

# OPTIMISING ANNUAL INVESTMENT IN MIXED HIV TESTING STRATEGIES IN AUSTRALIA TO ADVANCE VIRTUAL ELIMINATION OF HIV BY 2030: AN ALLOCATIVE EFFICIENCY ANALYSIS

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## **Background:**

Australia has made strong progress towards achieving 95-95-95 HIV targets, but an estimated 8% of people living with HIV remain undiagnosed. To identify interventions to support HIV transmission elimination in Australia, we aimed to estimate the most cost-effective allocation of additional government investment in HIV testing.

## **Methods:**

An Optima HIV model was parameterized using national demographic, surveillance and behavioural data. Australia's National HIV Strategy and a stakeholder advisory committee guided the inclusion of age and sex-stratified priority populations groups and interventions defined by testing type, setting and populations reached. An allocative efficiency analysis was conducted to identify how additional investments of \$5-80 million per annum could be optimally allocated across testing interventions to minimise the cumulative person-years with undiagnosed HIV infection over 2026-2030.

## **Results:**

Optimised spending of an additional \$5-20 million per annum over 2026-2030 could reduce the number of people living with undiagnosed HIV in the year 2030 by 20-28%, from a projected 5% under the status quo to 3.6-4.0%. This could save \$90-126 million in lifetime health care costs (discounted) due to HIV infections and late diagnoses averted over 2026-2040, with benefit-cost ratios ranging from 4.0 to 1.4. There are diminishing population-level benefits with \$40 million or more additional annual investment. The model first prioritises the following interventions for scale-up: HIV self-testing among priority populations; other testing options for gay, bisexual and other men who have sex with men (direct-to-pathology testing, peer-led community-based testing, point-of-care testing at needle and syringe programs); opt-out testing in some hospitals; and expanding testing for people who inject drugs. Interventions reaching broader priority populations are prioritised from \$20 million additional annual investment.

## **Conclusion:**

Additional annual investment in HIV testing can deliver substantial reductions in undiagnosed HIV in Australia and accelerate efforts to achieve the virtual elimination of HIV in Australia by 2030.

## **Disclosure of interest statement:**

This study was funded by Health Equity Matters. The authors declare no competing interests.