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Sexual Health

Supplementary Material

Impact of increased antiretroviral therapy use during the treatment as prevention era in Australia

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Supplementary Material

Supplement to: Richard T. Gray. Impact of increased ART use during the treatment as prevention era in Australia.

Section S1: Validation of calculations

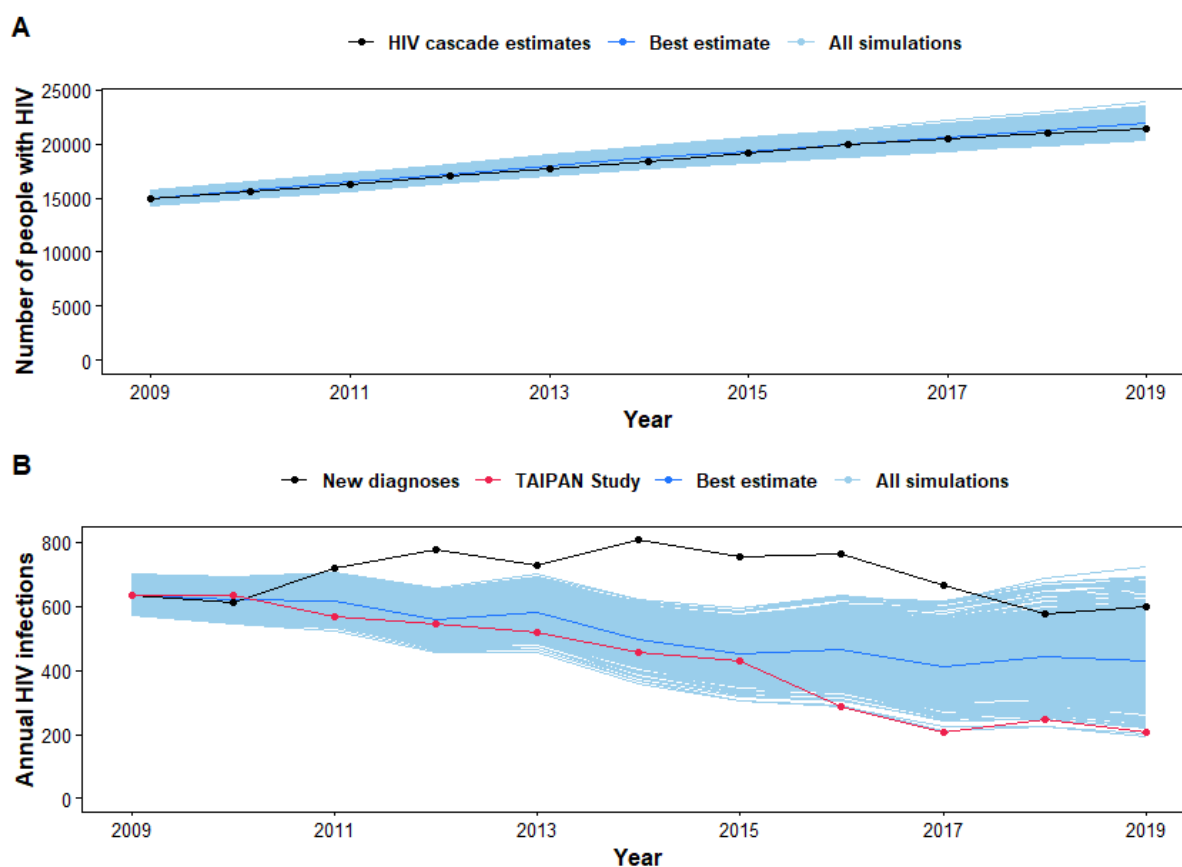


Figure S1 - Comparison of baseline scenario results to available published data. (A) Number of people living with HIV over 2009-2019 from all simulations compared to estimates from the Australian HIV cascade (black discs). (B) Annual number of new infections over 2009-2019 from all simulations compared to reported notifications of HIV in GBM (excluding those previously diagnosed overseas) and estimated new infections using the relative change in the incidence per 100,000 GBM from the TAIPAN study¹ (red line).

Section S2: Retrospective HIV treatment costs

Table S1 - Previously estimated annual HIV treatment costs for first, second, and third and higher lines of therapy in Australia in 2013, 2015, and 2019 AUD.

Line of ART	2013 Estimate	2015 Estimate	2019 Estimate
First line ART	\$10,684.63	\$9,257.80	\$11,170.49
Second line ART	\$19,364.32	\$19,380.16	\$16,438.36
Third and higher lines ART	\$29,786.45	\$34,378.52	\$24,405.00

1. The 2013 cost estimates came from Schneider et al.² They are based on the dispensed price per maximum quantity (DPMQ) obtained from the Pharmaceutical Benefits Scheme (PBS) website which was accessed in February 2013.³ The estimated cost for third and higher lines of ART is the average of the costs for third and fourth line ART.
2. The 2015 cost estimates were used in a Pharmaceutical Benefits Scheme Advisory Committee (PBAC) submission.⁴ They were obtained using the same methods as for the 2013 cost estimates but with updated DPMQ values obtained from the PBS website January 2016.³
3. The 2019 cost estimates were obtained from Lim et al.⁵ All reported costs were doubled because this study used a six-month timestep. The first line cost is equal to the average of the three regimens considered.

Supplementary References

- 1 Callander D, McManus H, Gray RT, et al. HIV treatment-as-prevention and its effect on incidence of HIV among cisgender gay, bisexual, and other men who have sex with men in Australia: A 10-year longitudinal cohort study. *The Lancet HIV* 2023; published online April. DOI:10.1016/S2352-3018(23)00050-4.
- 2 Schneider K, Gray RT, Wilson DP. A cost-effectiveness analysis of HIV pre-exposure prophylaxis for men who have sex with men in Australia. *Clinical infectious diseases* 2014; 58: 1027–34.
- 3 Pharmaceutical Benefits Scheme (PBS). Australian Government Department of Health, 2020 <https://www.pbs.gov.au/pbs/home>.
- 4 Australian Department of Health and Aged Care. Pharmaceutical Benefits Scheme (PBS) Recommendations made by the PBAC - December 2017. <https://www.pbs.gov.au/pbs/industry/listing/elements/pbac-meetings/pbac-outcomes/recommendations-pbac-december-2017> (accessed March 23, 2022).
- 5 Lim M, Devine A, Gray RT, Kwon JA, Hutchinson JL, Ong JJ. Lifetime cost of HIV management in Australia: An economic model†. *Sexual Health* 2022 DOI:10.1071/SH21250