## eAppendix

The effects of the distribution of partnership duration on the endemic prevalence and the fraction of transmissions from primary HIV infection

As shown in eFigures 1–4, endemic prevalence and the fraction of transmissions from primary HIV infection are slightly different depending on the distribution of partnership duration. The general patterns are, however, similar.
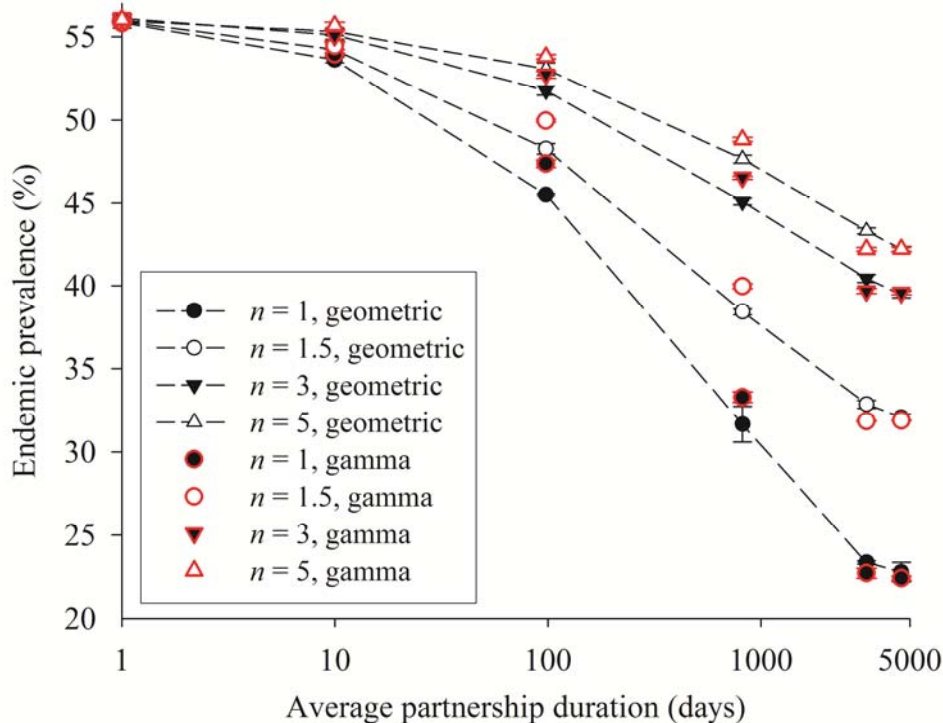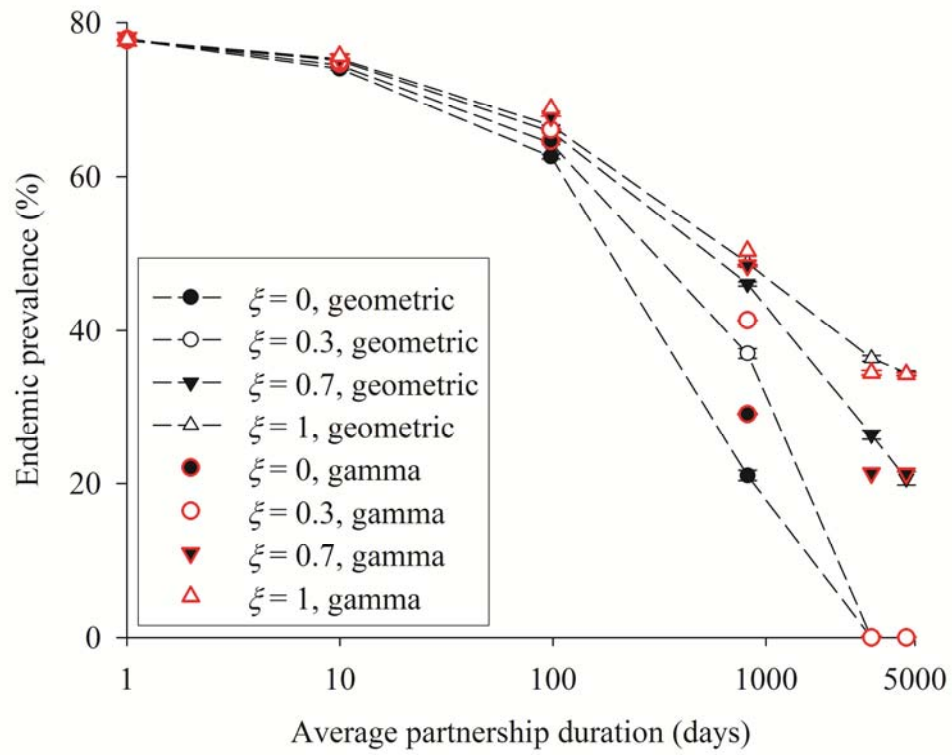

eFIGURE 1 Endemic prevalence across partnership duration at four levels of mean degree n. The mean frequency of sex acts per partnership per day c is varied in the way that $c \times n = 0.5$. For gamma-distributed partnership durations, the partnership duration was determined as the smallest integer not smaller than the gamma-distributed random variable with a mean $1/\sigma$ and a shape parameter of five. Note, however, that even with gamma-distributed partnership durations, other dynamic processes that dissolve
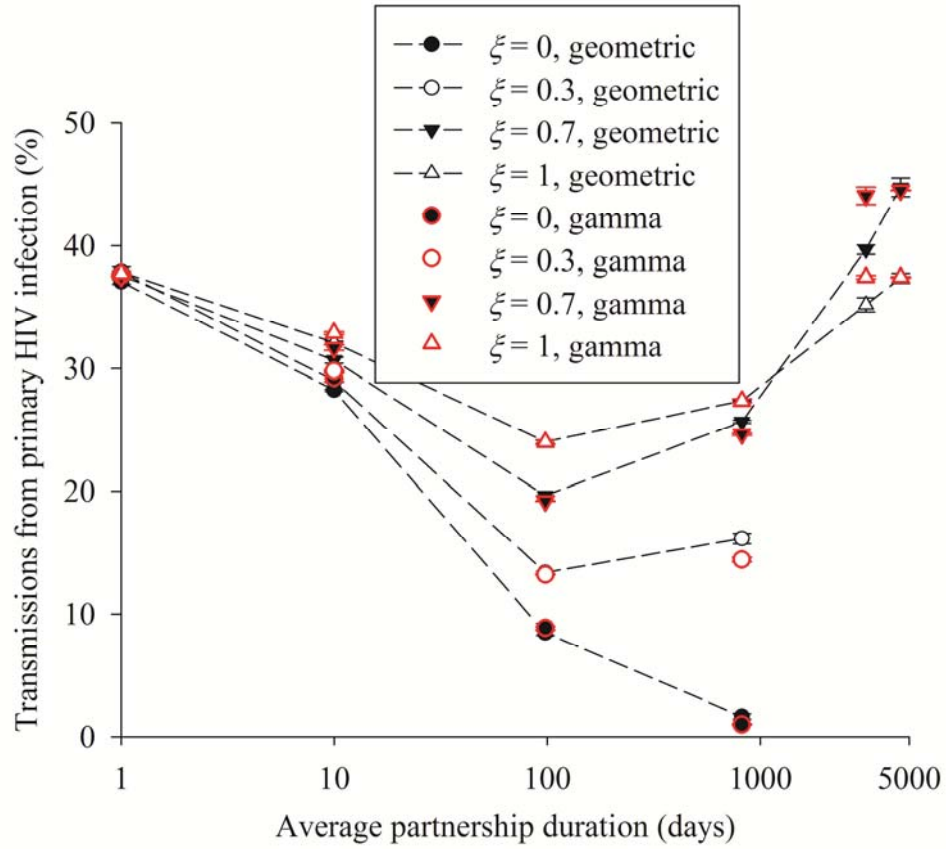
partnerships such as death from AIDS or leaving the population occur with a fixed probability per day.
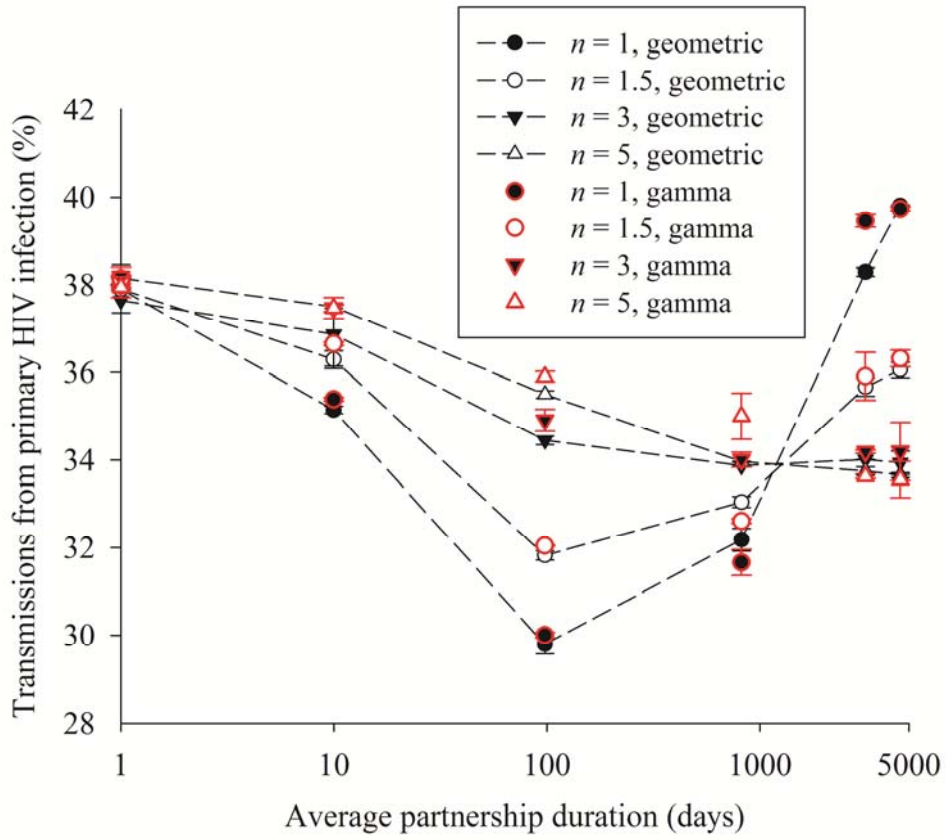
eFIGURE 2 Fraction of transmissions from primary HIV infection across partnership duration at four levels of mean degree *n*. $c \times n = 0.5$

eFIGURE 3 Endemic prevalence across partnership duration at four levels of ξ. $n = 0.9$, $c = 1.1111$

eFIGURE 4 Fraction of transmissions from primary HIV infection across partnership duration at four levels of ξ. $n = 0.9$, $c = 1.1111$