

 $\lambda \propto \beta F[Y(C-1)+IC]$

1: infectious, new partner F: contact frequency

Y: infectious, same partner δ : partnership duration

λ: incidence

(a)

(b)

 β : transm prob per contact

C: simultaneous partnerships

Approach (median, 90% confidence interval) --- Instantaneous -- Proposed -- Relative Difference 0.12 1.5 HIV Incidence (per person-year) 0.09 1.0 0.06 0.5 0.03 ***** 0.0 0.00 1980 1990 2000 2010 2020 2030 1980 1990 2000 2010 2020 2030 Year