We used a stochastic mathematical model informed by South African data to simulate one year of sexual behavior of a female cohort (average 1.2 sex-days/week) under three PrEP regimens from the trial. We modeled the reduction in HIV incidence and the number of pills that would be needed under different dosing regimens. Regimen effectiveness was estimated as 1 minus the ratio of HIV incidence when PrEP is used vs. not used. As a proxy for costs saved, the number of pills required for each regimen was compared across different frequencies and distribution of sexual intercourse assuming perfect adherence.

**METHODS**

We explored a wide range (50%-90%) efficacy in PrEP. Its primary objective was to evaluate the feasibility of intermittent oral PrEP. Our study was randomized, open-label, pharmacokinetic and behavioral study of the use of intermittent oral PrEP. We explored a wide range of doses for PrEP regimen among HIV-uninfected MSM/TGW and WSM at high risk of acquiring HIV infection (178 MSM/TGW in Bangkok; 179 MSM/TGW in New York and 179 women in Cape Town). Here we present analysis based on data from Cape Town.

**PREP REGIMENS AND SEX ACTS COVERAGE**

- Three PrEP regimens were compared – daily, time-driven and event-driven as defined in the table below
- Pill taking was informed by an electronic dispensing device (Wisepill ™) that recorded each opening
- Sexual activity was based on weekly interviews by phone or in person, i.e., entirely based on self-reported data
- Sex coverage was defined as follows:
  - Fully covered acts - pills taken within 2 days before and 1 day after an act. This definition is more restrictive than the definition used in the trial protocol
  - Partially covered acts - only before or after pill is taken
  - Non-covered acts – no pill taken within 2 days before and 1 day after an act

**RESULTS**

- **ESTIMATES OF WEEKLY PILL COUNT**

**CONCLUSIONS**

- Non-daily PrEP may substantially reduce the number of pills required for the level of sexual activity observed in the HPTN 067 trial. However, non-daily PrEP is unlikely to be as effective as daily PrEP in reducing HIV incidence among women in South Africa due to higher sex act coverage observed in the daily use arm. The significant proportion of sex acts partially covered by PrEP implies that the effectiveness of non-daily PrEP depends on the protection provided with partial dosing.