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BACKGROUND

- Injectable lenacapavir (LEN) is 100% effective in protecting African women from HIV infection
- Its acceptable price and cost-effectiveness is unknown
- We estimated the **impact of LEN compared to daily oral** tenofovir disoproxil fumarate and emtricitabine (TDF/FTC) **and** injectable cabotegravir (CAB) for HIV prevention in South Africa
- We **calculated the threshold price** at which LEN or CAB would be as cost-effective as TDF/FTC scale up

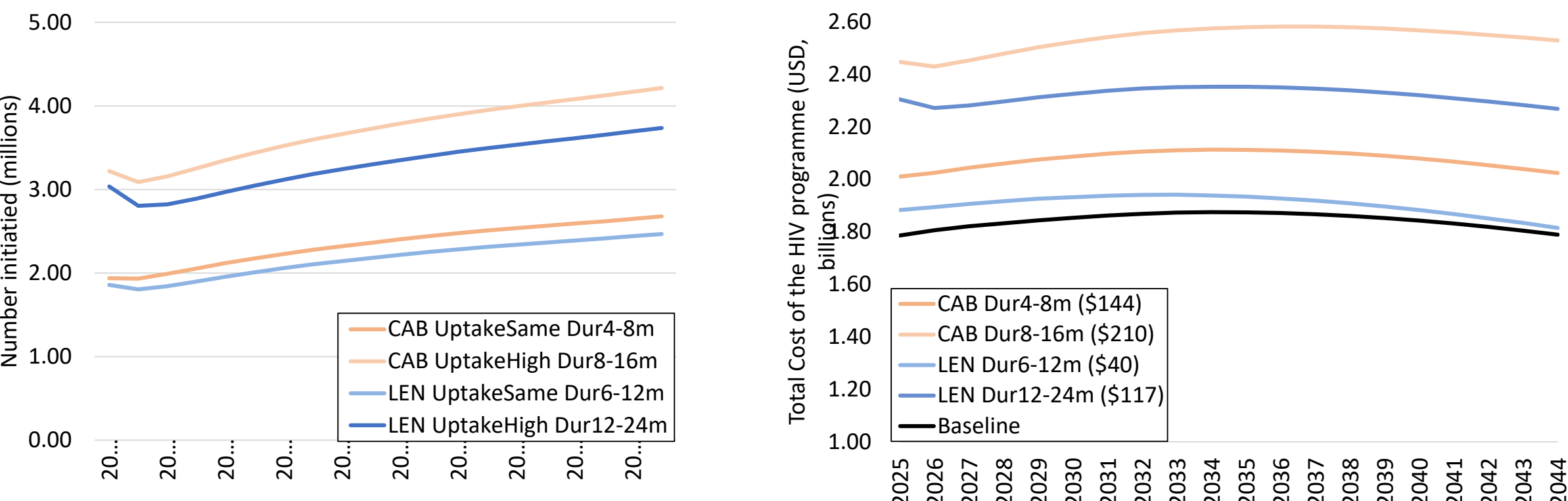
METHODS

- We used **Thembisa**, a deterministic HIV transmission model, to evaluate the impact and cost-effectiveness of PrEP provision to
  - women (incl. female sex workers)
  - gay men and other men who have sex with men
  - heterosexual men.

over current TDF/FTC use over 20 years (2024-2045) of a) LEN; b) CAB; and c) TDF/FTC scale up

- Average cost in 2024 USD using ingredients-based costing and current South African market prices
- LEN assumed to cost \$40 or \$100 per injection**
- Credible interval** informed by probabilistic sensitivity analysis sampling 50 parameter combinations (incl. PrEP effectiveness, duration on TDF/FTC, tail protection for LEN/CAB, condom use reduction on PrEP)
- Assumed higher uptake and longer effective use duration of LEN or CAB compared to TDF/FTC throughout, with two scenarios each defined by average duration of use across populations (LEN: 6-12 or 12-24 months, CAB: 4-8 or 8-16 months).

PrEP initiations and total cost of the HIV programme



South Africa, the country that buys 20% of the world’s PrEP, should not accept a lenacapavir price higher than \$225 per year (or \$59 per injection).

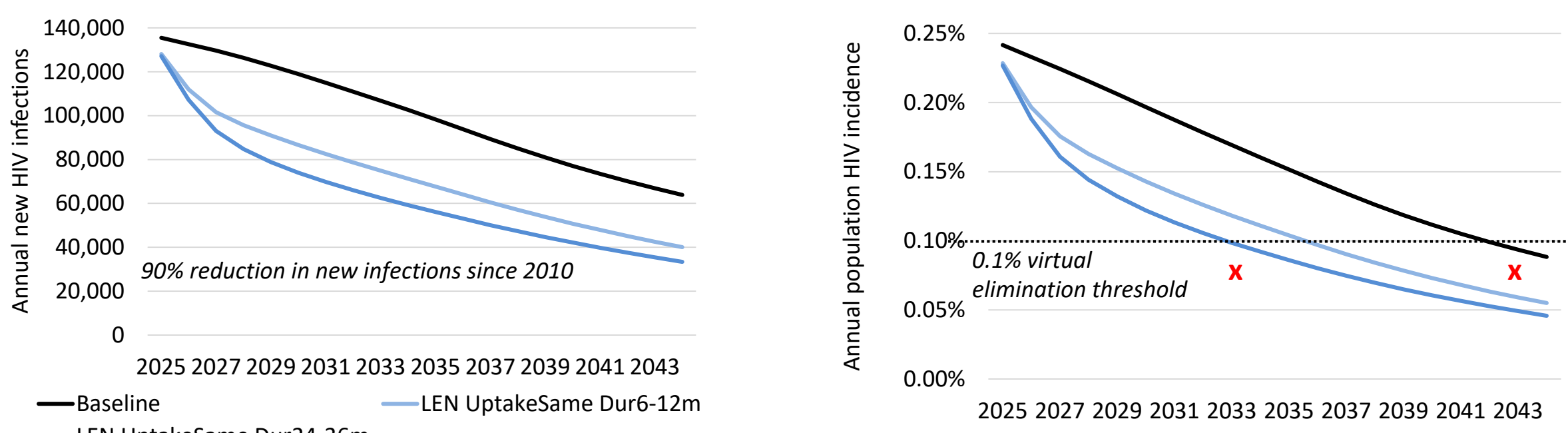
Scenario	Total cost of HIV programme [billions USD] (% increase over baseline)	New HIV infections [millions] (% increase over baseline)	Life years lost to AIDS (% saved over baseline)	Incremental cost-effectiveness ratio (ICER): Cost per life year saved [USD]
Baseline	36.84	2.00	16.46	-
TDF/FTC scale up	38.55 (5%)	1.84 (8%)	16.28 (1%)	\$9,668
Lenacapavir scale up (\$40 per injection)				
Same initiation rates as TDF/FTC; 6-12m duration	38.06 (3%)	1.45 (27%)	15.83 (4%)	\$1,946
Higher initiation rates than TDF/FTC, 12-24m duration	39.96 (8%)	1.18 (41%)	15.49 (6%)	\$3,229
Lenacapavir scale up (\$100 per injection)				
Same initiation rates as TDF/FTC; 6-12m duration	39.54 (7%)	1.45 (27%)	15.83 (4%)	\$4,318
Higher initiation rates than TDF/FTC, 12-24m duration	44.39 (20%)	1.18 (41%)	15.49 (6%)	\$7,807
Cabotegravir scale up				
Same initiation rates as TDF/FTC; 4-8m duration	42.57 (16%)	1.57 (21%)	15.98 (3%)	\$11,855
Higher initiation rates than TDF/FTC; 8-16m duration	50.73 (38%)	1.31 (35%)	15.65 (5%)	\$17,156

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RESULTS

- Despite similar effectiveness, **LEN leads to higher impact throughout compared to CAB**, due to higher uptake and longer effective use
- LEN could avert 27-41% of new HIV infections and 4-6% of deaths**, and CAB 21-35% and 3-5%, resp., compared to 8% and 1% averted by TDF/FTC
- Because of its higher impact, **LEN can be accepted at a higher price than CAB**, with a **threshold price of \$32-59/ injection** (range \$19-115) or **\$117-225 per person year**, pppy (range \$74-469), compared to \$14-22/ injection (range \$9-30), and \$88-\$144/ pppy (range \$45-343) for CAB.



Scenario	Price per dose (credible interval)	Price per PY
Lenacapavir (per 463mg/1.5mL injection)		
Same initiation rates as TDF/FTC; 6-12m duration	\$59 (\$31-115)	\$225 (\$125-469)
Higher rates than TDF/FTC, 12-24m duration	\$32 (\$19-58)	\$117 (\$74-231)
Cabotegravir (per 600 mg/3 mL injection)		
Same initiation rates as TDF/FTC; 4-8m duration	\$22 (\$9-49)	\$144 (\$64-343)
Higher rates than TDF/FTC; 8-16m duration	\$14 (\$6-30)	\$88 (\$45-211)

CONCLUSIONS

- Under high uptake, LEN could** reduce incidence to below 0.1% by 2032 instead of 2042, helping to **eliminate HIV in South Africa 10 years earlier**
- Injectable lenacapavir could be more cost-effective than scaling up oral PrEP, and much more cost-effective than injectable cabotegravir**, even at a drug price of \$100 per injection.
- However, CAB should be rolled out now to cover the time to large-scale LEN manufacture** (3-4 years).

**FOR FURTHER INFORMATION, CONTACT**  
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