

# FOCUS

A Guide to **AIDS** Research and Counseling  
Volume 14 Number 7 June 1999

## Risk, HIV, and STD Prevention

Paul Gibson, MS, MPH, Mike Pendo, MPH,  
and Dan Wohlfeiler, MJ, MPH

The connections between HIV and other sexually transmitted diseases (STDs) are important both for HIV prevention and STD prevention, especially since STD infection increases the likelihood of HIV transmission by two to six times.<sup>1</sup> One way of uncovering these relationships is to look at the way “risk” is conceptualized and how this conception affects the way people perceive HIV and other STDs.

“Risk,” one of the most commonly used terms in HIV and STD prevention, is loaded with multiple meanings. When these different meanings are mixed in the context of HIV prevention, subtle but important miscommunication can impede the adoption of safer behaviors. However, when risk is broken down into its components—the risk of exposure to an infectious agent, the risk of infection after exposure, and the risk of severe consequences after infection—it becomes easier to see how this concept can be used to educate clients about HIV and other STDs and to encourage safer behaviors.

### Behavioral Science and the Concept of Risk

Human behavior is complex, and it is extremely difficult to get individuals to voluntarily adopt precisely prescribed behaviors determined by someone else. Extensive research has demonstrated that several factors are strongly associated with successful behavior change, including awareness of the health threat, costs and benefits of change, availability of social support, environmental or structural forces, and perceptions of susceptibility, severity, and self-efficacy.<sup>2</sup> While no single factor has been shown to consis-

tently cause behavior change, most models either explicitly or implicitly acknowledge the importance of “perceived susceptibility” as a motivator or as a precursor to “problem recognition” of current unsafe behavior.<sup>3</sup> For instance, the Health Belief Model, probably the most widely researched and applied conceptual framework for the adoption of preventive behaviors, emphasizes “perceived susceptibility” and “perceived severity” as central factors influencing the adoption of health-related behavior.<sup>2</sup> Similarly, the AIDS Risk Reduction Model includes “perceived personal susceptibility” and “perceived undesirability” as components of a process of “problem perception.”<sup>4</sup> While neither of these models uses the term “risk,” this concept is at the heart of perceived susceptibility and severity. Some researchers using the Stages of Change Model have explicitly acknowledged the importance of “perceived AIDS risk” as a major influence in the process of moving through early stages toward the adoption of safer behaviors.<sup>5</sup>

For some people, “threat” embodies aspects of both susceptibility and severity, and may be closely linked to fear, a subjective response to the personal, emotional, social, and economic consequences of having a disease. While a moderate level of fear may help motivate a desire for or commitment to safer behaviors, high levels of anxiety may impede adoption of safer behaviors.<sup>4</sup> Fear may increase denial and lead a person to overestimate his or her chances for infection, especially when chances for infection are not distinguished from consequences of infection.

On the other hand, according to Neil Weinstein, people often underestimate their susceptibility to disease (unrealistic optimism), especially when comparing their own chances with that of their peers, and when the “risk” seems distant to

# Editorial: The Other STD

Robert Marks, Editor

Since the beginning of the epidemic, HIV disease has stood alone among sexually transmitted diseases: it's always been "HIV" only or "HIV and other STDs." There are plenty of good reasons why HIV disease has evolved as a condition separate from all others. AIDS was new, undefined, untreatable, and deadly; in the first year or so, it wasn't even clear that it was caused by a virus or that it was sexually transmitted.

Now, a mere 18 years later, HIV disease remains deadly and confusing, and behavior change to prevent transmission remains difficult. But there are major differences from those early days: today there is a generation of people for whom HIV has always existed, life expectancy for people with HIV continues to lengthen, and antiviral treatments promise, if not cure, at least management and the possibility of control. More and more, public health providers have

called for an end to "exceptionalism," narrowing the distinction between HIV disease and other conditions, in particular, other sexually transmitted diseases. Some even suggest that antibody test sites be used to screen for other STDs and for hepatitis C.

This issue of *FOCUS* looks at HIV in the context of other STDs and explores the concept of risk, the factor that today seems most to explain why HIV remains aloof from its brother and sister infections. Paul Gibson, Mike Pendo, and Dan Wohlfeiler suggest that HIV is separate because the perception of its risk is the greatest. They go on to deconstruct "risk" into three components—probability of exposure, probability of infection, and severity of consequences—concluding that people do not take into account or give equal weight to each of these aspects and that a person's bias about which aspect is most compelling will determine the most effec-

tive HIV and STD prevention intervention for that individual. Gibson, Pendo, and Wohlfeiler also explain that other STDs, which are much more common than HIV and much easier to transmit, may also have severe consequences, not the least of which is to increase susceptibility to HIV by two to six times.

Watching the epidemic unfold, I have always felt cautious about endorsing an end to exceptionalism (which has been advocated in one way or another since the early days). HIV disease remains much more complicated in its manifestations, consequences, and treatment than most other diseases, including other STDs. Yet, it is clear from Gibson, Pendo, and Wohlfeiler that there may be benefits for both STD prevention and HIV prevention in blending the two more than they have been in the past—that talking about both will bolster motivation for safer sex and protect against each. In any case, applying Gibson, Pendo, and Wohlfeiler's conception of risk—even in the context of HIV alone—should result in more effective prevention interventions.

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them.<sup>6</sup> Thus, the perception of threat or susceptibility and severity can vary considerably from person to person, and may or may not generally reflect the "chance or probability of infection" (as "risk" is defined through epidemiological statistics).

For these reasons, it is important for providers to help clients determine what they mean by risk and how their definitions of risk affect their desires or willingness to change behavior. From this perspective, it makes sense to define risk in terms of three aspects: the chances for disease exposure, the chances for infection actually occurring, and the subsequent consequences of infection. Surveying the range of STDs, including HIV, helps to understand how these aspects of risk vary for a particular disease and compare across diseases. There are eight common STDs including HIV, each caused by a different pathogen, and each with a different prevalence, level of infectivity, course of disease, and complications and consequences. Unfortunately,

many counselors and educators tend to group non-HIV STDs into a general category of "other," which usually leads to a false dichotomy comparing risk only between HIV and other STDs.

## Probability of Exposure

The probability of meeting a potential partner who is infected with an STD is directly related to the number of people infected with that STD in a given population. Based on the latest official estimates, the four most common STDs in the United States are genital herpes simplex virus (HSV), the human papilloma viruses (HPV), trichomoniasis, and chlamydia. The total number of people infected with these four STDs approaches 80 million, in contrast to the 900,000 people estimated to be infected with HIV.<sup>1</sup>

The chance of meeting a person with HSV in the United States is quite high: about one of every four adult Americans is infected with genital herpes (about 80 percent with oral herpes). On the other hand, the chance

**For HIV-negative clients, expanding the discussion about perceived susceptibility to include other STDs may provide a broader context to view potentially harmful outcomes of unsafe sex.**

of meeting a person with syphilis is quite low. Certain populations in specific geographical areas have a higher or lower numbers of people infected with different STDs. For example, syphilis is currently found in only one percent of the counties in the United States, primarily in the southeast. At the local level, the chances of meeting a person infected with HIV or any specific STD can depend on situational factors and upon a person's sexual or drug-using social network. San Francisco has an extremely high concentration of HIV infection among men who have sex with men, while Albuquerque has a much lower prevalence of HIV in the comparable population. These data suggest that in terms of exposure, the risk of HIV is relatively low in the general population, higher in certain areas and subpopulations, but much lower than the chances

of exposure to most other STDs. In HIV epicenters such as San Francisco, the chances for meeting potential sex partners with HIV, HSV, or HPV are all probably high.

#### **Probability of Infection**

If a potential sex partner has an STD, the probability of becoming infected is related to three major factors. First is the relative transmissibility of the STD organisms from the infected partner, which varies in terms of the specific organism and stage of disease (for example, open HSV sores or increased viral load of people newly infected with HIV); the type of sex (anal, vaginal, or oral); and the specific role during sex (insertive or receptive). Second is the frequency of sexual exposures with infected partners. Third is the uninfected partner's susceptibility or resistance to infection, which varies by genetic factors, anatomical factors, exposure to blood, breaks in or inflammation of skin or membranes, and other factors such as age.<sup>7</sup>

Most of these factors vary greatly from person to person. Some people engage mainly in one type of sex, while others may practice oral, anal, and vaginal sex with one or more partners. Some people are always the insertive or receptive partner, while others may switch roles. The possibilities are enormous, and while an actual probability cannot be quantified for

a specific individual, discussing behavioral factors with a client can enhance an understanding of individual risks and risk reduction options.

Over the last three decades, through extensive clinical studies and everyday clinical experience, researchers and medical practitioners have developed a virtual library of information about the relative ease with which specific STD organisms are passed during sex. This data has resulted in generally accepted conclusions regarding the relative transmissibility of STDs.

In general, HSV, HPV, trichomoniasis, gonorrhea, and chlamydia are the most highly transmissible STDs, although this may depend somewhat on the occurrence of symptoms and the type of sexual activity. In addition, most STDs are significantly more sexually transmissible than is HIV. In the presence of blisters or sores, both HSV and syphilis are relatively easy to transmit through all forms of oral sex, that is, fellatio, cunnilingus, and anilingus. Furthermore, most STDs (except HBV and HIV) are transmitted by contact with the disease organisms and do not need blood or sexual fluids for transmission to occur.

#### **Relative Consequences of STD Infections**

The consequences of infection with HIV and other STDs range from extremely severe to relatively benign. However, perception of consequences is subjective. The conventional view is that curable bacterial or protozoan STDs are less severe than incurable, life-long, viral infections. However, the fact that chlamydia, gonorrhea, HSV, syphilis, and trichomoniasis all increase chances of HIV infection by two to six times must be taken into account when considering severity.

HIV disease, with its high fatality rate and extreme effect on physical and mental health, clearly deserves its rank as the STD with the most severe consequences. For some people, the threat of these consequences far outweighs the relatively low chance of infection in terms of motivating safer behaviors. Yet, counselors often unintentionally downplay or fail to address the severe consequences of many other STDs, missing the opportunity to uncover additional motivations for safer behaviors. This may be particularly true for women who suffer the brunt of severe STD consequences including ectopic pregnancy and cancer.

Among the other STDs with the most severe consequences are HPV, chlamydia, and gonorrhea. HPV has a high association with cervical and anal cancer. Chlamydia and gonorrhea may lead to sterility, infertility, and ectopic pregnancy (the leading

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cause of first trimester death among African American women). While these two bacterial diseases can be successfully treated, many people fail to seek treatment because they are asymptomatic and unaware of the infection. HBV may lead to liver failure, syphilis may lead to stillbirth, and herpes may lead to neonatal encephalitis. Finally, although severe consequences of genital herpes infections are rare, these consequences can be significant for those unfortunate few who suffer frequent painful and unsightly outbreaks.

## Susceptibility and Consequences

It is important for clients to have a clear understanding that many STDs are more prevalent and more sexually infectious than HIV. This means that many clients who practice unsafe sexual behaviors, especially with multiple partners, are likely to encounter partners infected with one or more STDs; become infected with STDs other than HIV; increase their chances for HIV infection by two to six times if infected with an STD; and develop mild to serious complications or consequences if untreated.

For HIV-negative clients, expanding the discussion about perceived susceptibility and consequences to include STDs other than HIV may provide a broader context from which to view potentially harmful outcomes of unsafe sex. For those clients who correctly or incorrectly assess their chances of HIV infection as "low," a discussion regarding the "greater" chance for exposure to and infection by other STDs—and their sometimes severe consequences—may stimulate a reassessment of current behaviors. For HIV-positive clients, becoming infected with an STD often means exacerbated STD symptoms and increased chance for HIV transmission to others.<sup>7</sup>

The "susceptibility/severity framework"

outlined in this article facilitates discussions of HIV and other STDs together, and places HIV in a larger context of sexually transmitted infections. To approach this topic, counselors and educators may ask specific questions about susceptibility, as suggested by David Ronis.<sup>8</sup> For example: "How likely are you to meet sexual (or drug-using) partners who are HIV infected?" "If you continue your present behavior, how likely are you to be exposed to HIV?" For assessing perceived severity, a counselor might ask: "How serious would the consequences of HIV infection be for you?" "If you were infected with HIV, how likely would it be that you would suffer any of the serious consequences?" Counselors should pose separately similar pairs of questions regarding specific STDs.

Ronis also suggests that preventive behavior questions be conditionally phrased, representing both the use and lack of use of precautionary behavior. In this manner, a counselor can assess a client's belief about the effectiveness of a precautionary behavior for both HIV disease and other STDs. For example, a counselor might ask, "If you continue your present behavior, how likely are you to get infected with HIV?" "If you started using condoms (or stopped sharing needles and works), how likely are you to get infected with HIV?"

While using the omnibus term "risk" is unlikely to change, approaches like these may help clients to understand the range of "risks" from unsafe sexual behavior and to make more informed choices. To ensure this occurs, counselors and educators should learn about the probability of exposure and infection and the severity of disease for all the STDs, and call upon this information in helping clients understand the complexity of risk and the risks they take.

## Clearinghouse: STDs and HIV

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# An Overview of Sexually Transmitted Diseases

Paul Gibson, MS, MPH

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There are more than 20 diseases that can be transmitted sexually. Based on estimated numbers of people currently infected and the significance of potential adverse outcomes, eight, including HIV disease, are considered "major" sexually transmitted diseases (STDs). More than 15 million new cases of STDs occurred in the United States in 1996.<sup>1</sup> STDs increase susceptibility to HIV and can have serious consequences for adults of all ages and sexual orientations and for fetuses and newborn infants. The following is a brief summary in order of prevalence of the seven major STDs other than HIV.

## Herpes Simplex Virus Type 2

Herpes simplex virus type 2 (HSV-2) (genital herpes) is the most common STD in the United States, infecting about one of every four sexually active people (45 million adolescents and adults) with approximately one million new infections each year. While HSV-2 is treatable, there is no cure for it and it is believed to be a lifetime infection. HSV-2 is highly transmissible through penile-anal, oral-genital, and penile-vaginal sex when blisters or sores are present.

Both HSV-2 and herpes simplex virus type 1 (HSV-1; usually located on the lips) can cause periodic outbreaks of painful blisters and sores on and around the anus, in and around the vaginal area, on the penis, in the genital, thigh, and buttock region, and on the mouth. These outbreaks occur with less frequency over time. Experts now believe that most cases of genital herpes are transmitted in the

absence of sores or blisters when the virus still can be shed; this occurs because most infected persons do not take precautions against transmission unless there are symptoms. In rare cases, HSV-1 and HSV-2 can be passed during birth. Herpes sores increase susceptibility to HIV infection by three to six times.<sup>2</sup>

## Human Papilloma Viruses

Between 20 million and 50 million people in the United States are infected with one or more of the 23 types of sexually transmitted human papilloma viruses (HPV), with one million new infections annually. Until recently HPV was considered a life-long infection, however new research suggests that the immune systems of most people will *eventually* eliminate their HPV infection to become HPV-free. HPV is not commonly transmitted through oral-genital sex. Most HPV transmission occurs asymptotically, and most HPV infections are subclinical, that is, painless and invisible to the naked eye.

Only a few types of HPV actually cause visible genital warts. Although warts can be removed, the underlying HPV infection often remains and the treated individual continues to be infectious. While the long-term effects of HPV are not fully known, some types of HPV are highly associated with cervical and anal cancer (women with these types of HPV are 10 times more likely to develop cervical cancer). To monitor abnormal cell growth, any person with HPV should undergo routine Pap smears.

## Trichomoniasis

Trichomoniasis is caused by *Trichomonas vaginalis*, a protozoan transmitted to three to six million people each year. Trichomonas is highly infectious through penile-vaginal sex. When men are infected by Trichomonas, however, they are

Human immunodeficiency virus and hepatitis C virus coinfection. *European Journal of Medical Research.* 1998; 3(6): 269-277.

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## Contacts

American Social Health Association, P.O. Box 13827, Research Triangle Park, NC 13827, 919-361-8400, www.ashastd.org (website).

Centers for Disease Control and Prevention National STD Hotline, 800-227-8922.

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See also references cited in articles in this issue.

*\*Related infections— hepatitis A and hepatitis C—are also serious, but are most commonly transmitted through nonsexual means. Hepatitis A is transmitted through ingestion of fecal matter and sometimes through anilingus. Hepatitis C is transmitted through infected blood and blood products, and sometimes through anal and vaginal sex, usually at the time of acute infection. For more information about all types of hepatitis, call the American Liver Foundation Hotline at 800-465-4837.*

considered “carriers” and rarely develop symptoms or disease. Women frequently experience uncomfortable vaginal irritation/itching, vaginal discharge, and burning on urination. The most serious effect of trichomoniasis is a two- to four-fold increase in susceptibility to HIV infection.

### Chlamydia

The bacterium, *Chlamydia trachomatis* infects between three million and five million people each year, with the largest proportion of cases occurring in people under age 25. Unfortunately many cases go undetected because chlamydia frequently causes no signs or symptoms. Chlamydia is highly infectious through penile-vaginal and penile-anal sex, with the urethra, cervix, and rectum serving as the most common sites of infection. Transmission through fellatio is possible for both partners, but chlamydia is not commonly diagnosed in the throat. Chlamydia can cause serious problems for untreated women, including pelvic inflammatory disease (PID), which can lead to potentially fatal tubal (ectopic) pregnancies and infertility. Untreated men can develop epididymitis. Pregnant women can pass chlamydia to their babies, resulting in eye infections or pneumonia. Chlamydia increases susceptibility to HIV by three to five times.<sup>2</sup>

### Gonorrhea

Gonorrhea, caused by the *Neisseria gonorrhoeae* bacterium, is transmitted to nearly one million people each year in the United States. There have been significant increases in rectal gonorrhea recently reported among men who have sex with men in San Francisco, New York, and other cities, indicating an increase in unprotected anal sex between men who have sex with men.<sup>3</sup> Gonorrhea is easily passed through penile-anal and penile-vaginal sex, with the rectum, urethra, and cervix being the most common sites of infection. Gonorrhea transmission through fellatio can occur for both partners. Untreated gonorrhea can result in PID in women (and its potential ectopic pregnancy and infertility), and epididymitis in men. Gonorrhea increases susceptibility to HIV by three to five times.<sup>2</sup>

### Hepatitis B

Nearly 500,000 people in the United States are chronically infected with the hepatitis B virus (HBV), with about 200,000 new sexually transmitted cases each year, the majority of which are cleared by

immune responses. Approximately 50 percent of the new cases are sexually transmitted, and 5 percent to 10 percent become chronic, life-long infections. HBV is relatively easy to transmit through penile-anal and penile-vaginal sex. There are little data on transmission of HBV through oral sex. A vaccine for HBV is available. HBV infections are usually asymptomatic, but acute infection can be debilitating and sometimes fatal.\* Most chronic carriers eventually develop life-threatening liver failure through cirrhosis or cancer after 20 or more years of infection.<sup>2</sup>

### Syphilis

Syphilis, caused by the bacterium *Treponema pallidum*, is completely curable and preventable and is currently at a 50-year low in the United States, with about 70,000 new cases each year. Syphilis is highly infectious in its primary stage through penile-anal sex and penile-vaginal sex when there is contact with a syphilis sore (chancre) or lesion. Syphilis can be transmitted through all forms of oral sex if there is contact with a sore or lesion. Syphilis is also commonly passed from an infected pregnant mother to her fetus, often resulting in birth defects or stillbirth. Syphilis increases an infected person's susceptibility to HIV by three to five times.<sup>2</sup>

### Conclusion

The high prevalence of STDs other than HIV in the United States means that people practicing unprotected sex, especially with multiple partners, are likely to be exposed to and infected with STDs. Because many STDs increase susceptibility to HIV and can cause serious complications, it is important for HIV educators and counselors to address the risk for STD exposure, infection, and consequences.

### Comments and Submissions

We invite readers to send letters responding to articles published in *FOCUS* or dealing with current AIDS research and counseling issues. We also encourage readers to submit article proposals, including a summary of the idea and a detailed outline of the article. Send correspondence to:

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## Recent Reports

### Hepatitis C and HIV

Norton M. Evolving strategies to attack hepatitis C. *Treatment Issues*. 1998; 12(12): 1-5. (Gay Men's Health Crisis, New York.)

New combination drug therapies consisting of alpha interferon and ribavirin treat hepatitis C virus (HCV) more effectively than traditional monotherapy treatments, according to a review article.\* The most notable benefits to combination therapy are reduced inflammation and scarring of the liver, which are the most common effects of HCV infection. In addition, combination treatments have doubled

or tripled the number of patients with undetectable HCV viral load.

In the United States, about 4 million people are infected with HCV, 8,000 to 10,000 people die of HCV complications each year, and HCV is the most common cause of liver cancer. Inflammation of the liver becomes a chronic condition in 85 percent of HCV-infected people. Symptoms of chronic HCV, however, often do not appear until catastrophic liver damage has occurred.

Each year, more than half of the 28,000 new cases of HCV are a result of transmission through injection drug use. More than 75 percent of all new injection drug users become infected with HCV within one year of initiating injection drug use. According to the Centers for Disease Control and Prevention (CDC), injection drug use accounts for about 60 percent of HCV infections. Although HCV is much less easily transmitted through sexual contact than hepatitis B, 10 percent to 20 percent of HCV infections were sexually transmitted.

Between 50 and 90 percent of injection drug users with HIV also have HCV. A dual diagnosis of HIV and HCV may not affect the progression of the HIV infection, but it has a significant impact on the HCV infection. One of the main complications of HCV infection is liver damage—specifically fibrosis, or internal scarring, of the liver, which progresses to cirrhosis and liver failure. HIV infection significantly accelerates the rate of liver damage in

HCV-infected patients. HCV-related liver damage usually occurs over the course of a 10- to 20-year period, sometimes progressing so slowly that patients die from other causes. In patients who are infected with both HCV and HIV, however, significant liver damage can occur in as little as two years.

Alpha interferon monotherapy produces an undetectable HCV viral load in only about 10 percent of patients, and its side effects include flu-like symptoms such as fever, chills, headache, muscle pain, and joint pain. Although these symptoms usually diminish within the first few days of treatment, more significant side effects cause low blood cell count and mental disturbances such as depression, insomnia, cognitive impairment, and irritability.

In addition to increasing numbers of sustained virologic responses, combination therapy consisting of alpha interferon and ribavirin decreases liver inflammation in a significantly greater percentage of patients than in those receiving monotherapy. Ribavirin's side effects include hemolytic anemia, the destruction of red blood cells, and significant structural birth defects and embryo death.

### STD Detection and HIV Prevention

Centers for Disease Control and Prevention. HIV prevention through early detection and treatment of other sexually transmitted diseases—United States: Recommendations of the Advisory Committee for HIV and STD Prevention. *Morbidity and Mortality Weekly Report*. 1998; 47(RR-12): 1-24.

The early detection and treatment of curable sexually transmitted diseases (STDs) should be an integral component of national, state, and local HIV prevention programs, according to a report issued by the Advisory Committee for HIV and STD Prevention (ACHSP). The recommendations made by ACHSP—which provides oversight and guidance to the Centers for Disease Control and Prevention (CDC)—also state that screening and treatment efforts should be expanded in areas where STDs that facilitate HIV transmission are prevalent.

In a comprehensive review of research, ACHSP found that there is a two-fold to five-fold increase in risk for HIV infection among people who have other STDs. An assessment of the biological factors that increase HIV infection rates found that STDs such as herpes, syphilis, and chancroid can cause ulcers that bleed easily and which may come into contact with oral, rectal, or vaginal mucous membranes during sex. In addition, HIV-infected peo-

**Combination therapy for hepatitis C virus (HCV) has doubled or tripled the number of patients with undetectable HCV viral load.**

\*Editorial note: Although debate exists as to whether or not HCV is a sexually transmitted disease, many researchers consider it to be an STD. For this reason, and because HCV occurs in alarmingly high rates of people with HIV, we have summarized this article in this issue of FOCUS.

# FOCUS

A Guide to AIDS Research and Counseling

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ISSN 1047-0719



ple with inflammatory STDs such as gonorrhea and chlamydia have increased levels of HIV in their genital secretions, which can also heighten the risk of HIV transmission.

Citing two community-level intervention trials in Africa, the ACHSP recommendations concluded that continuous rather than intermittent STD treatment significantly decreased HIV infection rates. In the first intervention, researchers in Tanzania found that continuously providing medication for STDs and training health care workers to treat symptomatic STDs decreased the rate of HIV infection by 38 percent. This reduction was not associated with changes in sexual behavior or condom use. Researchers did not specify how often "continuous" treatment was administered in this intervention. The second intervention, in Uganda, involved only intermittent STD treatment every 10 months. While this intervention reduced the number of curable STDs in the targeted communities, it had no significant effect on HIV-infection rates.

Among industrialized nations, the United States has the highest rate of STD infection, yet approximately one in five persons living in the United States believes that all STDs are curable, and most are not aware that STDs significantly increase risk for HIV transmission. ACHSP identified adolescents, gay and bisexual men, injecting and noninjecting drug users, and African Americans as groups to target with early detection and treatment of curable STDs.

## STDs and People with HIV

Ormand P, Mulcahy F. Sexually transmitted diseases in HIV-positive patients. *Dermatologic Clinics*. 1998; 16(4): 853-857. (St. James' Hospital, Dublin, Ireland).

The effects and manifestations of herpes simplex virus (HSV), syphilis, and human papillomavirus (HPV) are altered in the presence of HIV, according to a review of studies on the interaction between HIV and other sexually transmitted diseases (STDs).

HSV is more common and severe among people with HIV than among uninfected people. In addition, people infected with both HSV and HIV are more likely than HIV-infected people without HSV to develop resistance to the HIV-related drugs acyclovir and foscarnet. A dual diagnosis of HIV and HSV infection also increases the probability of HIV transmission and the rate at which both types of virus replicate. Research suggests that

HSV infection increases the risk of HIV transmission in people with both symptomatic and asymptomatic HSV, possibly because of ulcers in the genital mucosal membrane.

While the specific interactions between syphilis and HIV are not yet known, research indicates that the effect of HIV on the immune system masks the presence of syphilis, allowing the disease to progress without detection. However, some research suggests that it may be possible to detect such latent syphilis in cerebrospinal fluid. Research also indicates that syphilis spreads to the brain causing neurosyphilis more frequently among people who are HIV-infected.

HPV has a variety of manifestations including genital warts and cancer. In the presence of HIV, lesions associated with HPV are often resistant to treatment, and HIV-infected women have a higher incidence of HPV and cervical cancer than uninfected women. Because the weakened immune system of HIV-infected women facilitates the progression of cervical tumors, the Centers for Disease Control and Prevention (CDC) has added cervical cancer to its classification for an AIDS diagnosis. There is also a strong association between anal cancer and HPV among both men and women with HIV. One study found that the incidence of anal cancer among gay men with AIDS was 40 times higher than that of the general population.

## Next Month

Intimacy is an abstract concept with many nuances that is often discussed but rarely defined. In the July issue of *FOCUS*, **Patrice Heller, PhD**, a psychologist and staff therapist at the PENN Council for Relationships in Philadelphia, defines intimacy beyond its popular connotation of sexual contact. She also explores the process and components of intimacy, and discusses the relationship between intimacy and HIV risk in the context of both same-sex and heterosexual couples.

Also in the July issue, **James I. Martin, PhD**, an Associate Professor at the Ehrenkranz School of Social Work at New York University, examines some of the ways in which intimacy within the context of relationships may affect the maintenance of safer sex habits among gay men.