

# Topics in HIV Medicine®

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**Perspective****New Challenges in HIV Care: Prevention Among HIV-Infected Patients**

*The HIV-infected population has been understudied and underserved with respect to risk reduction and prevention interventions. Increases in high-risk sex practices and sexually transmitted diseases (STDs) have prompted considerable concern and have led to initiatives to implement routine STD screening and risk reduction counseling among the HIV-infected population. Available evidence indicates that risk reduction counseling can be effective. Improved attention to risk reduction counseling in the HIV medical care setting is needed, and efforts to improve access and maintain linkage to care must be increased. This article summarizes a presentation given by Carlos del Rio, MD, at the March 2003 International AIDS Society–USA course in Atlanta.*

HIV prevention to date has focused almost entirely on encouraging risk reduction behaviors among at-risk HIV-seronegative populations. In general, these programs are theory-driven and emphasize the development of cognitive, social, and technical competencies and skills associated with lower-risk sex and drug use practices. However, a population that has been understudied and underserved with respect to risk reduction and prevention interventions is people living with HIV disease. It is now recognized that this is a crucial population to target for such interventions, for the sake of these individuals themselves and as an important public health measure.

The success of potent antiretroviral therapy in reducing HIV disease morbidity and mortality over the last 6 years has resulted in more people with HIV disease living longer—and living with improved health status, sense of well-being, and energy. These benefits have allowed many to continue to pursue normal life activities, including sex. A variety of recent data indicate that there has been an upsurge in high-risk sex practices. For example, Chen et al reported (XIV Int AIDS Conf, 2002) steady

increases in unprotected anal sex in general and with multiple partners among men who have sex with men (MSM) over the past several years in San Francisco. This high-risk sexual behavior has been accompanied by an increase in rectal gonorrhea and early syphilis rates (Figure 1). Indeed, syphilis epidemics are now being seen in numerous cities. Colfax et al (14th Int AIDS Conf, 2002) reported that predic-

tors of high-risk behavior among HIV-infected individuals included having the belief that an “undetectable” plasma HIV-1 RNA reduces the risk of transmission (odds ratio, 5.9) as well as actually having a plasma HIV-1 RNA level below assay detection limits on the most recent clinic visit (odds ratio, 9.3).

Increasing attention is thus now being called for prevention measures among the HIV-infected population. Two public health initiatives that include a framework for HIV prevention in this population are the Centers for Disease Control and Prevention (CDC) document, “HIV Prevention Strategic Plan Through 2005” (available at [www.cdc.gov/nchstp/od/hiv\\_plan/default.htm](http://www.cdc.gov/nchstp/od/hiv_plan/default.htm)), and the Institute of Medicine’s *No Time to Lose: Getting More Out of HIV Prevention* (available at [www.nap.edu/books/0309071372/html](http://www.nap.edu/books/0309071372/html)). Two impor-

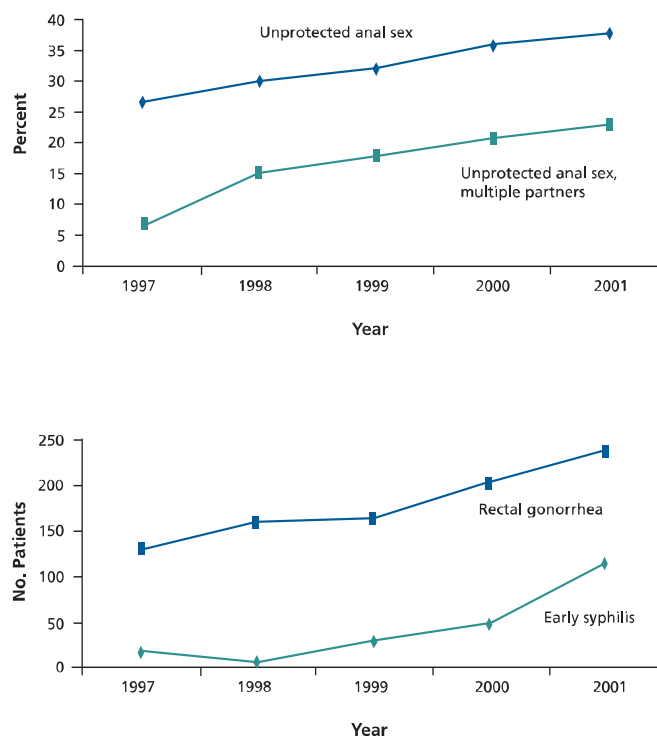


Figure 1. Rates of high-risk sex (top) and cases of sexually transmitted diseases (ie, rectal gonorrhea and early syphilis) (bottom) in men who have sex with men in San Francisco. Adapted with permission from Chen et al, XIV Int AIDS Conf, 2002.

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tant goals specified by the CDC that bear upon prevention strategies in HIV-infected populations are: (1) to increase the proportion of those who know they are infected from the current 70% to 95% by 2005 through voluntary counseling and testing, and (2) to increase the proportion of infected individuals who are linked to appropriate care, prevention services, and treatment services from the current 50% to 80% by 2005. As part of its strategic plan, the CDC has developed the SAFE (Serostatus Approach to Fighting the HIV Epidemic) strategy (Janssen, *Am J Public Health*, 2001). This strategy calls for efforts to (1) increase availability of prevention services for people with HIV; (2) teach health care practitioners to perform HIV and sexually transmitted disease (STD) risk assessments in HIV-infected patients; and (3) increase delivery of prevention messages to HIV-infected patients by health care workers.

### Does Risk Reduction Counseling Work?

There is evidence that risk reduction counseling works. For example, in a meta-analysis reported by Johnson et al (*J Acquir Immune Defic Syndr*, 2002), counseling resulted in a 26% decrease in unprotected anal sex among MSM. Prendergast et al (*J Consult Clin Psychol*, 2001) reported that counseling produced a 30% increase in risk reduction skills among injection drug users and a 16% decrease in sexual risk behaviors. Kamb et al (*JAMA*, 1998) and Shain et al (*N Engl J Med*, 1999) reported that didactic counseling significantly reduced rates of gonorrhea and chlamydial infection, but that degrading of the intervention effects between 6 and 12 months after initial counseling suggested the need for "booster" counseling for many individuals. The National Institute of Mental Health (NIMH) Multisite HIV Prevention Trial (*Science*, 1998) showed that patients with high-risk behaviors who were in a behavioral counseling intervention group had fewer unprotected sexual encounters and reported higher levels of condom use and more consistent condom use than those who did not receive such counseling over 12 months of follow-up. The Project Respect study reported by Kamb et al

showed that counseling at STD clinics resulted in increased condom use and decreased frequency of STDs over 6 months of follow-up. The problems with many studies in this area, however, are that they employ specialized risk reduction counselors for counseling, rather than general health care practitioners, and that the interventions used are fairly intensive processes. It would be better for general health care practitioners, who have the most frequent contact with patients, to incorporate an effective form of counseling into the regular patient visit framework.

### Barriers to Prevention Measures

A major problem in effecting risk reduction is that many health care practitioners do not make prevention a priority. Marks et al (*AIDS*, 2002) reported findings of a cross-sectional survey in which 839 HIV-infected men and women from 6 public HIV clinics in California were asked if practitioners had discussed lower-risk sex or the need to disclose HIV status to sex partners. Discussion of disclosure was reported by 50% of respondents, and discussion of lower-risk sex was reported by 71%. MSM were half as likely as heterosexual men to report discussion of lower-risk sex; a potential explanation was that many practitioners believed that MSM already knew risk reduction practices and therefore needed no counseling.

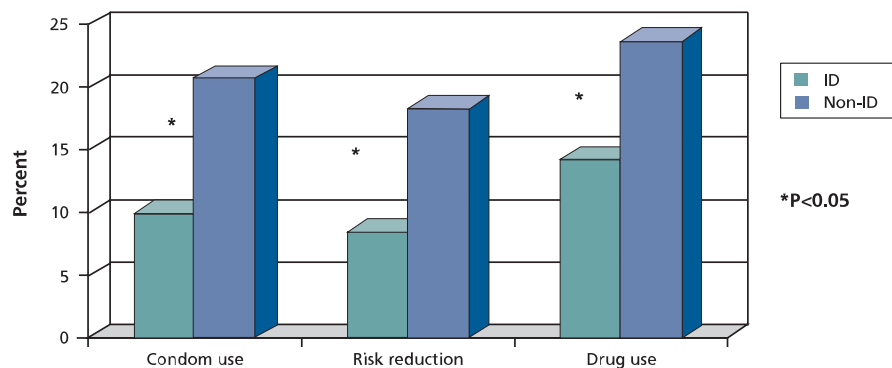
Barriers to delivery of prevention interventions by clinicians include lack of training or knowledge regarding sex- and drug-related risk behaviors; lack of skills or reluctance in discussing sex and drug use issues; absence of perception that patients are at risk; lack of standardized tools to assess patient risk or conduct interventions; belief that prevention attempts will not be successful; and constraints of time and resources. In addition, many clinicians feel that they are too busy discussing issues of treatment adherence, drug toxicities, laboratory monitoring, and health maintenance with HIV-seropositive patients and that there is little time left to discuss issues of prevention. However, a considerable amount of research shows that patients view clinicians as a trusted source of prevention information—eg,

in the settings of exercise promotion, smoking cessation, and coronary disease risk reduction, and thus clinicians must make prevention a priority and part of their patient encounter time.

The CDC-sponsored Antiretroviral Treatment and Access Studies (ARTAS) project is a multicenter controlled intervention study evaluating use of a case management approach to improve linkage to care after HIV diagnosis. As part of the study, a survey that included questions regarding prevention counseling practices was sent to HIV medical care practitioners in Atlanta, Baltimore, Los Angeles, and Miami. Findings in this survey point out many of the problems to be confronted in improving prevention interventions. Risk reduction counseling such as that around condom use, safe injection practices, and HIV disclosure were more commonly discussed with newly diagnosed rather than with established patients. However, risk reduction counseling was routinely provided by less than two-thirds of providers (Metsch L, XIV Int AIDS Conf, 2002). Furthermore, risk reduction counseling was more likely to be provided if the HIV practitioner was a physician assistant, nurse practitioner, or other non-physician personnel; if the practitioner was Hispanic or black; and if the practitioner spent at least 31 minutes with an established patient. Overall, the perceived percentage of patients practicing low-risk sex by practitioners was low (0% to 25% for 18.4% of practitioners, 25% to 75% for 16.3%, and 76% to 100% for 29.8%). A substudy looking at the impact of subspecialty training in prevention counseling showed that board-certified infectious diseases specialists were significantly less likely to provide condom use, risk reduction, and drug use counseling than were practitioners who were not infectious diseases specialists (Duffus et al, *Clin Infect Dis*, 2003; Figure 2).

### Role of HIV Care Practitioners in Prevention

There is a clear role for HIV care practitioners in preventing HIV and other STD transmission by assessing patients for presence of STDs and risk behaviors and providing risk reduction counseling. STDs exhibit what has been termed epi-



**Figure 2.** Rates of risk reduction counseling among infectious diseases specialists (ID) and nonspecialists (Non-ID) in the Centers for Disease Control and Prevention–sponsored Antiretroviral Treatment and Access Studies (ARTAS) clinician population. Adapted in part from Duffus et al, *Clin Infect Dis*, 2003.

demographic synergy with HIV, meaning that the presence of an STD increases the risk of both acquiring and transmitting HIV infection. The CDC 2002 STD Treatment Guidelines (*MMWR*, 2002) recommend that all newly diagnosed HIV-infected patients undergo screening for gonorrhea, chlamydial infection, hepatitis B and C virus infections, and syphilis. Screening for curable STDs (gonorrhea, chlamydial infection, and syphilis) should be performed at least annually in sexually active patients. The CDC, Health Resources and Services Administration, National Institutes of Health, and Infectious Diseases Society of America currently are finalizing joint recommendations for incorporating HIV prevention into the HIV medical care setting. These guidelines reflect four basic priorities: (1) screening for risky behaviors and STDs; (2) providing general and tailored risk reduction messages to patients; (3) when indicated, referring patients for additional risk reduction services and other services that may affect risk reduction (eg, substance abuse treatment); and (4) ensuring that patients are provided with partner counseling and referral services.

To fully appreciate the role that the HIV health care practitioner must assume in prevention, it needs to be emphasized that the clinic or office visit may be the only time when the patient will have contact with someone who can provide education about HIV trans-

mission prevention. Although it remains unclear precisely what type of intervention strategy is optimal, it is desirable that counseling be supportive, nonpunitive, individualized, goal-oriented, and repeated at regular intervals. An attractive and promising approach based on motivational interview techniques is being assessed in the NIMH-Options Project. In this approach, clinicians in the intervention group use motivational interviewing at each clinic visit, consisting of statements such as, “*Now that we have finished discussing your medications, I’d like to ask you some questions about your sex and drug use behaviors.... How important is reducing risk behavior to you and how confident are you that you can do this?*” Patients can indicate their answers to these questions on a numeric scale. The clinician may then respond with a statement such as, “*Well, let’s try to move that from a 5 to a 7.*” The approach also involves use of “prevention prescriptions” in which the clinician uses the prescription pad to furnish the patient with instructions such as *Pick up condoms at the pharmacy*. Although full results of this study will not be available until next year, preliminary data are encouraging (Schreibman and Friedland, *Clin Infect Dis*, 2003).

Other priorities in reducing risk behaviors in HIV-infected individuals include bringing more of these individuals into settings in which risk reduction education can be provided, for example,

by enhancing access to HIV testing and medical care. In this regard, alternative models for getting patients into care and keeping them there are needed. One such effort has been undertaken in the Atlanta-based Grady Memorial Hospital Infectious Disease Program with the development of a “transition center.” This center provides a location at which people who cannot or do not maintain regular health care contact can access care in a relatively unstructured way that tends to mesh with the unstructured nature of their lives. Preliminary data from this program suggest that this approach may be useful in keeping patients linked to care. The availability of an oral HIV test also promises to have some impact on the ability to rapidly determine infection status of new patients and their partners and to facilitate on-the-spot linkage to care.

Challenges to improving access to care and keeping patients in care have been documented in a variety of studies. The difficulty of keeping patients in care, for example, is illustrated by a 1994 study showing that 27% of HIV-infected patients delayed seeking medical care for more than 1 year and 12% for more than 2 years after initially testing as seropositive (Samet et al, *Am J Med*, 1994). Once in care, many patients use the emergency department rather than a clinic as their care setting. For example, it has been shown that African-American and Hispanic patients, the poor, and patients with lower psychologic well-being are more likely to use the emergency department than a clinic for visits associated with common HIV disease symptoms (Gifford et al, *J Gen Intern Med*, 2000). In addition, many patients in care are not on antiretroviral therapy, with 1 study indicating that women and injection drug users are less likely than other patients to be prescribed antiretroviral treatment (Strathdee et al, *JAMA*, 1998). Once prescribed antiretroviral treatment, most patients at urban clinics do not have the desired virologic response, with missed clinic appointments being the most important risk factor for virologic failure (Lucas, *Ann Intern Med*, 1999).

Some of the risks of inadequate linkage to medical care are indicated by preliminary findings of a study under way in Atlanta. Comparison of HIV-infected



individuals in care (regular attenders) with those not in care (nonattenders) shows that nonattenders have a higher frequency of crack cocaine use in the past 6 months (53% vs 13%), lower rates of regular condom use for vaginal sex (7% vs 60%) and anal sex (7% vs 20%), and higher rates of sex and drug contacts who are HIV-infected (64% vs 19%). Among nonattenders, 27% had been prescribed antiretroviral therapy in the past and were no longer receiving therapy, raising concerns about transmission of resistant virus.

### Issues in Antiretroviral Therapy

By decreasing plasma HIV-1 RNA level, potent antiretroviral therapy may be the most effective medical intervention available for reducing HIV transmission. Maintenance of optimal suppression of plasma HIV-1 RNA level requires strict adherence to treatment. Higher rates of risky behavior have been reported among patients with lower adherence to antiretroviral therapy, suggesting increased potential for transmission of resistant virus. Indeed, the prevalence of high-level antiretroviral resistance in recently infected individuals increased from 3.4% in 1995-1998 to 12.4% in 1999-2000 (Little, *N Engl J Med*, 2002; Grant, *JAMA*, 2002). Further, it is now known that HIV superinfection is possible in humans (Jost, *N Engl J Med*, 2002; Goulder, *N Engl J Med*, 2002), raising additional concerns regarding transmission of drug-resistant virus between those already infected.

### Conclusions

The overall prevention message for HIV-infected patients is clear: HIV-infected persons must practice safe sex and other risk-reduction measures to protect themselves and others from new infections, and they must adhere to antiretroviral therapy both to benefit themselves and to prevent development of resistant virus that can be transmitted to others. HIV care settings provide an ideal location for risk assessment and prevention counseling. Additional work is needed to define optimal strategies for delivering risk reduction counseling in these settings. However, a number of basic recommendations can be made:

- 1) Training in risk reduction counseling should be made more available to physicians and other health care workers;
- 2) More time should be allocated in the typical office/clinic visit to discuss prevention measures with patients;
- 3) Use of referrals and other strategies for providing prevention counseling to patients should be optimized in clinical practice.

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