Background Gay and bisexual men (GBM) increasingly use HIV Pre-exposure prophylaxis (PrEP) to prevent HIV infection. Eligibility for PrEP in Australia is based on behavioral criteria including methamphetamine use or condomless sex. It is unclear what proportions of GBM initiating PrEP meet these criteria over time.

Methods The Flux prospective cohort study enrolled Australian GBM between 2014 and 2018, following them every six months. We report PrEP use and behavioral eligibility for PrEP over time. Sexually transmissible infections data were not collected.

Results Among 1518 non HIV-positive men who were not using PrEP at baseline, mean age was 37.2 years (SD 13.13). Incident PrEP use increased from 2.8% at visit 2 to 11.9% at visit 6 (p-trend<0.001); eligibility for PrEP increased from 24.5% at baseline to 34.1% at visit 5 but fell to 20.4% at visit 6. Among all PrEP non-users, over one third were eligible for PrEP at some time during follow-up: 22.9% were eligible at visit 2; this proportion remained stable over subsequent visits (21.5% at visit 5) but fell to 9.6% at visit 6. Less than 1% of PrEP users subsequently ceased use. Among continuing PrEP users, the proportion of non-eligible men remained steady at about 25% over time. Similar proportions (about 10%) became eligible as ceased being eligible between visits.

Conclusion Although PrEP use or non-use was largely consistent with behavioral criteria for eligibility for its use, a substantial minority of GBM did not appear to use PrEP according to eligibility guidelines. About one-quarter of men who used PrEP were not eligible at the time while a similar proportion of PrEP non-users were eligible for its use, suggesting some underestimation of HIV risk. Greater efforts are needed to address these discrepancies between PrEP eligibility and its use, as engagement in risk behaviors changes over time.

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