Explanatory Text:

**Background**
The empirical evidence for an association between sexual partnership concurrency and increased HIV acquisition or transmission is equivocal, and the likely impact of changes in the prevalence of concurrency on HIV incidence in countries with generalised HIV epidemics has not been explored. Despite this, a number of SSA counties have planned or implemented campaigns against concurrency. Evaluation of these campaigns is unlikely to provide strong evidence for the likely impact of changes in concurrency on HIV incidence as it will not be possible to separate the effects of a reduction in concurrency from the effects of a reduction in partnership incidence. This modelling study investigates the potential effect on HIV incidence of an intervention to reduce concurrency in rural Uganda, and in other sub-Saharan Africa populations with higher levels of concurrency.

**Methods**
Data on the demography, sexual behaviour, and HIV populations with higher levels of concurrency. An intervention that reduced partnership concurrency by 50% between 2010 and 2020 (keeping overall partnership incidence constant) was introduced and the impact on HIV incidence in 2020 was calculated.

**Results**
9.6% (7.9%–11.4%) of men and 0.2% (0.0%–0.4%) of women reported concurrent sexual partnerships in rural Uganda in 2010. Preliminary results suggest that in the model scenario simulating this reported behaviour, the intervention reduces the incidence of HIV by 7.4% in men and 19.9% in women (Abstract O1-S06.05 figure 1, scenario 1a). If more female concurrency is simulated, the potential reductions of the intervention are greater (11.1%–14.8% in men and 21.6%–24.7% in women, Abstract O1-S06.05 figure 1, scenarios 2a and 3a). The potential reductions are also greater when a higher prevalence of male concurrency is simulated (9.7%–15.5% in men and 26.6%–29.6% in women, Abstract O1-S06.05 figure 1, scenarios 1b, 2b and 3b).

**Conclusions**
In this setting, interventions against concurrency have the potential to reduce the HIV incidence and may have a higher impact on the incidence of HIV in women than in men. However a large simulated change in behaviour resulted in only a moderate decrease in HIV incidence. This study does not provide strong support for the prioritisation of concurrency as a target for behaviour change interventions.
O1-S06.05 Exploring the potential impact on HIV incidence of a reduction in concurrency in rural Uganda: a Modelling Study

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