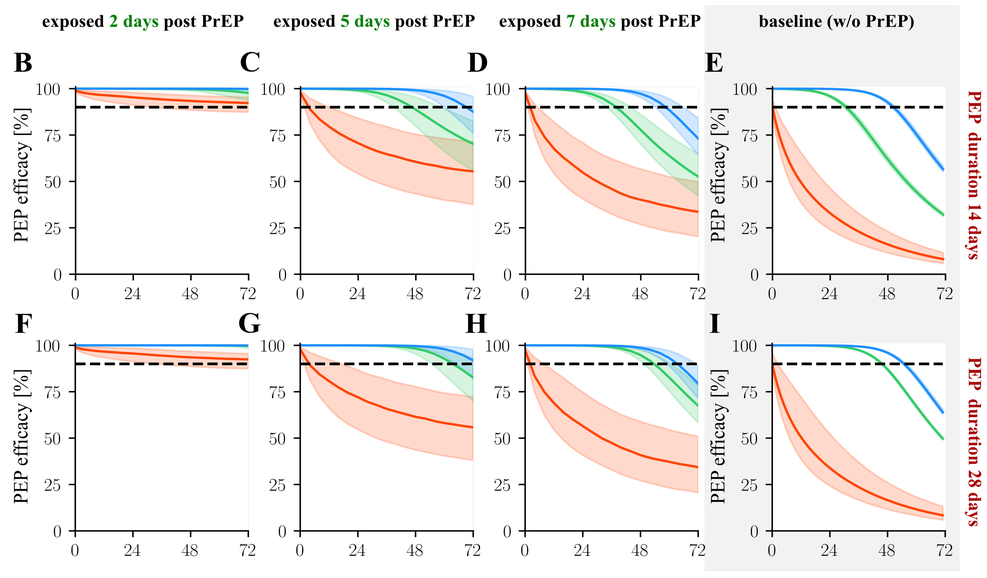
We employed **pharmacokinetics**, **pharmacodynamics**, and **viral dynamics models**, incorporating individual factors such as **drug adherence** to investigate the impact of various parameters on PEP efficacy.



Our study confirms critical role of ***early (<48hours) PEP initiation***, preferably with three drugs taken for 28 days. ***Self-starting with FTC/TDF and later addition of a third drug*** is better than not self-starting. Furthermore, our study highlights the ***synergy between recent PrEP intake and PEP*** and may help to inform recommendations on PEP use.

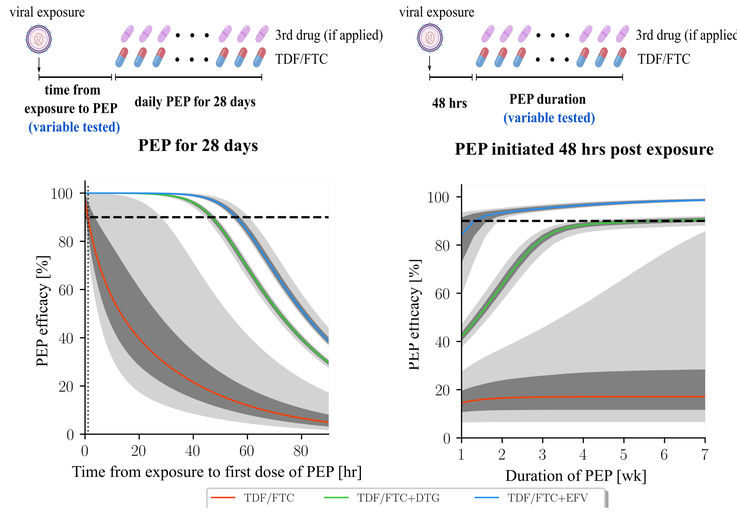
- Impact of **previous on-demand PrEP** on subsequent PEP





Results

- Sensitivity to **'time to PEP'** and **'PEP duration'**



- **Self-start PEP** with FTC/TDF, then get **third PEP drug**

