



Coverage of sex events with HIV pre-exposure prophylaxis (PrEP) during EPIC-NSW study follow-up

[BR Bavinton](#), S Vaccher, J Amin, R Guy, F Jin, C Selvey, IB Zablotska-Manos, J Holden, K Price, B Yeung, G Levitt, E Ogilvie, A McNulty, D Smith, DA Cooper, AE Grulich, for the EPIC-NSW research group

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Are people in EPIC-NSW taking enough pills to cover episodes of high-risk sex?

Yes

BACKGROUND, AIMS & METHODS



Background

- HIV pre-exposure prophylaxis (PrEP) is highly effective at preventing HIV infection.
- However, sufficient drug concentrations are required at the time of sexual exposure to prevent infection.
- Australian research has indicated that overall adherence to daily PrEP is high.
- There has been limited exploration of whether coverage of sex events is adequate to prevent HIV infection.

Study objectives

- What proportion of weeks where condomless anal intercourse (CLAI) occurred (i.e. "CLAI weeks") were covered by adequate levels of PrEP?
- What factors were associated with inadequate PrEP coverage in CLAI weeks?

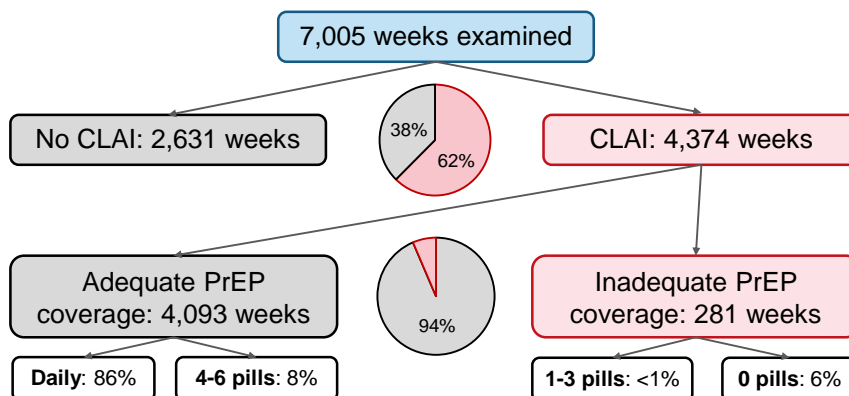
Methods

- From March 2016, individuals at high risk of HIV infection were enrolled in EPIC.
- At baseline and quarterly thereafter, participants completed online behavioural surveys.
- By 31 October 2016, 3,700 participants had enrolled in EPIC. 95.5% of these identified as gay. Of these, 2,510 (71%) completed at least one survey and were included in the analysis (with a total of 7,005 surveys).
- "Adequate PrEP coverage" was defined as taking at least 4 PrEP pills during a specified week.
- Chi-square tests were used to compare groups.

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RESULTS



- During inadequate coverage weeks, CLAI with a partner of unknown HIV status, or an HIV-positive partner with a detectable viral load was less likely than in adequate cover weeks (10.8% versus 21.8%, $p < 0.001$).
- Overall, there were only 60 weeks (0.9% of follow-up) in which PrEP coverage was inadequate and the risk of HIV infection was high.

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CONCLUSIONS & IMPLICATIONS

- These data confirm previous Australian work showing that, in general, Australian men on PrEP are highly adherent.
 - Over 90% of weeks in which CLAI was reported were covered by adequate levels of PrEP.
 - Inadequate PrEP levels were caused by men not taking PrEP at all, rather than suboptimal dosing (i.e. 1-3 pills per week).
- Men who reported inadequate PrEP coverage in CLAI weeks were less likely to report high-risk CLAI within the CLAI week.
 - <1% of weeks were unprotected by PrEP and involved high risk sex.
- Gay men in EPIC-NSW made calculated risk assessments about their sexual behaviour, and usage of PrEP was linked to the riskiness of the sex occurring at the time.
- Unclear at present:
 - Causal order: fewer pills then less high risk, or vice versa?
 - How planned or unplanned the pill-taking was