

AIDSTAR-ONE SUMMARIES OF RESEARCH ON MULTIPLE & CONCURRENT SEXUAL PARTNERSHIPS



October 28, 2008

The following summaries constitute a partial list of recent key resources addressing multiple and concurrent sexual partnerships. Additional resources may be summarized and posted online following the conference at www.aidstar-one.com.

Halperin DT, Epstein H. Why is HIV prevalence so severe in southern Africa? The role of multiple concurrent partnerships and lack of male circumcision: Implications for AIDS prevention. The Southern Africa Journal of HIV Medicine 2007: 19-25.

AIDSTAR-One Summary: The combination of high rates of concurrent sexual partnerships with low rates of male circumcision seems to distinguish southern Africa from other regions affected by HIV, and to fuel the world's largest generalized HIV epidemics. Although African men and women do not have more sex partners than people do elsewhere, their partnerships are more likely to overlap for months or years, creating stable overlapping networks of sexual relationships through which HIV can spread rapidly. In contrast to serial monogamy, mathematical modeling shows HIV spreads much more rapidly through concurrent partnerships, due to the higher number of cumulative sex acts and the likelihood of contact during the highly infectious month immediately following infection. Condom use can be effective in casual relationships, but very challenging in longer-term relationships, since people do not see themselves as risk. Efforts in Uganda and elsewhere demonstrate that campaigns to reduce multiple partnerships can also reduce the number of new cases of HIV. Increases in numbers of partners and HIV incidence have coincided with the tapering off of some of these campaigns.

Leclerc-Madlala, S. Age-disparate and intergenerational sex in southern Africa: the dynamics of hypervulnerability. AIDS 2008 (to be published November).

AIDSTAR-One Summary: Age-disparate (age gap >5 years between partners) or intergenerational (>10 years) sex are types of concurrent sexual partnership common in generalized epidemics of southern Africa. Most such partnerships are transactional in nature, rooted in cultural beliefs that men demonstrate affection by providing for women, and that women's bodies are assets for transactions. Pairing of older men and younger women is further fueled by men's preference for young, presumably disease-free partners, and by young women's desire for material possessions and the social status they confer. Although these partnerships are often mutually advantageous rather than victimizing, women are usually not empowered to negotiate condom use. Age-disparate relationships are associated with unprotected sex, and areas where age-disparate relationships are common tend to have higher rates of new HIV cases. Networks facilitate HIV transmission, as a man may partner with a spouse as well as multiple young female partners, and a woman may have multiple older partners, often followed by a younger husband. Along with partner reduction messages, interventions must include providing women access to education and means to financial independence, empowering them to protect their sexual health, and fostering male norms that discourage exploitative relationships.

Mah T, Halperin DT. Concurrent sexual partnerships and the HIV epidemic in Africa: The evidence to move forward. *AIDS and Behavior* 2008; DOI 10.1007/s10461-008-9433-x.

AIDSTAR-One Summary: The critical link between the HIV epidemics of sub-Saharan Africa and the common practice of concurrent sexual partnerships in the region appears to be exposure to a partner with acute HIV infection. Individuals with HIV are highly infectious during the month immediately following infection. Ongoing, overlapping partnerships increase the risk that a partner could be exposed, perhaps multiple times, during this highly infectious period. Concurrency is more common in southern Africa than elsewhere, fueled by migrant work that separates spouses, and by the often mutually advantageous practice of transactional sex. Research shows that prevention messages encouraging people to have one partner at a time may be effective, when messages are tailored to local needs and culture.

Morris M, Goodreau S, Moody J. Sexual Networks, Concurrency, and STD/HIV. In: Holmes KK, Sparling PF, Stamm WE, Piot P, Wasserheit JN, Corey L, et al., editors. *Sexually Transmitted Diseases*. 4th ed. New York: McGraw-Hill; 2007, chapter 7.

AIDSTAR-One Summary: The notion of sexual networks addresses the fact that STI/HIV risk is not simply in “what you do,” but in “with whom you do it.” Early conceptions of sexual networks focused on a “core group” of high-risk individuals, which can drive concentrated epidemics of STI/HIV. The core group does not explain generalized epidemics, however; the key issue is connectivity. Connections seem to be governed by behavioral rules of selective mixing (i.e., whether one chooses a partner like or unlike oneself in terms age, race/ethnicity, etc.) and partnership timing (monogamy and concurrency). Mixing with like individuals forms a “core group,” whereas mixing with unlike groups can foster larger epidemics. Spread is accelerated by individuals who “bridge” geographic regions (e.g., migrant workers), or connect low-risk groups to high risk (e.g., married men using sex workers). In contrast to serial monogamy, which traps infection within a partnership, concurrency increases network connectivity, boosting the speed of STI/HIV transmission in a population. Mathematical modeling demonstrates that even a modest amount of concurrency can sustain transmission. At the same time, even small reductions in concurrency can reduce transmission. Understanding the dynamics of a given network is a key to designing an appropriate intervention.

Nelson SJ, Manhart LE, Gorbach PM, Martin DH, Stoner BP, Aral SO, Holmes KK. Measuring sex partner concurrency: it's what's missing that counts. *Sexually Transmitted Diseases*, 2007; 34:801-807.

AIDSTAR-One Summary: Data on concurrency collected from young adult STD clinic attendees in three U.S. cities revealed considerable discrepancy between two measures on a computer-administered survey. Although the rates of concurrency were similar in response to a direct question about concurrent partners (56%), and to a calendar method to identify partnership overlap (54%), nearly a third of individuals reporting concurrency in one measure did not do so in the other. Twenty-three percent of individuals did not respond to the calendar measure, compared to only 2.3% who skipped the direct question. This response differential suggests the direct question is the preferred measure, particularly since those who skipped the calendar question were more likely to report unprotected sex or injecting drug use. Despite the benefit of the details provided by the calendar measure, it might fail to capture some of those at greatest risk for HIV infection.

Potts M, Halperin DT, et al. Reassessing HIV prevention. Science 2008; 320: 749-750.

AIDSTAR-One Summary: Data from recent Demographic and Health Surveys (DHS) indicate that within Africa, high HIV prevalence is not associated with high levels of poverty or conflict, but with high rates of multiple concurrent sexual partnerships, and low levels of male circumcision. Recent evidence puts in question the effectiveness of HIV testing and STI treatment in preventing HIV transmission. Recent set-backs suggest that development of microbicides and vaccines may take many more years. Although condom use can reduce HIV transmission in concentrated epidemics, condom use within relationships is difficult to maintain. Generalized epidemics call for access to male circumcision (which can reduce a man's risk of contracting HIV by 60%) paired with behavioral interventions, particularly targeting reduction in sex partners.