AIDS Support and Technical Resources

AIDSTAR-One

ADDRESSING MULTIPLE AND CONCURRENT SEXUAL PARTNERSHIPS IN GENERALIZED HIV EPIDEMICS

REPORT ON A TECHNICAL CONSULTATION IN WASHINGTON, DC, OCTOBER 29–30, 2008 CONVENED BY THE PEPFAR GENERAL POPULATION AND YOUTH TECHNICAL WORKING GROUP AND AIDSTAR-ONE

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AIDS Support and Technical Assistance Resources Project

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ACRONYMS

ABC	Abstinence, be faithful, and correct and consistent condom use
AED	Academy for Educational Development
AIDS	Acquired immunodeficiency syndrome
AIDSTAR-One	AIDS Support and Technical Assistance Resources-Task Order 1
CDC	Centers for Disease Control and Prevention
DHS	Demographic and Health Survey
FHI	Family Health International
GAI	Global AIDS Alliance
HIV	Human immunodeficiency virus
HSPH	Harvard School of Public Health
IPC	Interpersonal communication
JHHESA	Johns Hopkins Health and Education in South Africa
JHU/CCP	Johns Hopkins University/Center for Communication Programs
JSI	John Snow, Inc.
MARPs	Most-at-risk populations
MCP	Multiple and concurrent sexual partnerships
NERCHA	National Emergency Response Council on HIV/AIDS (Swaziland)
NIH	National Institutes of Health
OGAC	Office of the Global AIDS Coordinator
PATH	Program for Appropriate Technology in Health
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PLWH	People living with HIV
PMTCT	Prevention of mother-to-child transmission
PSI	Population Services International
SSS	Social and Scientific Systems
STI	Sexually transmitted infection
TASO	The AIDS Support Organization
TWG	Technical Working Group
UNAIDS	Joint United Nations Programme on HIV and AIDS
USAID	United States Agency for International Development
WRA	White Ribbon Alliance

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EXECUTIVE SUMMARY

Data clearly demonstrate that engaging in sexual relationships with multiple partners increases the risk of acquiring and transmitting HIV, because each new partnership introduces a pathway for transmission. More recently, concurrent sexual partnerships—defined as two or more partnerships that overlap in time—have been identified as posing particularly high risks. Low rates of male circumcision, in combination with high rates of multiple and concurrent sexual partnerships (MCP) and inconsistent and/or incorrect condom use, are likely to explain the very high levels of HIV infection in southern and East Africa.

Concurrent partnerships pose risk because they link people together in sexual networks; when someone with HIV is introduced into a network where people engage in overlapping sexual partnerships, the virus can spread rapidly between partners. Mathematical modeling demonstrates that even a modest amount of concurrency in a population can sustain HIV transmission. Conversely, small reductions in concurrency, which "break up" components of sexual networks, can reduce transmission.

In much of southern and East Africa, MCP is deeply embedded in social, cultural, and economic contexts. Historically, MCP is rooted in widespread polygyny, which continues to provide a normative basis for the acceptance of MCP, despite social and cultural changes. Population mobility and migratory labor patterns also contribute to establishing extramarital and concurrent partnerships away from people's home communities. Also, transactional relationships, in which women exchange sex with men for a range of economic benefits, are common and contribute to the normalization and practice of concurrency.

Addressing concurrency is difficult, but is likely necessary to reduce HIV incidence in the generalized epidemics of southern and East Africa. MCP messages and interventions will need to complement other effective prevention interventions. Partner reduction messages will continue to play an important role in prevention communication programs. But addressing concurrency requires that new messages be integrated into HIV programs. Because the behavioral patterns that support the occurrence of MCP are deeply embedded within cultural and social systems, communication programs will need to ground their messages in an understanding of the local context that supports these types of relationships.

To support the expansion of MCP programming, the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) Technical Working Group (TWG) for General Population and Youth Prevention, in collaboration with AIDSTAR-One, convened a technical consultation in Washington, DC, October 29–30, 2008, entitled Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics. The objectives of this meeting were to (1) deepen understanding of the role of MCP in the spread of HIV and (2) share emerging programmatic approaches and build consensus on promising strategies to address MCP. The report surveys what we know about MCP, what we still need to learn, and what we can do now to advance efforts to address MCP. The following is a brief summary of key themes that emerged from the meeting.

THE RELATIONSHIP BETWEEN MCP AND HIV TRANSMISSION

Mathematical models provide strong support for a relationship between concurrent sexual partnerships and HIV, but additional empirical evidence is needed to establish a causal relationship. Models suggest that small reductions in the prevalence of concurrency could have a large impact on reducing HIV transmission. Experts at the meeting called for at least one carefully controlled study to measure the effects of program activities to reduce MCP on HIV incidence. More research is needed to determine the magnitude of change in concurrency that will reduce incidence at a population level.

Current population-based surveys have a limited ability to explain the relationship between MCP and HIV because many do not include appropriate measures. Concurrent sexual partnerships can be measured in surveys through a short series of questions, but many surveys to date have not incorporated these measures. Until better data become available, researchers and practitioners must be aware of the limitations of population-based survey data in measuring concurrency. In particular, caution should be used when correlating HIV prevalence—or HIV cases that have accumulated in a population over a long period of time—and MCP, which is often captured only at the time of the survey. An assessment of HIV incidence and its relationship to MCP has yet to be performed. A clear operational definition of MCP is needed as the basis for standardized measures that can be used to accurately assess the prevalence of MCP and evaluate the impact of program interventions to reduce MCP.

CORE COMPONENTS OF MCP PROGRAMS

Given low awareness of the risks associated with concurrent sexual partnerships, programs can begin by working to increase people's perception of these risks. Programs have for many years developed "partner reduction" messages aimed at discouraging people from having multiple sexual partners, though these messages may not have been as widespread as necessary. In many places, people are aware that having multiple partners increases their risk of HIV. However, people are less aware of the risks associated with having two or three long-term concurrent partners. Programs can start with a focus on increasing people's perceptions that concurrent sexual partnerships increase their risk of HIV; for example, by communicating that "even two is too many." Early program experience suggests that it is possible to convey the risks associated with concurrent sexual partnerships.

Programmatic experience suggests that framing a "call to action" around concurrency can be challenging, and that communities need to be involved in framing these messages. Program experiences to date raise an important question: What is the call to action for MCP campaigns? Programs will need to address the complicated social and cultural drivers of MCP to be effective, including transactional and intergenerational sex, knowledge of one's partner's status, and trust within long-standing relationships and its implications for condom use. There may not be one universal call to action; communities should be supported to frame their own calls to action in ways that reflect their local context, epidemic, and drivers.

MCP programs should feature multilevel communication campaigns that encourage people to adopt safer sexual behaviors and that are tailored to the specific needs and circumstances of groups at risk. Programs will need to employ multiple communication channels, from mass media to community-level interventions and interpersonal communication (including in clinical

settings) to achieve scale-up. These efforts should all be based on sound formative research and the local social and cultural context and should incorporate mutually reinforcing messages. To sustain communication efforts over time, programs should work to build the capacity of local organizations to produce more effective behavior change communication strategies and to mobilize resources.

Programs should integrate MCP messages as one element of a comprehensive approach to prevention. Programs need to build and maintain effective systems to link people to other vital HIV interventions. Special attention should be given to promoting fidelity within a context where partners know each other's HIV status, and where couples HIV counseling is accessible. Links to condom programming are important for discordant couples, people living with HIV, and individuals who continue to engage in high-risk behavior. Prevention programs must continue to address other risks relevant to the epidemic, and include male circumcision services and programs for most-at-risk populations (MARPs).

ENGENDERING COMMUNITY SUPPORT FOR MCP ACTIVITIES

Coordination—at all levels of the response—is essential to bring programs to scale and to use limited resources for maximum effect. National programs may need to expand their strategies and integrate MCP-related prevention activities into their existing health program priorities. Health sector personnel at all levels will need to coordinate integration of MCP behavior change within a full range of health and HIV activities, such as counseling and testing, prevention of mother-to-child transmission (PMTCT), care and treatment programs for people living with HIV (PLWH), and male circumcision. MCP messaging—from the national program to facilities and communities—should be mutually reinforcing.

Programs need to listen and learn from local communities and identify audience-centered solutions. Prevention messages must be nonjudgmental and nonstigmatizing. Because singling out groups (or individuals) can be stigmatizing, programs can instead target the behaviors that put people at risk of HIV. In every community, some people manage to avoid MCP-related risks, and programs can build on these examples of positive behaviors to encourage people to adopt safer sexual practices. Involving affected communities throughout program planning and implementation stages helps in developing strong approaches. Programs should also work to build the capacity of communities and support them with the tools to initiate this type of dialogue.

MEASURING PROGRAM OUTCOMES

Program planners and managers should employ data to guide program and message development. Given the diversity of epidemic contexts, countries need to know their epidemics and modes of transmission, identify their target audiences, and understand the different patterns of sexual partnerships. In each context, programs need to understand the reasons why people engage in MCP and the factors that contribute to this type of sexual behavior (e.g., low risk perception, denial, alcohol, and gender and social norms). Ethnographic and other qualitative assessments provide essential information for designing effective prevention activities and complement epidemiological data.

Programs need improved methods to monitor MCP activities. Since program experience in addressing MCP is recent, there are few programmatic or evaluation data on which to judge effective approaches. Every opportunity should be taken by programs to collect rigorous data on the

effectiveness of these programs in changing behavior and, when feasible, on the impact on HIV incidence. Routine measures to monitor population-level outcomes as well as specific MCP-related program activities would enable better program monitoring. For example, there are no standard metrics for measuring MCP program outputs that are analogous to those commonly used in other program areas, such as the number of bed nets distributed as a common output measure for malaria programs. Finally, it is essential that the HIV community continue to develop an evidence base and establish promising practices for MCP programs.

OPENING REMARKS

The meeting began with opening comments on approaches to addressing multiple and concurrent sexual partnerships (MCP), by the three co-chairs of the PEPFAR General Population and Youth Technical Working Group (TWG). Pam Bachanas of the Centers for Disease Control and Prevention (CDC) described the strategic and technical assistance roles of the PEPFAR TWGs, and Marissa Bohrer of the Office of the Global AIDS Coordinator (OGAC) provided an overview of the agenda and briefly described the day two breakout groups. Shanti Conley of the U.S. Agency for International Development (USAID) noted that MCP activities are a relatively new area of international health programming. Pioneering researchers and scientists Helen Epstein, Ted Green, Daniel Halperin, and Martina Morris, among others, first called attention to the potential role of MCP in HIV transmission in Africa. A 2006 Southern Africa Development Community think tank meeting in Lesotho pointed to the importance of MCP—in conjunction with insufficient consistent use of condoms and low levels of male circumcision—as the key drivers of the epidemic in the subregion.[1] A 2006 meeting was held in Princeton on the scientific basis for the focus on MCP.[2]

However, until recently, most programs also did not specifically address MCP. Given the lack of programs targeting this behavior, in 2007 the PEPFAR General Population and Youth Technical Working Group prioritized funds for technical leadership to help support the expansion of MCP programming. Since then, some programs have begun addressing local needs and pioneering innovations to address MCP. The purpose of the expert consultation was to ground future efforts in research and evidence, and to learn from implementation achievements and challenges to date.

Caroline Ryan, director of Program Services at the Office of the Global AIDS Coordinator, provided additional opening remarks, discussing priorities for prevention in southern and East Africa. Although there is growing certainty about what to do in concentrated epidemics, the field continues to struggle to get prevention right in hyperendemic areas. Experts continue to consider the factors resulting in diverse HIV epidemics in southern and East Africa; however, it is increasingly clear that low prevalence of male circumcision and high rates of MCP are key factors. Other factors impact HIV prevalence, including social, gender, economic, cultural, and structural factors. Program planners and implementers need to stay open to new information. For example, prevention efforts so far have not achieved adequate coverage of target populations and often have not been implemented with sufficient intensity (e.g., number of times individuals are exposed to prevention messages).

MCP as a risk factor in HIV transmission is not a new concept; it has been recognized in the U.S. for decades. An early qualitative report cited by Helen Epstein in her book observed that the presence of MCP led to a higher HIV prevalence. With the encouragement of HIV program practitioners in Uganda and other places, this relationship has been modeled more recently by academic researchers, including Martina Morris and colleagues. Communities and programs have

[1] "Expert Think Tank Meeting on HIV Prevention in High-Prevalence Countries in Southern Africa," Maseru, Lesotho, May 10–12, 2006.

[2] "Long-term Concurrency and the Spread of HIV/STDs in Africa and Other World Regions," Princeton University, Princeton, New Jersey, May 5, 2006.

also expressed the potential importance of this issue. MCP provides a compelling hypothesis for explaining differences in HIV prevalence.

Participants were encouraged to be proactive in addressing MCP by implementing programs designed to increase risk perception and prompt behavior change. To do so, prevention practitioners will need to learn from experts about the best way to bring effective programs to scale. In the process, it will be important to remain skeptical and to learn from what we do. Programs will need to field test activities carefully, solicit feedback from program participants, and evaluate efforts while keeping an open mind about additional factors that could be in play.

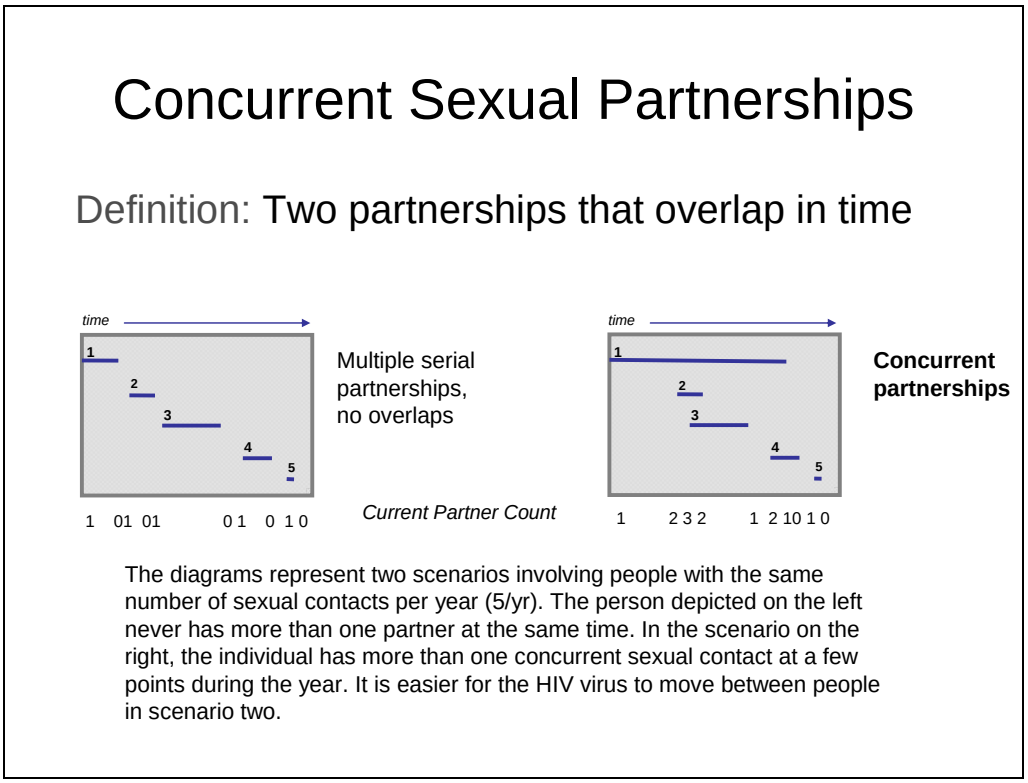
Finally, efforts to reduce MCP cannot stand alone. Successful interventions need to adopt combination approaches to prevention, simultaneously implementing behavioral, biomedical, and structural prevention activities. HIV counseling and testing will be especially important because being faithful does not protect individuals whose partners are HIV-positive. MCP programs must be linked to counseling and testing to help people learn their own and their partners' status. Condoms will remain an important back-up plan, since not everyone will be faithful. Given the difficulties in achieving high levels of consistent condom use, prevention messages should be presented in a hierarchical way, so they are cumulative in impact and not contradictory.

THE RELATIONSHIP BETWEEN CONCURRENT SEXUAL PARTNERSHIPS AND HIV TRANSMISSION

Largely by developing appropriate measures and mathematical models, researchers are gaining better insight into the dynamics of how concurrent sexual partnerships potentially affect HIV transmission. Martina Morris presented the theoretical basis for the relationship between concurrency and HIV transmission. Concurrent sexual partnerships are defined as partnerships that overlap in time.

Some distinguishing characteristics of concurrent sexual partnerships help determine the likelihood of HIV transmission between sexual partners. (See Figure 1.) For example, how many concurrent partners does a person have? What is the duration of the concurrent partnerships? How long do partners overlap? How frequently do people move back and forth between their sexual partners? Do they use protection with any of the partners?

Figure 1: Concurrent Sexual Partnerships



Source: Martina, M., M. Handcock, D. Hunter, S. M. Goodreau, C. Butts, S. Bender de-Moll, and P. Krivitsky. "The Relationship Between Concurrent Partnerships and HIV Transmission: Overview of the Evidence," presented at "Addressing Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics," Washington, DC, October 29–30, 2008. Available at http://www.aidstar-one.com/.

Researchers have known for some time that the risk of acquiring a sexually transmitted disease depends fundamentally on the number and timing of one's sexual partners. To understand how MCP potentially affects the overall HIV transmission system requires an understanding of MCP's effects at the individual and population levels. Mathematical models enable researchers to explore how the HIV risk associated with MCP plays out at both levels.

MCP EFFECTS AT THE INDIVIDUAL LEVEL

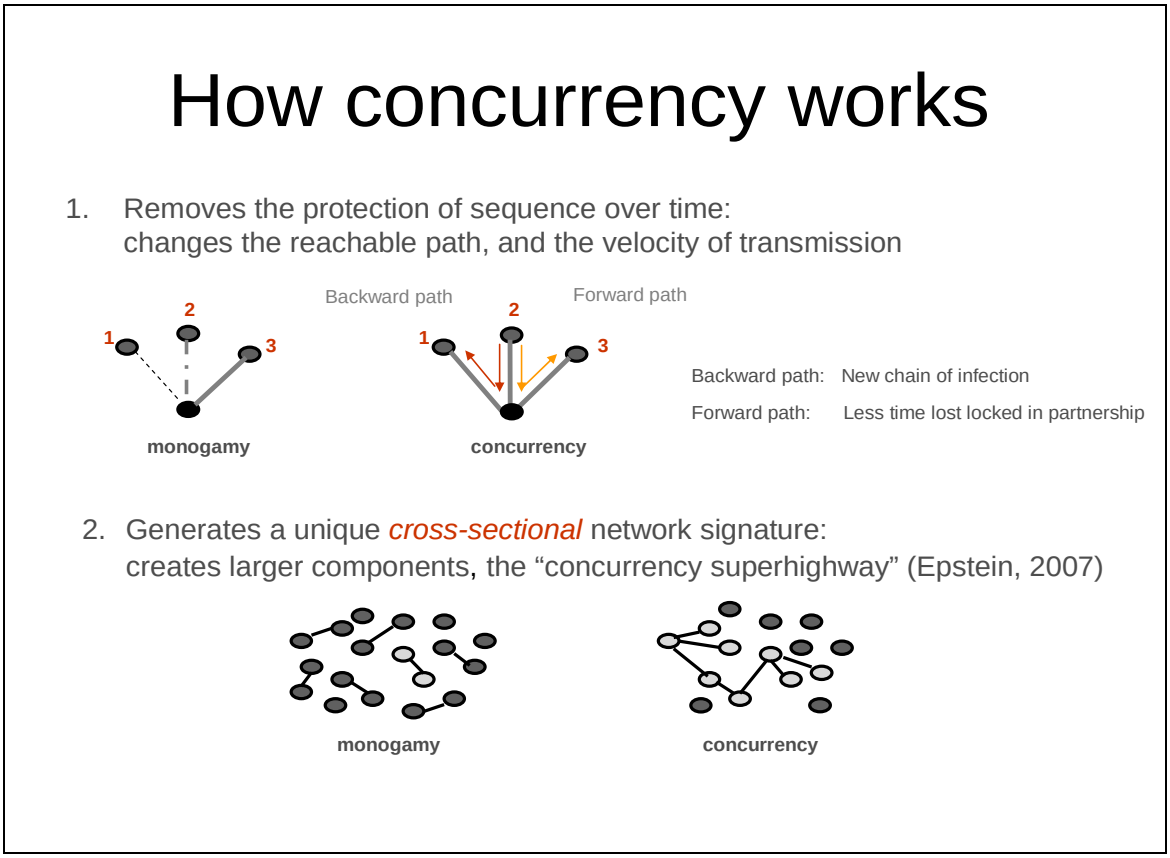
At the individual level, concurrent partnerships pose different risks to the person who has them (the index case) than to his or her partners. The primary risk to individuals who have concurrent sexual partnerships is the risk associated with having multiple partners, each of whom can transmit HIV if they have the virus. From an exposure perspective, having these partners concurrently poses the same risk to the index case as having them sequentially (serial monogamy), all else equal.

If the index case does become infected, concurrency can reduce the time before s/he transmits to the next person. When people remain in long-term monogamous relationships, the virus remains "trapped" in that relationship after transmission occurs, and has no way to enter or exit the partnership. When people form concurrent partnerships, the virus is no longer trapped, and can be transmitted without waiting for one partnership to end and the next one to begin.

For the partners of the index case, the risks are different. Concurrency puts the partners at greater risk of exposure to HIV, by removing the protective effect of sequencing. Within serial monogamy, an earlier partner would not be exposed to infections that the index case acquires from a later partner. But within concurrency they can be.

As illustrated in the diagram on the left in Figure 2, in monogamy, partner 1 bears no risk related to partner 3. Transmission occurs only forward in the partner sequence, not back. However, if an individual is engaged in concurrent partnerships—or if s/he has sexual intercourse with more than one person during the same period of time—the virus can move between partners, in either direction. This risk of transmission is illustrated in the diagram on the right in Figure 2: HIV could be transmitted, for example, from partner 3 to partners 2 or 1, or from partners 1 to partners 2 or 3. A shift from monogamy to concurrency changes the "reachable path" of the virus, since the virus can travel forward and backward, both to and from the index case, and can "reach" more individuals in networks of people who are connected through their overlapping sexual partnerships.

Figure 2: How Concurrency Works



Source: Martina, M., M. Handcock, D. Hunter, S. M. Goodreau, C. Butts, S. Bender de-Moll, and P. Krivitsky. "The Relationship between Concurrent Partnerships and HIV Transmission: Overview of the Evidence," presented at "Addressing Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics," Washington, DC, October 29–30, 2008. Available at http://www.aidstar-one.com/.

MCP EFFECTS AT THE POPULATION LEVEL

Mathematical models describe how concurrency can impact transmission at the population level. In a community of individuals that practice monogamy, there is little connectivity in the sexual network, because at any point in time, people are either alone or in pairs (as on the left side of the bottom panel in Figure 2 above). When even a few individuals are involved in more than one sexual partnership at the same time, however, this creates networks of individuals who are linked through their sexual partnerships. If HIV enters this community, it can be transmitted along the "concurrency superhighway," or the pathway of relationships that link individuals to one another through their sexual partnerships.

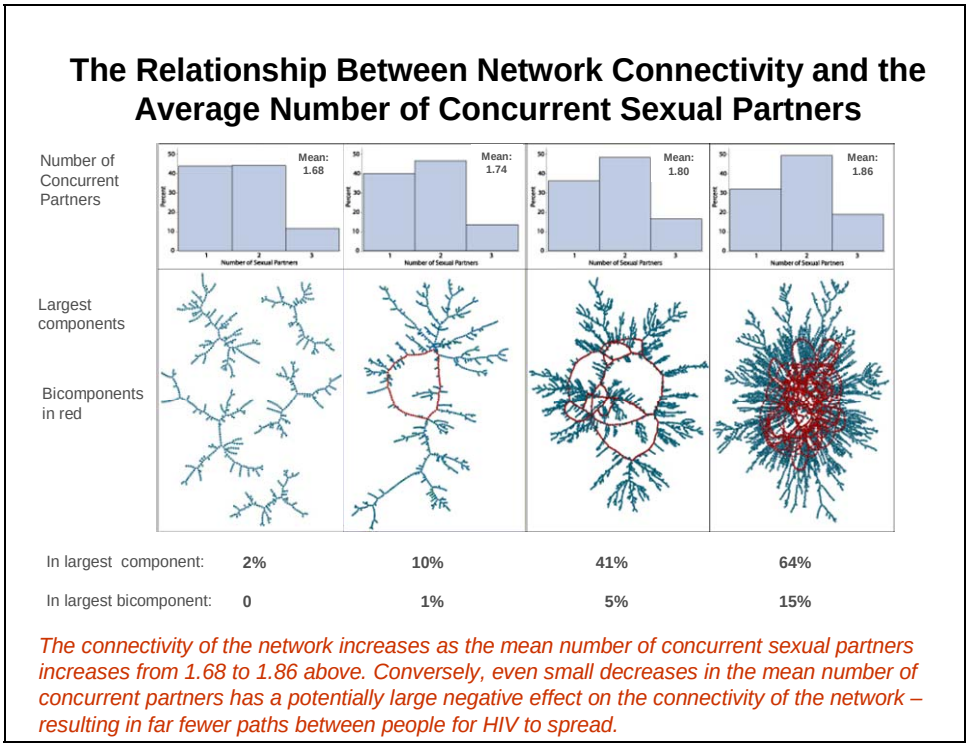
The mathematic simulation models that Martina Morris and colleagues developed demonstrate that the relationship between MCP and HIV transmission is nonlinear. The diagrams in Figure 3 below present the results of their model; even modest changes in the mean number of concurrent sexual partnerships are seen to have large effects on the connectivity of the network, as follows:

- Even a very small increase in the mean number of concurrent sexual partners may result in a substantial increase in the connectivity of sexual networks, building pathways

through which HIV can be transmitted from person to person, and ultimately resulting in higher HIV incidence rates.

- Conversely, even if a relatively small number of people reduce the number of their concurrent sexual partners, network connectivity is reduced. This in turn could potentially result in reduced transmission of HIV infection and, consequently, lower incidence rates. Massive behavior change is not required—even a little change in individual behavior could make a difference at the population level.

Figure 3: The Relationship between Network Connectivity and the Average Number of Concurrent Sexual Partners



Source: Martina, M., M. Handcock, D. Hunter, S. M. Goodreau, C. Butts, S. Bender de-Moll, and P. Krivitsky. "The Relationship Between Concurrent Partnerships and HIV Transmission: Overview of the Evidence," presented at "Addressing Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics," Washington, DC, October 29–30, 2008. Available at http://www.aidstar-one.com/.

Because concurrency increases the probability that an infected individual will transmit HIV, concurrency increases the risk of infection to an individual's existing partners. Morris refers to this phenomenon as "the long-suffering spouse"—the faithful wife who becomes HIV-positive when her husband transfers the HIV infection he acquired from his girlfriend.

IMPLICATIONS FOR RESEARCH

It follows that researchers cannot hope to learn much about the risks associated with concurrent sexual partnerships by examining HIV prevalence among index cases. What researchers need to be able to do is to understand the extra risk concurrency imposes on the *partners* of men or women who

are engaged in concurrent sexual partnerships. Yet, it is rare that researchers have the opportunity to enroll partners in an epidemiological study, and globally, researchers have almost never had the opportunity to observe partner-related risks in survey data. Many surveys are capable of measuring the risk of the respondent but fall short of asking about partners' behaviors. There are also methodological issues related to measuring partners' risk, such as increasing the accuracy of reports of partners' risk behaviors.

A precise understanding of the relationship between index case concurrency and partners' HIV status is needed, and this lack of partner-related data presents a problem. Because HIV infection is a lasting condition, researchers should not expect to find a relationship between measures of concurrent sexual partnerships— *capturing behavior measured at the time of the survey*— and measures of HIV prevalence[3] *that have been accumulated from infections occurring over a longer period of time.*[4] It is appropriate, however, to correlate measures of current behavior with measures of new HIV infections or incidence. HIV incidence is more difficult to study, but not impossible with the use of assays that can identify which individuals are newly HIV-infected. An assessment of HIV incidence and its relationship to MCP has yet to be performed.

At this point, the theoretical underpinnings supporting the relationship between MCP and HIV are strong, but the science remains unsettled until empirical data can help to establish (or disprove) a causal relationship between measures of concurrent sexual partnerships and the incidence of HIV. According to Morris, an incidence study is essential if the field is to improve its understanding of how MCP affects HIV transmission, shifting from projection models to empirical studies that can demonstrate an impact.

IMPLICATIONS FOR PROGRAMS

In light of existing evidence, it is not too soon to begin increasing people's awareness of the risks associated with concurrent sexual partners. Behavior change messages need to convey the information to people that their partners' sexual partnerships affect their own risk of acquiring HIV. This message is, in fact, highly intuitive for many people living in countries where concurrent sexual partnerships are common. Many men and women do understand that their partners' relationships put them at increased risk of HIV. In the right situation, this observation could be useful in conveying the risks associated with concurrent sexual relationships.

[3] A measure of HIV prevalence captures in its numerator the number of new cases plus the number of cases that occurred at earlier points in time who are still surviving.

[4] For example, when a preventive vaccine is introduced, we expect it will reduce the chances that people will become newly infected, but we do not expect that it will reduce infections among people who were exposed at some earlier point in time.

MEASURING MCP

Survey efforts have only recently begun to measure MCP. Sara Nelson described the range of survey questions used to measure concurrency and presented their relative strengths and weaknesses. In addition, Vinod Mishra presented an analysis of Demographic and Health Survey (DHS) data as an example of how population-based survey data can be used to understand MCP.

QUANTITATIVE APPROACHES TO MEASURING CONCURRENCY

Sara Nelson reviewed quantitative approaches to measuring sexual partner concurrency, as well as the strengths and limitations of each, and provided some guidelines for selecting the right measures. Across a relatively small set of survey questions, it is possible to learn how prevalent multiple and concurrent sexual partnerships are in a population. Additional questions permit programmers to learn more about the risk of HIV transmission, such as the duration of overlap and the intensity as determined by the frequency of sexual contact.

Survey data can be used to estimate a few fundamental measures of concurrency, each of which can be used to understand the risk of HIV transmission occurring as a result of concurrent sex:

- **Point prevalence of concurrency:** How prevalent is concurrency at a discrete time? Data to estimate the point prevalence are often collected on the day of the interview, and therefore they are probably the most accurate.
- **Cumulative prevalence of concurrency:** How many concurrent partners do people tend to have over a period of time, for example, in the last year?
- **Intensity of overlap:** What are the duration of overlap and the frequency of sex during the period of overlap? This measure also helps determine the risk of transmission.

Six different approaches to collecting data on concurrency using a survey questionnaire were presented. These approaches are presented in Table 1, along with brief descriptions of their strengths and weaknesses.

Table 1: Approaches to Collecting Concurrency Data Using a Survey Questionnaire

Methods	Data Requirements	Strengths or Weaknesses
Date method	Start and end dates, or duration plus one date. Also ask if person expects to have sex with partner again.	Less prone to social desirability bias, but requires a minimum of six questions. There may be some misreporting of dates. Tradeoff between the number of partners and the amount of information obtained.
Direct question	A single question that asks about additional partners during a relationship.	Less information is required, minimizing the potential for missing data, but cannot be used to estimate duration of overlap. May introduce social desirability bias.
Coital diaries or daily surveys of sexual behavior	Prospective data collection.	Can establish prevalence, incidence, and duration of overlap. Longitudinal design minimizes recall bias, but it is resource intensive and could itself be an intervention.
Proxy measures	An indirect (substitute) measure of concurrency, e.g., >1 partner in past 3 months >1 partner in past 7 days 2+ partners in the past 12 months	Can make use of previously collected data, but data can be biased by misclassification. Also, this assumes that more than one partner equates to concurrency, without knowing overlap.
Partner's concurrency: direct question	Ask a person directly if s/he has had other partners.	Most relevant measure for assessing respondent's HIV and sexually transmitted infection (STI) acquisition risk, but may be difficult to enroll partners.
Partner's concurrency: indirect question	Ask a person if they think his/her partner has other partners.	Most relevant measure for assessing respondent's HIV and STI acquisition risk, but depends on person's knowledge of their partner's partners (correlation between perceived and actual).

Two types of questions that can be employed to collect data on concurrency using a survey questionnaire were presented; these approaches are presented in Box 1. In the first instance, respondents are asked a series of three questions about each of their last three sexual partners (i.e., their most recent, second most recent, and third most recent sexual partners). The series of questions allows the interviewer to learn about the respondents' three most recent sexual partnerships and estimate the duration of any overlap that might have occurred between the partnerships. An alternative approach is presented in the lower part of Box 1. In this instance, respondents are asked about their date of last sex with their last sexual partners and the duration of those partnerships. This information can be used to indirectly observe overlaps in partnerships.

Some practical advice was offered to help participants decide what measure of concurrency they should use, as follows:

- If the program primarily needs information on the prevalence of concurrent sexual partnerships, using the direct question is sufficient.

- If the program seeks to have a deeper understanding about the specific behaviors associated with concurrency that put people at risk of HIV, such as intensity of sexual contact or duration of concurrency, then it may be necessary to use the date method.
- If the program seeks information on the respondent's risk of acquiring HIV, then it is important to measure partner's concurrency using direct or indirect approaches.
- If the program decides that additional information is needed about the factors that lead to concurrent partnerships, it may be necessary to ask additional questions about the characteristics of each sexual partnership that the respondent engaged in.

Box 1: Survey Questions to Measure Concurrent Sexual Partnerships

Concurrent sexual partnerships can be measured using a series of questions (three questions that are repeated for each of the last three sexual partners) included in a standardized survey questionnaire.

Additional survey questions are required to learn more about the nature of the partnerships.

1. The following questions will be about your most recent sex partner:
    a) When did you last have sex with this partner? (month/day/year)
    b) When did you first have sex with this partner? (month/day/year)
    c) Do you expect to have sex with this partner again? (yes/no)

2. The following questions will be about your second most recent sex partner:
    a) When did you last have sex with this partner? (month/day/year)
    b) When did you first have sex with this partner? (month/day/year)
    c) Do you expect to have sex with this partner again? (yes/no)

3. The following questions will be about your third most recent sex partner:
    a) When did you last have sex with this partner? (month/day/year)
    b) When did you first have sex with this partner? (month/day/year)
    c) Do you expect to have sex with this partner again? (yes/no)

Alternatively, the survey could ask about date of late sex and the duration of the relationship. From this you can estimate the date of first sex.

1. How long have you been sexually involved with this partner? (mo/day/yr)

WHAT DO THE DEMOGRAPHIC AND HEALTH SURVEYS TELL US ABOUT MULTIPLE PARTNERS AND CONCURRENCY?

Over the past decade more than two dozen surveys, including Demographic and Health Surveys (DHS), have linked sexual behaviors and HIV serostatus. Vinod Mishra explored the potential of these population-based surveys to provide MCP data, presenting analyses and a thorough discussion of the strengths and limitations of DHS data.

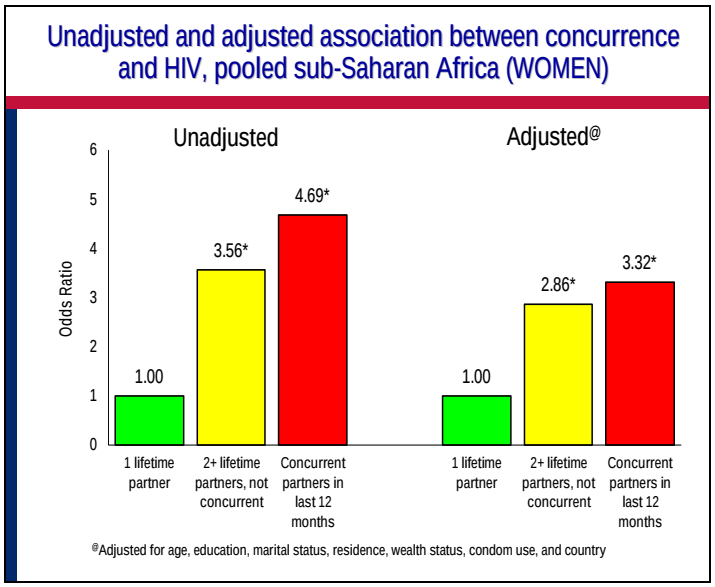
Recent DHS and AIDS Indicator Surveys have included information on up to the three most recent sexual partners (marital and nonmarital) in the 12 months preceding the survey. In addition, some of the more recent DHS surveys have collected information useful in understanding concurrency.[5] Data analyses from these surveys, all of which occurred from 2004 to 2006, suggest HIV prevalence ranging from less than 1 percent in several countries to 26 percent in Swaziland.

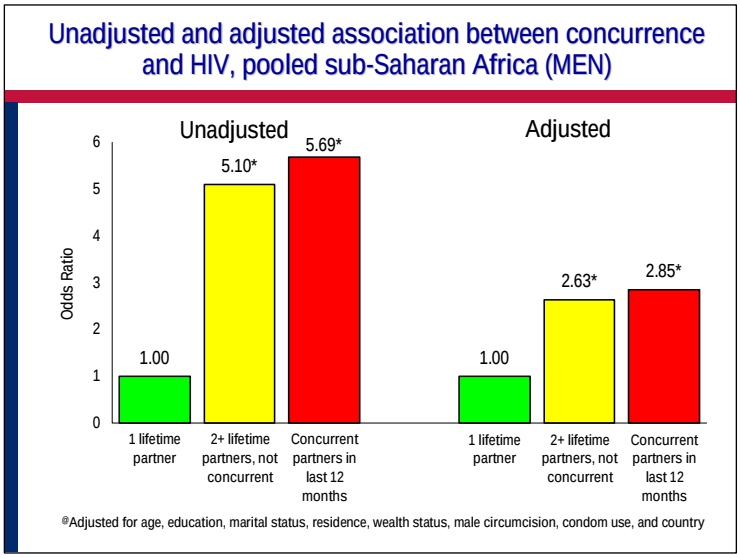
Analysis at the individual level explored the relationships between the prevalence of MCP and HIV status. In most countries, at an individual level, respondents who reported having more than one partner in their lifetime and/or concurrent partners in the last 12 months were more likely to be HIV-positive. A positive and significant relationship between HIV status and MCP was found for both men and women in the samples, after adjusting for other factors that are also related to HIV status.[6] Figure 4 shows this relationship for pooled samples of women and men in sub-Saharan Africa.

[5] The exact indicators vary across the DHS. However, in general they have included the following: measures of the number of lifetime sexual partners; number of sexual partners in the past year; for up to three most recent sexual partners in the past year, the timing of last sexual intercourse with each partner; the type of relationship with each sexual partner; for non-spousal partners, the duration of sexual relationship with each partner; and condom use at last sex with each partner.

[6] Control variables include age, condom use, country, education, marital status, residence, and wealth.

Figure 4: Unadjusted and Adjusted Association between Concurrence and HIV, among Pooled Sub-Saharan African Men and Women

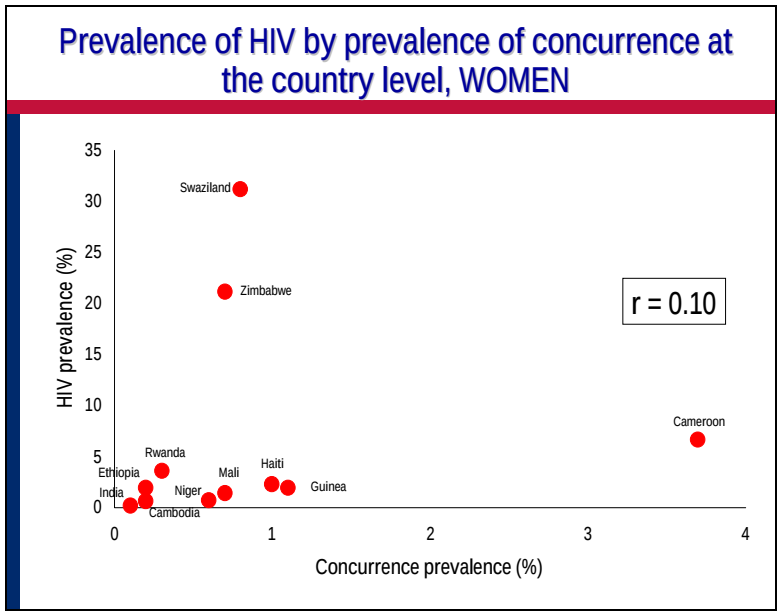


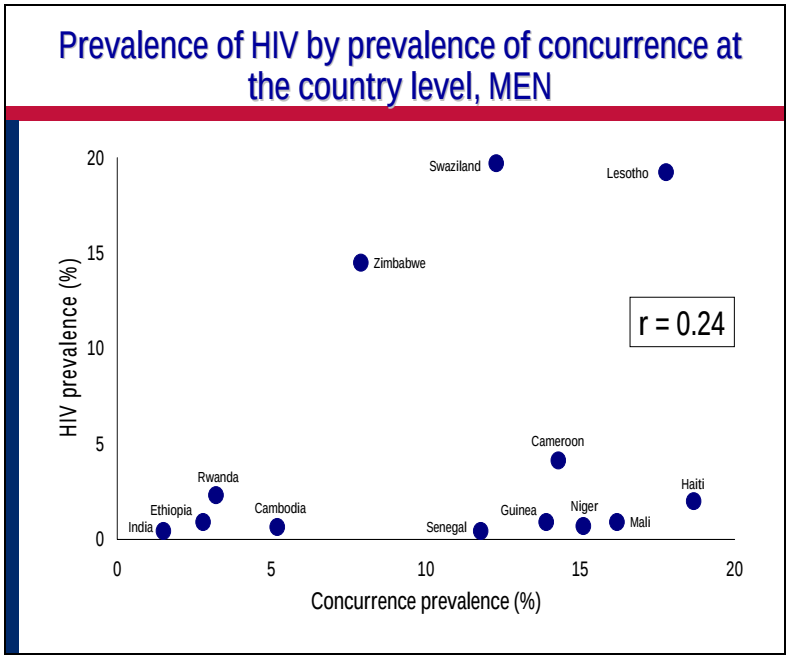


Source: Mishra, V. "Measurement of Concurrent Sexual Partnerships in Demographic and Health Surveys," Macro International Inc., presented at "Addressing Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics," Washington, DC, October 29–30, 2008. Pooled samples for women include: Cameroon, Ethiopia, Guinea, Mali, Niger, Rwanda, Swaziland, and Zimbabwe; and pooled samples for men includes: Cameroon, Ethiopia, Guinea, Lesotho, Mali, Niger, Rwanda, Senegal, Swaziland, and Zimbabwe.

However, prevalence of concurrence does not seem correlated with prevalence of HIV at the country level. The two diagrams in Figure 5, below, with the accompanying correlations (*r* statistic), show very little association between the prevalence of concurrency in a country and the prevalence of HIV, either among women or men. Country-level associations were even weaker when the prevalence of HIV among women was correlated with prevalence of concurrency among men ($r = 0.07$), and when prevalence of HIV among men was correlated with prevalence of concurrency among women ($r = 0.09$).

Figure 5: Prevalence of HIV by Prevalence of Concurrence at the Country Level among Men and Women





Source: Mishra, V. "Measurement of Concurrent Sexual Partnerships in Demographic and Health Surveys," Macro International Inc., presented at "Addressing Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics," Washington, DC, October 29–30, 2008.

Mishra noted several limitations of the data that potentially bias the results. Overall, a relatively small number of respondents reported MCP. There was some variation in the questions that were asked across the 10 DHS studies to measure MCP. For example, earlier surveys included in the study were of more limited use in this analysis because several did not collect information on factors related to

concurrency.[7] Earlier surveys had no information on number of lifetime sexual partners and incomplete information on the duration of sexual partnerships. In addition, concurrent partnerships in the recent past (the past 12 months) may not correlate well with HIV status at the time of the survey because the infection may have occurred earlier; the data do not reveal information about sexual behavior at the time of infection. There is also a possibility of reporting bias regarding some behaviors, especially on sensitive questions relating to sexual activities. Finally, some concurrency was missed because surveys did not ask about overlapping partnerships that ended more than 12 months before survey interview. More recent surveys have tried to address these limitations.

[7] An example of these factors includes timing of last sexual intercourse for the second-to-last or third-to-last partners or consistent condom use.

SOCIOECONOMIC AND CULTURAL DRIVERS

The behavioral patterns driving MCP are embedded deep within social, economic, and cultural systems. Two presentations considered the role of these socioeconomic and cultural drivers.

THE ETHNOGRAPHIC PERSPECTIVE

An ethnographic perspective looks at cultural and social factors—factors that often make the difference in the effectiveness of HIV prevention efforts. Public health professionals tend to discuss what is known and what can be measured. However, these matters are just the tip of the iceberg; beneath the measurable characteristics are values and world views that are shaped by historical processes. Suzanne Leclerc-Madlala addressed the historical, social, and cultural context within which MCP occurs in southern Africa. Her talk demonstrated how definitions of gender roles and issues of intergenerational and transactional sex are closely entwined with MCP.

Many southern African societies are polygamous, and a woman is expected to move to where her husband is (patrilocal). Social structures uphold male privilege and dominance, and local definitions of manhood remain tied to historic values regarding the accumulation of women and cattle. Within this system, a woman views her body as a resource to be traded between men and as a means to ensure sustenance and acquire material possessions. Traditional rules have been loosening under the social pressures of more modern lifestyles, and traditional systems of polygamy are being modified; the behavioral patterns currently being defined as MCP are a result of these shifting norms.

Four key ingredients of the social system combine to support and legitimize MCP, as follows:

1. MCP is normative for both sexes out of marriage and normative for men in marriage (although norms dictate that married women should not engage in MCP, some do). Multiple and concurrent partnerships and transactional sex are often institutionalized as part of the social structure. The idea that men's sexuality cannot be restrained is prevalent.
2. The exchange of money, goods, or services for sex is a normative expectation. In fact, "giving sex for free" is considered promiscuous. Resource exchange and sexual exchange are mutually reinforcing.
3. Consumerist desires are growing, and women actively seek out partners and exert gender equality by exploiting partners for gain. Peers admire the ability of women who acquire goods through sex.
4. Intergenerational sex is a common component of MCP. Since partnerships are usually transactional, condoms are often an afterthought.

In sum, MCP is influenced by several major cultural drivers. For example, in southern Africa, different partners can fulfill different needs; a husband, for instance, can provide for children, while a lover provides transportation and other material goods. Often young men and women perceive fidelity as nonstrategic; having multiple partners increases their chances of ensuring their sustenance

while acquiring sought-after material goods, such as cell phones. Having more than one partner ensures that they will have someone around. MCP also includes transactional and intergenerational sex, which increases women's vulnerability. Young women's aspirations for goods, through sex, also put them at risk for HIV.

FORMATIVE ASSESSMENT OF A REGIONAL CAMPAIGN TO ADDRESS MCP

The Soul City Institute developed its "One Love" campaign to reduce multiple and concurrent sexual partnerships in 10 southern African countries.[8] Harriet Perlman presented results from a formative assessment conducted in these 10 countries from 2007 to 2009. The assessment included an extensive series of in-country literature reviews, stakeholder and expert consultations, focus groups, and in-depth interviews. Data from the surveys were analyzed at the regional and country levels, and used to design programs tailored to local behavior and culture.

Some common themes emerged from across the 10 countries. Engaging in multiple and concurrent partnerships was a common practice throughout the region. Respondents explained that people tend to have MCP in response to sexual, emotional, and physical dissatisfaction with their primary partners. Cultural and social norms support the occurrence of MCP, as does the desire for money and material possessions. Alcohol use is also related to MCP. Survey respondents believed that men cannot control their sexual desires and that many felt pressure to engage in MCP. Other respondents mentioned patterns of male dominance and abuse in the region, and fatalistic or risk-taking attitudes with regard to HIV and AIDS.

Analysis of country-specific findings provided insights into the development of messages. For example, harmful cultural norms that promote MCP are found to be particularly prominent in Swaziland (e.g., sleeping with an in-law and wife inheritance). Fatalism (e.g., "we are all going to die anyway") emerged particularly strongly in South Africa, Zambia, and Zimbabwe. Some cultural practices were unique to country contexts; for example, polygamy was embraced in Lesotho, Malawi, and Swaziland.

A set of core campaign messages and communication materials have been developed from these findings, as follows: having multiple and concurrent partners put you and your loved ones at risk; communicate effectively with each other; societies must support and encourage safe relationships.

[8] The 10 countries were Botswana, Lesotho, Namibia, Malawi, Mozambique, South Africa, Swaziland, Tanzania, Zimbabwe, and Zambia.

PROGRAMMATIC INTERVENTIONS

Although HIV prevention efforts in resource-limited countries have largely neglected partner reduction, the matter has begun to receive increasing attention. Several presenters described program efforts to reduce MCP; most of these efforts were initiated in the last three years.

LESSONS FROM UGANDA

In the words of Noerine Kaleeba, founder of The AIDS Support Organization (TASO), "Uganda went to hell, drove itself out, but is gently sliding back."

The presence of scientific evidence and international attention to MCP is encouraging and will hopefully lead the global community to act. However, these behaviors have been known in Africa for 25 years.

What worked in Uganda to reduce the spread of HIV? There are several possible explanations:

- In Uganda, HIV was an "open secret," meaning HIV was hidden, but widely known. A drive toward more openness was initiated by people affected by HIV and AIDS. Ms. Kaleeba cautioned participants against stigmatizing MCP because stigma creates silence, the biggest stumbling block to action.
- The decentralized response in Uganda recognized the power of people to understand, decide, and take action. People participated in research, reviewed and analyzed the evidence, and participated in finding solutions in their communities.
- Finally, although many explanations have been offered for what worked in Uganda, what worked was "ABC plus, plus, plus" (abstinence, be faithful and correct and consistent condom use or other interventions). Adding to the ABC approach allows programs to address important things, such as the status of women, or to add needed activities, such as home-based counseling and testing. Programs should not be limited to addressing people's HIV status; rather, they should address who people's partners are and why, and should maintain the dignity of PLWH.

The way forward will also be to address such issues as intergenerational sex and "sugar daddies and mommies." Programs need to strengthen their capacity and provide greater access to services. Home-based testing holds the key; however, depending how it is rolled out in the community, it could cause blockage or open doors. Communities need to be fully engaged as activities move forward.

A NATIONAL CAMPAIGN TO ADDRESS MCP

Faith Dlamini described Swaziland's pioneering effort to address MCP. A four-stage behavior change communication campaign was designed and implemented from 2002 to 2007 with the goal of reducing multiple and concurrent sexual partnerships. The presentation describes the campaign's formative assessment, implementation, outcomes, and lessons learned from this early effort.

Swaziland's epidemic is characterized by very high HIV prevalence that appears to have stabilized at the unacceptably high level of about 39 percent among women attending antenatal clinics. Multiple and concurrent partnerships are common in Swaziland, especially among men, and the practice is supported by social norms and gender inequality.

Within the broader framework of a national, multiyear behavior change communication campaign, the Makwapheni ("secret lover") Campaign sought to draw attention to the dangers of practicing MCP. The campaign encouraged positive and responsible sexual behavior, discouraged MCP among sexually active adults and youth, encouraged partner reduction, promoted faithfulness, and attempted to influence public debate on the issue.

The program of activities was developed on the basis of focus group discussions and interviews conducted with the general population. The campaign's messages directly addressed MCP as a risk factor for HIV. For example, one message was, "Your secret lover can kill you." Campaign messages were disseminated through a variety of channels, such as advertisements, and a community campaign.

Evaluation results indicated that the percentage of the target population reached by the campaign exceeded the program's initial goal. Data also suggested a pattern of positive behavior change across a series of measures and a range of risk behaviors associated with MCP. Media leadership embraced the campaign, perhaps in part because it generated dialogue at a national level, among policymakers and other influential community leaders. Media buy-in resulted in widespread debate well beyond the project-funded activities. For example, print media published opinion polls on the campaign, and radio and television news and current affairs programs voluntarily opened the matter to public debate.

The Makwapheni Campaign was important because it prompted people to talk about MCP and HIV. However, the campaign was terminated early. Dlamini discussed several challenges faced by this pioneering effort, providing lessons learned for those engaged in similar efforts. The program concluded that its interpersonal communication platforms may have been less than adequate to reinforce the mass media component. Men's forums conducted in rural areas, for example, were unable to reach many communities, and no forums were implemented for other risk groups, such as men in urban settings or for women and girls. The campaign may not have been adequately mainstreamed into civil society and the faith-based, private, and traditional sectors. The mass media campaign relied too much on short and transient messages, which sparked people's interest and created awareness, but which ultimately did not allow people to explore issues in depth. The challenges faced by the campaign highlight the importance of inclusive planning with other sectors. Insufficient engagement of civil society in the campaign's planning stages may have contributed to a negative response among some people living with HIV who felt that the program increased stigma for themselves and for other groups.

A MULTILEVEL COMMUNICATION PROGRAM TO ADDRESS MCP

A multilevel communications campaign, the Scrutinize Campaign, was designed to address MCP in South Africa. Richard Delate described the program design in detail and presented results from the first few months of activities.

Qualitative and quantitative research collected between 2006 and 2008 informed the design of the Scrutinize Campaign. In South Africa, over 50 percent of people under the age of 40 were not married or cohabitating, and about 13 percent of men and 4 percent of women reported having concurrent partners. Risk perception was very low, as only 5 percent of South Africans saw multiple partners as a risk for HIV infection.

The project determined a set of goals to achieve by 2013. These goals focused on a set of related behaviors, as follows: delaying onset of sexual debut, reducing the occurrence of multiple and concurrent partners, and promoting related protective behaviors such as consistent condom use and routine HIV testing.

A multilevel communication approach uses a combination of delivery mechanisms and strategies to bring about behavior change. Individual behavior is seen to be embedded within social networks (peers and friends), community (community leaders), and societal influences (policy and services). Moreover, change at one level is understood to have the capacity to affect the others. Mass media form the backdrop and "create the buzz" upon which interpersonal communication can expand outreach to individuals. In addition, an advocacy program is used to promote discussions that aim to bring about a change in the status quo with regard to policy, services, and cultural norms and values.

The primary audience for the campaign was defined as people in the age groups in which most new infections occur: young people between the ages of 18 and 32, and older men aged 24 to 45. Secondary audiences include women in their reproductive health years, parents, community and traditional leaders, decision makers, and health care workers.

A centerpiece of the mass media campaign was the development and dissemination of seven "Animerts" or cartoon commercials, each 30 to 60 seconds long. Media companies donated airtime after the campaign's initial purchase, thereby significantly increasing the project's resources. Across four message campaigns, the project reached a large percentage of its target groups with multiple messages; in the first four months, the project reached 92 percent of its intended audience with an average of 24 exposures.

Mass media activities are matched to other interpersonal communications and prevention activities. More than 100 peer educators from campuses around the country were identified and trained to communicate through art, drama, song, and dance. More than 15,000 students were reached through interpersonal dialogue. A Scrutinize Live event featured South African celebrities and musicians who interacted with audiences. Campus-based radio disk jockeys developed a *Scrutinize* magazine program that was broadcast over five days to a listenership of approximately 400,000 people. The campaign makes linkages to HIV counseling and testing services provided by a partner organization. A "Scrutinize on-line" website draws on Animerts and provides examples of how communities are "scrutinizing"—putting prevention into action. A Facebook site for Victor Scrutinize, one of the stars of Animerts, draws a large number of visitors. Finally, cell phone numbers collected during events are being used to disseminate campaign updates.

The campaign rolled out in June 2008. Some of the early lessons learned are presented below.

Figure 6: Lessons Learned to Date

Source: Delate, R. "Multilevel Communication Program to Address Concurrency in South Africa," Johns Hopkins Health and Education in South Africa (JHHESA), presented at "Addressing Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics," Washington, DC, October 29–30, 2008. Available at http://www.aidstar-one.com/.

INTEGRATING MCP WITH EXISTING PREVENTION PROGRAMS

To increase the reach of MCP programs and to facilitate the ability of MCP programs to go to scale, integration with existing services and programs is essential. Population Services International (PSI) has begun to formulate general MCP messages to integrate into its ongoing interpersonal communication (IPC) activities, while simultaneously initiating formative research activities. Research findings will in turn generate more in-depth understandings of MCP to focus messages and programs.

In **Botswana**, PSI has been engaged in developing a multi-stakeholder national campaign. PSI led an extensive consultation process to review existing evidence and conduct formative research. A campaign strategy was then developed through leveraging the leadership of a small group of technical experts and engaging stakeholders in a national meeting.

The first phase of the campaign focused on increasing knowledge and awareness of concurrent sexual partnerships as a risk factor for HIV. This focus was necessitated because of evidence indicating that only 17 percent of the population knew concurrency increases HIV risk. However, MCP involves a complex set of behaviors with many different motivations. As such, subsequent phases of the project will focus on beliefs and values and will move beyond HIV risk perception to address social and cultural factors that create the context within which MCP thrives. Formative research suggests that these efforts should focus, for example, on younger women and their attitudes

toward consumerism, their aspirations for relationships, and the attitudes of their friends and peers. Program activities for adult men might, in turn, focus on their beliefs about the benefits of MCP, male norms, and communication with their primary partners.

Rollout of the Botswana campaign will continue on a decentralized basis, as each district takes on the responsibility for making its own plan. The campaign plans to implement a communications program with intensive and extensive sensitization on MCP. MCP-related communications will be implemented both on a standalone basis and integrated into a wide range of existing interventions, including counseling and testing, prevention of mother-to-child transmission, STI and HIV treatment, and life skills education.

Existing interpersonal communications and counseling and testing program structures allow for integration of new ideas and a quick rollout at the field level. For example, in **Mozambique**, a module of MCP themes is being integrated into an existing interpersonal communications program that currently employs 135 community agents and 15 theater groups to target people in the general population. The program aims to create interactive community discussions on the risks of MCP, empower and motivate community members to change individual and collective sexual experience, and strengthen and reinforce local capacity to develop solutions that are in line with community realities. In **Zimbabwe**, MCP messages are being integrated into post-test counseling in facilities. Because current interpersonal communication programs change themes regularly, programs have the capacity to develop new materials and train IPC staff quickly.

PSI's experience to date, in both Mozambique and Zimbabwe, raises an important question that remains unanswered: What is the call to action for MCP campaigns? Should programs seek to change patterns of sexual behavior? Should they aim to reduce the risk of HIV transmission, for example, through promoting condom use in concurrent relationships or HIV testing? In fact, there may not be one universal call to action. The approach employed by PSI in Mozambique encourages target groups to determine their own focus rather than have the program prescribe it for them.

MCP is embedded in complex norms and behavioral patterns. As a result, campaign messages need to resonate with target audiences. Efforts to address MCP must interact with other issues related to HIV risk, such as transactional and intergenerational sex, knowing one's partner's HIV status, and trust within relationships and its implication for condom use. The question remains: To be effective, do MCP campaigns need to address all of these elements? Continuing programmatic work and additional research are needed to identify what works and does not in addressing MCP and to weigh the value of efforts to address MCP relative to other programmatic options.

Box 2: Highlights from Discussion on MCP Programs

Excerpts from the participants' dialogue on MCP messages demonstrate the complexity of developing MCP messages and the differences in perspective across various participants.

Is the message to tell people to have fewer partners or to be safe with the partners they have?

- We need a single message. People know having multiple partners is risky. What they don't know and what we must tell them is that concurrency—even two partners—is risky. We need an explicit, simple message. We need to send a clear message that concurrency creates a special risk.
- At this point, we don't really know what will work programmatically. A programmatic focus on raising awareness is a critical first step to get dialogue going; we can do this now.
- Program should focus on opportunities for prevention; if one partner insists on condom use, it's likely to take place.
- Combining messages (e.g., reduce the number of concurrent partners and use condoms with concurrent partners) in one message is difficult and may not work, since people may tend to gravitate to the message with which they are most familiar.

Is there a common "call to action" for MCP programs?

- We can leave communities to frame their program focus and determine how to address MCP and other related risk behaviors.
- There is a tendency to assume we know how people think. Our purpose is to get people talking, thinking, and making their own decisions. Our job is to get information out about the risks.
- We need to be careful about designing the message from here, far from affected communities; the messages themselves need to be developed within the community. The program can present the data and information and let the community develop the messages.
- A commitment to multilevel programs is a recognition that people live in communities with different populations and different environments. We need to clarify who our audience is and who the community is to bring about a community dialogue.

PROMOTING MUTUAL MONOGAMY THROUGH CHURCHES

The faith-based community has been active in the HIV and AIDS response in southern Africa. Yet, to date, the churches have been less involved in efforts to reduce concurrent sexual partnerships. Nathi Sohaba, of the Population Council, described efforts to promote mutual monogamy through churches in the Eastern Cape, South Africa.

Discussions with church leaders indicated that multiple partnerships were common, including among churchgoers. Despite the challenges of discussing sexual issues within the church, many felt their churches could play a vital role in addressing the issue. As such, this program engaged a variety of partners from the faith-based community[9] in addressing MCP.

Based on their findings from formative qualitative research, program planners designed an approach that drew upon a high level of respect for and trust of religious leaders. Fidelity emerged as a topic that churches could easily support. The practice of mutual monogamy can directly influence risk of HIV transmission. Finally, mutual monogamy messages would be best delivered within the context of a broader discussion on how to promote family harmony.

Church members became the target audience for program activities. Interventions were designed to promote the following interrelated goals:

- Increase knowledge about and perceptions around mutual monogamy in marriage
- Increase intentions to practice mutual monogamy
- Improve communication skills about mutual monogamy
- Reduce the number of sex partners
- Increase HIV testing, particularly among couples

The project developed a series of training materials and curricula entitled *Making the Promise, Keeping the Promise,* which included modules on family life, HIV and AIDS, gender dynamics, mutual monogamy and couples communication, counseling skills building, and group facilitation skills building. Sermon themes were also identified, including the question of whether the Bible teaches mutual monogamy, faithfulness in marriage, elements needed to make mutual monogamy work, strength and knowledge, and compassion and hope.

Program activities included couple and individual workshops on the following topics: mutual monogamy, HIV, family harmony, gender dynamics and gender-based violence, and couples communication. The program also incorporated congregation-wide sermons on the same topics; referrals to social and medical services, including counseling and testing; a Christian radio program on mutual monogamy; and one-on-one counseling.

An evaluation of pilot activities indicated a variety of positive social outcomes, including an initial high level of project acceptance and increased awareness of concurrent partnerships as a risk factor for HIV. Participants in the program expressed some resistance to church involvement in condom promotion.

[9] Partners included the South African Council of Churches, Eastern Cape Provincial Council of Churches, Alice Hospice, and Butterworth Minister's Fraternal.

Several valuable lessons were learned from project implementation. Partner reduction programs benefit from addressing broader issues related to family life, HIV stigma reduction, gender-based norms and violence, and communication skills. Program activities should engage both single-sex and mixed-sex groups. Activities should be designed to elicit and address locally relevant barriers and to use locally appropriate language.

A CURRICULUM-BASED APPROACH TO ADDRESS MCP AMONG YOUTH THROUGH FAITH-BASED ORGANIZATIONS AND CHURCHES

Kim Buttonow described how Food for the Hungry worked with the Association of Evangelical Relief and Development Organizations' HIV and AIDS Association to extend its reach to the large and active memberships of seven faith-based organizations and 4,000 churches in four countries (Ethiopia, Haiti, Mozambique, and Nigeria).

The project objectives were to increase abstinence before marriage and to reduce risk among sexually active youth. The program and its curriculum were tailored to address the needs and concerns of youth and of the broader faith community. Programs were developed locally, through the use of formative focus group research. Curricula were framed in language common to youth, with content that was acceptable to local cultural and faith norms, and that addressed the real needs of sexually active youth.

With feedback from research and community and staff members, a curriculum, originally called *Faithfulness in Marriage*, was expanded to be more inclusive of long-term, nonmarital committed relationships. The curriculum examines expectations and allows participants to assess for themselves the importance of faithfulness and to reflect on faithfulness in light of information shared about increased transmission risks of infidelity. The curriculum was designed to build the confidence of participants to be faithful through role plays and exercises to improve communications skills. Moderators were trained to lead participants in a discussion of serodiscordant couples and to discuss risk reduction strategies for people in high-risk sexual relationships. The curriculum features information on HIV counseling and testing and the importance of knowing one's status.

Data collected in Ethiopia, Mozambique, and Nigeria, 18 months into the project, registered both a decrease in the percentage of youth who had ever engaged in sexual activity and an increase in the percentage of youth who knew that limiting or reducing their number of partners reduced their risk of HIV.

SYNTHESIS OF DAY 1: TAKE-HOME MESSAGES

The following comments were made by Norman Hearst, University of California-San Francisco (UCSF), and Jim Shelton, USAID, who were tasked at the beginning of the meeting with synthesizing major findings from the first day of the meeting.

COMMENTS BY NORMAN HEARST, UCSF

"Martina Morris got us off to a great start by presenting the compelling theoretical basis for why MCP is so important.

On one level, it should be a no-brainer that transmission of STIs, like HIV, depends on how many partners people have and their timing. Yet it is amazing how often our prevention efforts have ignored this fact. Fortunately, this seems to be changing.

Martina also pointed out some less obvious points that ended up being recurring themes, particularly the difference between individual-level risks versus population-level risk. One example is that having multiple and concurrent partners may be more a risk for infecting others than for getting infected oneself. Another is that getting a relatively small number of people to change what they are doing can potentially have a huge population impact.

This was followed by a series of presentations on how to measure MCP, both as it should be done ideally and how it has been measured by the DHS, and how qualitative methods may give us very different findings than survey data, in addition to giving us a deeper understanding of these behaviors.

The presentations and discussions raised many questions that could not be fully resolved. For example, as we just heard again, at least by DHS data, the correlation between MCP and seroprevalence by country is much less compelling than might be expected. Second, it is sometimes hard to reconcile rather low rates of MCP in many quantitative surveys with qualitative data, suggesting it's much more common.

So what are we to believe? I don't have the answer, but I can make a couple of observations.

One, don't expect more out of the DHS than it can deliver. Remember that the sexual behavior questions are an add-on to a survey designed for other purposes. So make the most we can of the DHS data, especially for measuring trends, while being aware of data limitations.

Two, don't fool yourself into thinking you can get quantitative data from qualitative methods. Wherever I go in the world, the qualitative data suggest high levels of risky behavior. Maybe this is right in southern Africa; I don't know. But I have heard the same in

China and Latin America, where the data on the epidemics just don't back it up. Anyway, this suggests that we need more and better qualitative and quantitative research; maybe this will result in more convergence.

Finally, we have to realize that the data on what is driving the HIV epidemics in different countries will never be conclusive. More important may be the accumulating data from Africa that population-wide changes in HIV infection rates result from reducing numbers of partners. Data show that countrywide reductions in the number of partners predict subsequent reductions in HIV; examples include the Uganda Zero Grazing experience, followed by more recent experience in Kenya, Zimbabwe, and elsewhere. Partner reduction tracks to changes in HIV incidence much better than, for example, condom use rates. So if you want to throw out partner reduction for lack of evidence, you better be ready to throw out condoms, too.

In the afternoon, we moved on to more specific examples of programs to reduce MCP. We were reminded of the historical example of the Uganda Zero Grazing program that is now being rediscovered under the moniker of MCP. We were shown a more recent example of a national program in Swaziland focusing on MCP. We saw a program in South Africa that combined addressing MCP with condom promotion. We were shown examples of PSI programs incorporating MCP messages into ongoing prevention efforts in Botswana and Mozambique. I am not going to summarize all of these except to say that they show that MCP can be addressed when people decide to do so.

A problem we still have, though, is that most of these efforts are recent. We still have very little impact data from which to judge which approaches are most effective.

Contrast this with the hundreds of research studies in peer-reviewed journals (some of which I have written myself) that have examined what works to get people to use condoms. We have a lot of catching up to do with MCP, and we need to take every opportunity to collect rigorous process and impact data.

Finally, we were presented with two examples of programs to reduce MCP through faith-based communities, and I think we all have a lot to learn from them. The discussion here then went back full circle to the question of stigma. Can we tackle behaviors that put individuals and their partners at risk without stigmatizing individuals? Personally, I think we have to, since the alternative of ignoring this key determinant of the epidemic is unacceptable."

COMMENTS BY JIM SHELTON, USAID

"The information we have on MCP is largely based on modeling. But we also have other types of epidemiological evidence that indicates that concurrent sexual partnerships help explain what is driving hyperepidemics.

We do need to address MCP. And MCP is a generalized phenomenon occurring among heterosexual adults. In public health, we always want to hone in on specific target populations, but sometimes we need to do something broader.

However, programs to address MCP will not be a 'magic bullet.' We will need to do other things. For example, we will need to do more work with men who have sex with men. We will need multifaceted programming that still manages to focus on MCP.

The good news is, it may not be that difficult.

Frequency of sex is an underlying issue. Because the probability of infection from any one sex act is not great, people with multiple and concurrent partnerships may be at greater risk simply because they are having more sex. Both men and women have a lot of agency or personal discretion to act as they choose. This is good news from the point of view of behavior change. Multiple *and* concurrent partners are important; even sporadic serial multiple sex increases risk of HIV.

Currently, we do not have hard evidence that we can change behavior with regard to multiple partners or incidence. Yet we do have best practices from other areas of behavior change (smoking, breastfeeding, and female genital mutilation), and application of principles is pretty straightforward. Lots of people have already changed their behavior.

Finally, there are examples of addressing MCP directly, but they are usually buried within other behavior change messaging. We can get to scale through mass media, community-level social capital, and interpersonal communications efforts. We can evaluate programs and measure concurrency before and after program activities, and we can also engage in straightforward behavior change communication."

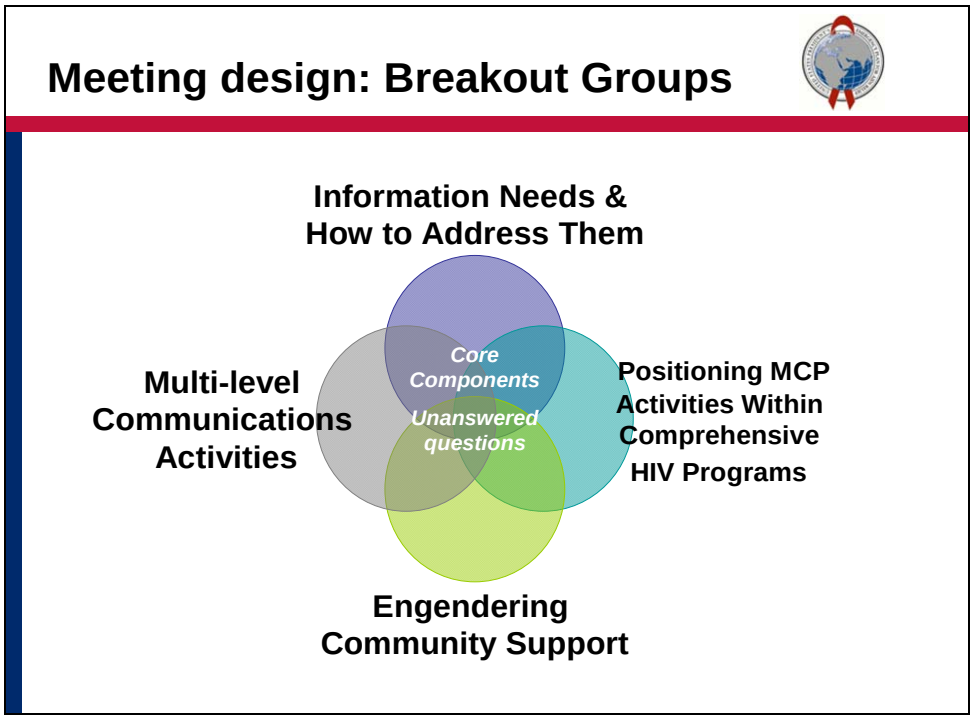
DESIGNING PREVENTION PROGRAMS TO ADDRESS MCP IN GENERALIZED HIV EPIDEMICS

Because addressing MCP requires innovation and there is currently limited program experience, the meeting was designed to elicit "answers" on how best to move forward. For this reason, the meeting included a mixed group of academic experts and technical specialists from the United States government and implementing organizations, speaking from their different perspectives. As such, skills-building sessions on day 2 were designed to create the opportunity for participants—who are experienced and knowledgeable about designing, implementing, monitoring, and evaluating prevention programs—to apply what they know to address multiple and concurrent sexual partnerships. The session was designed to find initial answers to these questions: (1) what are the core components of programs to address MCP? and (2) what questions remain unanswered in designing, implementing, and monitoring and evaluating MCP programs?

SKILLS-BUILDING SESSION

In four working groups, participants were asked to consider key technical components of programs to address MCP, as follows: information needs and how to fulfill them; engendering community support; multilevel communications activities; and positioning MCP activities within comprehensive prevention programs.

Figure 7: Key Technical Components of Programs to Address MCP



Source: Stash, S. "Designing Prevention Programs to Address Multiple and Concurrent Partnerships (MCP) in Generalized HIV Epidemics," John Snow, Inc., Washington, DC, Population Services International, Southern Africa, presented at "Addressing Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics," Washington, DC, October 29–30, 2008. Available at http://www.aidstar-one.com/.

MAJOR CONCLUSIONS FROM THE SKILLS-BUILDING SESSION

The major conclusions from the skills-building session are presented in Tables 2 and 3.

Table 2: Designing Approaches to Address MCP: Core Programmatic Components

Information Needs	Engendering Community Support	Multilevel Communications Activities	Positioning MCP Activities within Comprehensive Prevention Programs
Core Programmatic Components. What are the core components of programming to address MCP?			
• Conduct at least one carefully controlled, well-funded study to measure the effect of MCP on HIV incidence (three- to four-year study). • Determine what the central message on concurrency risk perception should be, i.e., is it "fewer partners" or "be safe with the partners you have"? • Develop/promote the use of standardized population-level outcome measures for MCP, to evaluate programs. • Address the lack of program-level measures (routinely collected) to track progress. There are no measures of MCP program activity that are analogous to number of bed nets, condoms, or test kits distributed. • Monitor, evaluate, and share best practices.	• Define "community", e.g., interdependent networks of people with shared values. • Ensure activities are culturally sensitive and well-tuned to the social context through formative research and participatory listening. • Engage communities and emphasize positive behaviors. Ask local people to be part of developing programs. • Involve PLWH throughout the program. • Don't stigmatize or place judgment. Messages should focus on the behaviors that put people at risk, NOT on (groups of) individuals. • Acknowledge gender issues and the complex power dynamics between men and women.	• Design messages that directly address MCP, e.g., "even two is too many." • Know your epidemic through qualitative and quantitative evidence. • Place the audience at the center of the program design. • Know your target audience, cultural context, and networks that drive the pandemic. • Know what behaviors increase or protect people against risk and ground messages in key drivers. • Know your communications environment and the ways in which people receive information (social networks, advocacy, mass media). • Coordinate messages at a national level; agree on a common framework for consistency. • Build capacity at all levels in mass media, interpersonal communications, and advocacy.	• Employ a targeted and segmented approach that addresses the needs of different populations. • Increase awareness first and then address risk reduction by promoting a continuum of behavior change. • Revisit and revise the national strategic plans to include addressing MCP. • Link the communications program to counseling and testing. • Discuss risk reduction and social network risk in antenatal clinics, STI clinics, treatment for tuberculosis or malaria, family planning visits, and pharmacies. • Integrate communications activities (messages on partner testing and personal responsibility, information on risk networks) into programs for PLWH, treatment services, and post-test clubs. • Integrate MCP messages in male circumcision activities to make it clear that circumcision doesn't remove all risks.

Table 3: Designing Approaches to MCP: Key Concerns and Unanswered Questions

Key Concerns and Unanswered Questions. What issues are unresolved in designing, implementing, and monitoring and evaluating a multicomponent MCP program?

Information Needs	Engendering Community Support	Multilevel Communications Activities	Positioning MCP Activities within Comprehensive Prevention Programs
• Evidence is needed on how MCP affects HIV incidence. • What percentage change in MCP is needed to reduce incidence? • Operations research designs and protocols are needed to obtain information on MCP programs. • Better methods for measuring program outputs are needed that can be standardized for use across programs • Are differences in reported MCP between the sexes real? Or do they result from differences in the accuracy of self-reports by men and women?	• Donors need to be flexible, understand the environment, and engage smaller community organizations that are closer to the community. • Programs must learn to bring faith leaders on board and address moral issues. • Relevant process indicators to assess community engagement must be identified.	• More financial resources are required to scale up activities and promote sustainability. • Messages need to change periodically to stay resonant.	• Strategies are needed to promote strong leadership at all levels and increase participation by various community groups. • Capacity building is needed to scale up MCP activities through integration with existing HIV activities.

OPPORTUNITIES FOR MCP PROGRAMMING

In this final session of the meeting, opportunities for MCP programming were discussed from the field perspective by Mercy Muthui, CDC/Kenya; Cherry Gumapas, USAID/Mozambique; and Canon Rev. Desmond Lambrechts, Anglican Church of Southern Africa. Barbara de Zalduondo offered a perspective on prevention program implementation from her work with UNAIDS.

Collective approaches will be fundamental to addressing MCP. The panelists stressed the need for a unified approach among donors, involving government leadership in an effort to coordinate funding streams and program content.

The panel urged meeting participants to address MCP within the context of broader prevention programming. There is broad recognition that the epidemic is diverse and that countries need to assess what is happening at the national and subnational levels. This requires information about segments of the population, but must be done in a way that does not create divisions.

New messages on MCP will need to be considered within the context of the full range of prevention messages, taking into consideration what information can reasonably be conveyed to people. MCP messaging can be enhanced through integration with other services, such as counseling and testing, male circumcision, and STI screening and treatment. It will also be important to include MCP messaging into a range of prevention activities engaging PLWH.

MCP messages will need to be developed carefully, based on sound research. They will need to be holistic and nonjudgmental. Promising approaches to MCP programming include addressing cultural norms among young people, prevention messages for adults that build on people's desires to keep themselves and their families safe, and efforts to strengthen leadership to address the cultural content of MCP programs, for example, among peers and PLWH.

As in other areas of prevention programs, there are several potential barriers to implementation. In prevention programs to address MCP, are the gaps technical, political, or capacity related? We can anticipate technical challenges, such as situations where we do not know what to do, or where data are lacking. Political leadership will also be required and will be achieved through partnership and advocacy. Investment will need to be made in capacity development.

Finally, our challenge will be to do the right things, do the right things correctly and on the right scale, and ensure all this work is based on good research and data. Issues of quality will be an important part of the discussion.

CONCLUSIONS AND RECOMMENDATIONS

Based on the presentations and discussions at the meeting, several conclusions and recommendations are presented below.

THE RELATIONSHIP BETWEEN MCP AND HIV TRANSMISSION

Mathematical models provide strong support for a relationship between concurrent sexual partnerships and HIV, but additional empirical evidence is needed to establish a causal relationship. Models suggest that small reductions in the prevalence of concurrency could have a large impact on reducing HIV transmission. Experts at the meeting called for at least one carefully controlled study to measure the effects of program activities to reduce MCP on HIV incidence. Additional research is warranted to determine the magnitude of change in concurrency that is needed to reduce incidence at a population level.

Current population-based surveys have a limited ability to explain the relationship between MCP and HIV because many do not include appropriate measures. Concurrent sexual partnerships can be measured in surveys through a short series of questions, but many surveys to date have not incorporated these measures. Until better data become available, researchers and practitioners must be aware of the limitations of population-based survey data in measuring concurrency. In particular, caution should be used when correlating HIV prevalence—or HIV cases that have accumulated in a population over a long period of time—and MCP, which is often captured only at the time of the survey. An assessment of HIV incidence and its relationship to MCP has yet to be performed. A clear operational definition of MCP is needed as the basis for standardized measures that can be used to accurately assess the prevalence of MCP and evaluate the impact of program interventions to reduce MCP.

CORE COMPONENTS OF MCP PROGRAMS

Given low awareness of the risks associated with concurrent sexual partnerships, programs can begin by working to increase people's perception of these risks. Programs have for many years developed "partner reduction" messages aimed at discouraging people from having multiple sexual partners, though these messages may not have been as widespread as necessary. In many places, people are aware that having multiple partners increases their risk of HIV. However, people are less aware of the risks associated with having two or three long-term concurrent partners. Programs can start with a focus on increasing people's perceptions that concurrent sexual partnerships increase their risk of HIV by, for example, communicating that "even two is too many." Early program experience suggests that it is possible to convey the risks associated with concurrent sexual partnerships.

Programmatic experience suggests that framing a "call to action" around concurrency can be challenging, and that communities need to be involved in framing these messages. Program experiences to date raise an important question: What is the call to action for MCP campaigns? Programs will need to address the complicated social and cultural drivers of MCP to be effective, including transactional and intergenerational sex, knowledge of one's partner's status, and trust within longstanding relationships and its implications for condom use. There may not be one universal call to action; communities should be supported to frame their own calls to action in ways that reflect their local context, epidemic, and drivers.

MCP programs should feature multilevel communication campaigns that encourage people to adopt safer sexual behaviors and that are tailored to the specific needs and circumstances of groups at risk. Programs will need to employ multiple communication channels, from mass media to community-level interventions and interpersonal communication (including in clinical settings) to achieve scale-up. These efforts should all be based on sound formative research and the local social and cultural context and incorporate mutually reinforcing messages. To sustain communication efforts over time, programs should work to build the capacity of local organizations to produce more effective behavior change communication strategies and to mobilize resources.

Programs should integrate MCP messages as one element of a comprehensive approach to prevention. Programs need to build and maintain effective systems to link people to other vital HIV interventions. Special attention should be given to promoting fidelity within a context where partners know each other's HIV status, and where couples HIV counseling is accessible. Links to condom programming are important for discordant couples, people living with HIV, and individuals who continue to engage in high-risk behavior. Prevention programs must continue to address other risks relevant to the epidemic, and include male circumcision services and programs for most-at-risk populations (MARPs).

ENGENDERING COMMUNITY SUPPORT FOR MCP ACTIVITIES

Coordination—at all levels of the response—is essential to bring programs to scale and to use limited resources for maximum effect. National programs may need to expand their strategies and integrate MCP-related prevention activities into their existing health program priorities. Health sector personnel at all levels will need to coordinate integration of MCP behavior change within a full range of health and HIV activities, such as counseling and testing, prevention of mother-to-child transmission (PMTCT), care and treatment programs for people living with HIV, and male circumcision. MCP messaging—from the national program to facilities and communities—should be mutually reinforcing.

Programs need to listen and learn from local communities and identify audience-centered solutions. Prevention messages must be nonjudgmental and non-stigmatizing. Because singling out groups (or individuals) can be stigmatizing, programs can instead target the behaviors that put people at risk of HIV. In every community, some people manage to avoid MCP-related risks, and programs can build on these examples of positive behaviors to encourage people to adopt safer sexual practices. The involvement of affected communities throughout program planning and implementation stages helps to develop strong approaches. Programs should also work to build the capacity of communities and support them with the tools to initiate this type of dialogue.

MEASURING PROGRAM OUTCOMES

Program planners and managers should employ data to guide program and message development. Given the diversity of epidemic contexts, countries need to know their epidemics and modes of transmission, identify their target audiences, and understand the different patterns of sexual partnerships. In each context, programs need to understand the reasons why people engage in MCP and the factors that contribute to this type of sexual behavior (e.g., low risk perception, denial, alcohol, and gender and social norms). Ethnographic and other qualitative assessments provide essential information for designing effective prevention activities and complement epidemiological data.

Programs need improved methods to monitor MCP activities. Since program experience in addressing MCP is recent, there are few programmatic or evaluation data on which to judge effective approaches. Every opportunity should be taken by programs to collect rigorous data on the effectiveness of these programs in changing behavior and, when feasible, on the impact on HIV incidence. Routine measures to monitor population-level outcomes as well as specific MCP-related program activities would enable better program monitoring. For example, there are no standard metrics for measuring MCP program outputs that are analogous to those commonly used in other program areas, such as the number of bed nets distributed as a common output measure for malaria programs. Finally, it is essential that the HIV community continue to develop an evidence base and establish promising practices for MCP programs.

APPENDIX A: AGENDA

Addressing Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics

PEPFAR General Population and Youth HIV Prevention
Technical Working Group and AIDSTAR-One
October 29–30, 2008

Objectives:

1. Deepen the understanding of the role of multiple and concurrent sexual partners in the spread of HIV
2. Share emerging programmatic approaches and build consensus on promising programmatic strategies to address and mitigate multiple and concurrent partnerships

Day 1: Opening

8:30–9:00	**Registration, Coffee, Networking**
9:00–9:10	**Welcome, Meeting Objectives, Overview of Agenda –** TWG Cochairs: Pamela Bachanas, Shanti Conly, and Marissa Bohrer
9:10–9:20	**Opening Remarks –** Dr. Caroline Ryan, Director, Program Services, OGAC

Keynote: Sexual Networks and the Spread of HIV
Moderator**:** Dr. Caroline Ryan, Director, Program Services, OGAC

9:20–9:50	**Overview: The Relationship between Concurrent Partnerships and HIV Transmission –** Martina Morris, University of Washington
9:50–10:15	**Q&A and Discussion**
10:15–10:30	**Coffee Break**

Panel I. Measuring Concurrent Sexual Partnerships
Moderator and Discussant**:** Linda Wright-Deaguero, CDC

10:30–10:45	**Quantitative Approaches to Measuring Concurrency –** Sara Nelson, University of Washington
10:45–11:00	**What Do the Demographic and Health Surveys Tell Us about Multiple Partners and Concurrency? –** Vinod Mishra, Macro International

11:00–11:30 **Discussant Comments; Q&A and Discussion**

Panel II. Socioeconomic and Cultural Drivers of Multiple and Concurrent Partnerships
Moderator**:** Carol Larivee, Academy for Educational Development (AED)

11:30–11:45 **Multiple and Concurrent Partnering in Southern Africa: The Ethnographic Perspective –** Suzanne Leclerc-Madlala, University of KwaZulu-Natal

11:45–12:00 **Formative Assessment for a Regional Campaign to Address Multiple and Concurrent Partners –** Harriet Perlman, Soul City

12:00–12:30 **Q&A and Discussion**

12:30–1:30 **Lunch**

Panel III. Programmatic Interventions to Address Multiple and Concurrent Partnerships
Moderator**:** Pam Bachanas, CDC

1:30–1:45 **Responding to the HIV and AIDS Pandemic: Lessons from Uganda –** Noerine Kaleeba, Founder of TASO Uganda

1:45–2:00 **A National HIV and AIDS Campaign to Reduce Concurrent Partnerships in Swaziland –** Faith Dlamini, National Emergency Response Council on HIV/AIDS (NERCHA)

2:00–2:15 **A Multilevel Communications Program to Address Concurrency in South Africa –** Richard Delate, JHHESA

2:15–2:30 **Mainstreaming Efforts to Reduce Concurrent Sexual Partnerships within Ongoing HIV Prevention Programs –** Doug Call, PSI

2:30–3:00 **Q&A and Discussion**

3:00–3:15 **Coffee Break**

Panel IV. Mobilizing Faith Communities to Address Multiple and Concurrent Partnerships
Moderator**:** Shepard Smith, Institute for Youth Development

3:15–3:30 **Promoting Mutual Monogamy Through Churches in Eastern Cape, South Africa –** Nathi Sohaba, Population Council

3:30–3:45 **Multiple and Concurrent Sex Partnerships Among Youth: Food for the Hungry's Curriculum –** Kim Buttonow, Food for the Hungry

3:45–4:00 **Q&A and Discussion**

Day 1: Wrap-Up
Moderator**:** Shanti Conly, USAID

4:00–4:45 **Discussion**

- What appear to be the **essential elements of programs** to address multiple and concurrent sexual partnerships?
- What are the **lessons learned** from emerging programs to date?
- As HIV and AIDS prevention specialists, **what can we do** to address this gap in our current programs?

4:45–5:00 **Synthesis and Key Take-Home Messages: Day 1 –** Norman Hearst, UCSF, and Jim Shelton, USAID

5:00–5:15 **Introduction to Day 2 Skills-Building –** Sharon Stash, John Snow, Inc. (JSI)/AIDSTAR-One

5:15 **Day 1 Closing**

Addressing Multiple and Concurrent Sexual Partnerships in Generalized HIV Epidemics

PEPFAR Technical Working Group for General Population
and Youth Prevention and AIDSTAR-One
October 29–30, 2008

Interactive Session: Designing Prevention Programs to Address Multiple and Concurrent Partnerships (MCP) in Generalized HIV Epidemics

Objectives: Participants leave the meeting with an improved knowledge of:

- What to do and how to do it: What are the core components of programming to address MCP?
- Unanswered questions: What are the unresolved issues in terms of designing, implementing, and monitoring and evaluating a multicomponent MCP program?

Day 2: Opening

8:00–8:30 **Coffee**

8:30–9:00 **Welcome and Overview of the Interactive Session –** Sharon Stash, Prevention Advisor, JSI/AIDSTAR-One

Breakout Sessions: Core Components of MCP programs
Resource person: Andrew Fullem, Director of JSI and World Education's Center for HIV and AIDS

9:00–11:00 **Session 1: Information Needs –**
Facilitators**:** Lorie Broomhall, AIDSTAR-One/Social and Scientific Systems (SSS), and Jane Bertrand, Johns Hopkins University/Center for Communication Programs (JHU/CCP) and SEARCH Prevention
Resource people**:** Stephane Helleringer, University of Pennsylvania; Martina Morris, University of Washington; Sara Nelson, University of Washington; Susan Watkins, University of California-Los Angeles (UCLA)

Session 2: Engendering Community Support –
Facilitator**:** Michele Clark, JSI/AIDSTAR-One
Resource people**:** Kim Buttonow, Food for the Hungry; Faith Dlamini, NERCHA Swaziland; Noerine Kaleeba, founder of TASO Uganda; Suzanne Leclerc-Madlala, University of KwaZulu-Natal

Session 3: Multilevel Communications Activities –
Facilitator**:** LaHoma Romocki, JSI/AIDSTAR-One
Resource people**:** Richard Delate, JHHESA/JHU, Soul City; Helen Epstein, Consultant; Carol Larivee, C-Change/AED; Harriet Perlman, Soul City

Session 4: Positioning MCP Activities within Comprehensive Prevention Programs –

Facilitator**:** Sharon Stash and Deborah Roseman, JSI/AIDSTAR-One
Resource people**:** Pam Bachanas, CDC; Patrick Coleman, JHHESA/JHU; Hope Hempstone, PSI; Elizabeth Marum, CDC

11:00–11:30 **Break**

Synthesis Session: Key Findings from Day 2

11:30–12:30 **Essential Program Elements: Report-out and Synthesis of Breakout Group Findings –** Andrew Fullem, Director of JSI and World Education's Center for HIV and AIDS

Q&A and Discussion

Next Steps and Closing

12:30–12:55 **Opportunities for MCP Programming –** Barbara de Zalduondo, UNAIDS; Cherry Gumapas, USAID, Mozambique; Canon Rev. Desmond Lambrechts, Anglican Church of Southern Africa; Mercy Muthui, CDC, Kenya

12:55–1:00 **Closing** - Pam Bachanas, CDC, Cochair, Technical Working Group for General Population and Youth Prevention

1:00–2:00 **Lunch**

APPENDIX B: ADDITIONAL RESOURCES

The following summaries represent a partial list of recent key resources addressing multiple and concurrent sexual partnerships. The summaries were drafted by AIDSTAR-One. Additional resources are summarized and posted online at www.aidstar-one.com.

Halperin, D. T., and H. Epstein. "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.

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 at 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* 22 (Supplement 4) (2008): S17-25.

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, 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 the means to achieve financial independence, empowering them to protect their sexual health and fostering male norms that discourage exploitative relationships.

Mah, T., and D. T. Halperin. "Concurrent Sexual Partnerships and the HIV Epidemic in Africa: Evidence to Move Forward." *AIDS and Behavior* (2008); DOI 10.1007/s10461-008-9433-x. Available through www.springerlink.com.

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., S. Goodreau, J. Moody. "Sexual Networks, Concurrency, and STD/HIV." In *Sexually Transmitted Diseases*, 4th ed., ed. K. K. Holmes, P. F. Sparling, W. E. Stamm, P. Piot, J. N. Wasserheit, L. Corey, et al., chapter 7. New York: McGraw-Hill, 2007.

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 who can drive concentrated epidemics of STI/HIV. The core group does not explain generalized epidemics, however, and the key issue is connectivity. Connections seem to be governed by behavioral rules of selective mixing (e.g., whether one chooses a partner like or unlike oneself in terms of age, race/ethnicity), 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 groups (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, S. J., L. E. Manhart, P. M. Gorbach, D. H. Martin, B. P. Stoner, S. O. Aral, and K. K. Holmes. "Measuring Sex Partner Concurrency: It's What's Missing That Counts." In *Sexually Transmitted Diseases*, 4th ed., ed. K. K. Holmes, P. F. Sparling, W. E. Stamm, P. Piot, J. N. Wasserheit, L. Corey, et al. 34: 801-07. New York: McGraw-Hill, 2007.

Summary: Concurrency data collected from young adult STI clinic attendees in three U.S. cities reveal considerable discrepancy between two measures on a computer-administered survey. Although the concurrency rates were similar in response to a direct question about concurrent partners (56 percent), and to a calendar method to identify partnership overlap (54 percent), nearly one-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 percent 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., D. T. Halperin, et al. "Reassessing HIV Prevention." *Science* 320 (2008): 749-50.

Summary: Recent DHS data 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 setbacks 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 percent) paired with behavioral interventions, particularly targeting reduction in sex partners.

APPENDIX C: Participant List

Name, Agency, Country:

Alicia Carbaugh, Kaiser Family Foundation, USA

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Barbara de Zalduondo, UNAIDS, Switzerland

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