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# Interventions in Clinical Settings

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# POSITIVE PREVENTION

*Reducing HIV Transmission  
among People  
Living with HIV/AIDS*

Edited by

Seth C. Kalichman

The CDC has made a revision in their philosophy underlying recommended prevention techniques to stop the spread of HIV/AIDS. The new approach focuses on "positive prevention," that is, prevention among people living with HIV/AIDS. This important distinction has resulted in the need to re-examine the behaviors around HIV transmission and the approaches to prevention when working within this diverse population.

*Positive Prevention* is a timely volume containing the latest contributions from the top scholars in the field on preventing the spread of HIV/AIDS. Issues covered include unprotected sex with HIV-positive gay and bisexual men; issues around whether disclosure leads to safer sex; mental health and HIV with young adults; the impact of HIV diagnosis on sexual risk behaviors; interventions in community settings; and more. There is also a important chapter on international perspectives on "positive prevention."

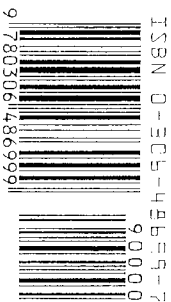
This volume will serve as an invaluable sourcebook for all professionals working in the field of HIV/AIDS prevention.

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This book is dedicated to Sydney, Rita, Moira, and  
Hannah Fay Kalichman, my sources of inspiration.

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## CHAPTER EIGHT

# **Interventions in Clinical Settings**

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Susan M. Kiene, Jeffrey D. Fisher,  
and William A. Fisher

### INTRODUCTION

Clinicians are uniquely well-positioned to promote health behavior change. Patients view their physicians as trusted sources of health information (Cohen, et al., 1994; Gerbert, et al., 1991; Glynn et al., 1990) and physicians generally accept health promotion and disease prevention as part of their professional role (Gemson et al., 1991; Makadon and Silin, 1995). The doctor-patient conversation is a "teachable moment" during which the patient may be particularly receptive to discussing strategies for maintaining or improving his or her health (Barzilai et al., 2001). Indeed, there is ample evidence that even a brief intervention initiated by the doctor can produce significant behavior change (Calfas et al., 1998; Nawaz et al., 1999; U.S. Department of Health and Human Services, 2000; U.S. Preventive Services Task Force, 1996).

Nonetheless, physicians engage in low rates of health behavior change counseling (CDC, 1997; Metsch et al., 2004; Nawaz et al. 1999, 2000). The health risk behaviors that have the greatest impact on public health, such as tobacco, recreational drugs, and alcohol use, are addressed in fewer than 50% of cases in which physician-delivered intervention would be appropriate (Coffield et al., 2001). Some of the disincentives to physician-delivered prevention interventions, such as the fact that prevention activities are generally not reimbursable by health insurance are possibly insurmountable (Makadon and Silin, 1995). Other barriers, such as time constraints and lack of specialized prevention training, have been

addressed in the development of effective interventions that require little time to implement and equip physicians with necessary training for doing so.

In this chapter, we discuss the concept of clinician-delivered behavior change interventions aimed at promoting risk-reduction among people living with HIV/AIDS. Here, "risk behavior" will refer to either unprotected sex or the sharing of unsterilized needles during intravenous drug use—in either case, behaviors which place uninfected individuals at risk for HIV infection or that expose the HIV positive individual to other infections which, due to the HIV positive individual's compromised immune system, can have a serious impact on his or her health and quality of life (Johansen and Smith, 2002; Terrault, 2002; Janssen et al., 2001).

In making the case that using the clinical setting holds enormous potential for delivering HIV prevention interventions to HIV positive persons, the formidable personal, interpersonal, and institutional barriers that stand in the way of this type of intervention will also be considered. Means of overcoming these barriers that have been effectively applied in clinical practice will be identified. Finally, specific interventions that show promise as vehicles for clinician-delivered HIV prevention for HIV positive persons in clinical care will be highlighted.

#### **HIV RISK BEHAVIOR AMONG PEOPLE LIVING WITH HIV/AIDS IN CLINICAL CARE**

If one examines only HIV positive individuals who are receiving regular clinical care, roughly 15% continue to engage in unprotected anal or vaginal sex with HIV negative partners or partners of unknown serostatus (Fisher et al., in press; Weinhardt et al., 2004). Twenty-three percent of HIV positive patients in Fisher et al.'s study reported some form of sexual risk behavior in the prior three months, 4% reported sharing used needles or works with others, and 14% reported sexual risk behavior with a partner of HIV negative or unknown serostatus. Weinhardt et al. found, in a survey conducted in four major US cities, that 19% of HIV positive women, 16% of HIV positive men who have sex with men (MSM), and 13% of HIV positive heterosexual men reported engaging in unprotected sex with one or more HIV negative or unknown serostatus partners and 18% of IDUs reported sharing their used needles and works with others.

An additional study, which did not indicate whether unprotected sex occurred with seroconcordant or serodiscordant partners, offers data on the

incidence of unprotected sex among HIV positive individuals in clinical care. In a sample of HIV positive men and women living in California, 34% reported having vaginal or anal sex without a condom at least once in the prior 3 months, and among those with two or more partners, 52% reported unprotected anal or vaginal sex (Richardson et al., 2004). The incidence of risk behavior reported in this study is comparable to rates of risky sexual behavior observed among HIV positive individuals outside of care settings.

#### **PRIORITY TO DEVELOP INTERVENTIONS FOR HIV POSITIVE ADULTS**

The task of developing, implementing, and evaluating effective and easy to disseminate behavior change interventions to promote safer sex and drug injection practices in HIV positive individuals has been designated a critical priority at this point in the HIV epidemic (CDC, 2003; NIH Consensus Panel, 1997). In response, effective HIV prevention interventions targeted at HIV positive persons have been tested (e.g., Fisher et al., 2004; Kalichman et al., 2001b; Patterson et al., 2003). However, there are very few HIV prevention interventions for persons living with HIV that have been developed specifically for delivery in the clinical care setting (Kelly and Kalichman, 2002).

The CDC (2003) has recommended that HIV prevention be integrated into routine clinical care for HIV positive persons. The US Department of Health and Human Services (1990), the Preventive Services Task Force of the American Medical Association (1990, 2000), and the American College of Physicians (1994) have joined in calling for clinicians to play a central role in promoting HIV prevention.

There is broad agreement that the clinician is well-situated to promote risk reduction among HIV positive individuals. Indeed, the clinical setting provides opportunities for repeated delivery of prevention intervention doses and there is perhaps no better venue for gaining as nearly universal access as is possible to the population of HIV positive individuals who are capable of transmitting infection to others. Due to the significant proportion of HIV positive individuals receiving clinical care, the obvious need to reach these individuals with effective interventions, and the repeated contact and established relationship that often exist between HIV positive patients and their providers, the clinical care setting is a promising setting in which to develop, test, and disseminate widely HIV prevention interventions for HIV positive individuals.

### BARRIERS TO HIV PREVENTION IN CLINICAL SETTINGS

Individual, interpersonal, and structural barriers may stand in the way of consistent provision of clinician-delivered HIV prevention interventions. Clinicians may receive little or no training in primary prevention techniques in medical school or clinical training (Calabrese et al., 1991; Makadon and Silin, 1995; McDaniel et al., 1995), and consequently lack skills necessary for this task (Calabrese et al., 1991; Valente et al., 1986). In addition, some clinicians believe their behavioral intervention attempts are generally unsuccessful (Gemson et al., 1991; Valente et al., 1986), although the literature suggests that, in fact, clinicians can be quite successful in such activities (e.g., Calfas et al., 1998; Ockene et al., 1990; Werch et al., 1996).

Physicians may also believe that their offering unsolicited prevention advice will provoke a negative reaction from the patient (Kottke et al., 1993). This belief, however, appears to be untrue. There is data to suggest that offering prevention advice may actually increase patient satisfaction (Barzilai et al., 2001). In a survey of health maintenance organization patients, a startling 92% to 98% of respondents expected help and advice regarding their health-related behavior (Vogt et al., 1998).

Even though national organizations urge practitioners to provide age-appropriate HIV/STD prevention counseling to all of their patients, compliance with this guideline is low. By some reports, fewer than 50% of providers comply. Physician discomfort with physician-patient discussion of sexuality is the most widely-cited reason for avoiding this topic in clinical care settings (Dodge et al., 2001). It is therefore unsurprising that only between 53% and 77% of physicians ever mention safer sex to their HIV positive patients (see Table 8.1), and active efforts on the part of the clinician to influence HIV risk behavior among HIV positive individuals are rare (Makadon and Silin, 1995; Marks et al., 2002; Morin et al., 2003).

**Table 8.1. HIV-positive patients receiving safer-sex messages from their primary physician**

% received safer-sex message	Period	N	Source
53%	6 mo.	618	Morin et al., 2003
67%	ever	839	Marks et al., 2002
68%	ever	577	Richardson et al. 2004
76.7%	ever	223	Margolis et al., 2001

Note: all data based on patient self-reports.

Discomfort with the topics of sexuality and drug use is, in part, the result of the clinician's perception that patients will respond negatively to discussion of these topics. However, this concern appears to be unwarranted. By their own accounts, patients are comfortable discussing sexual and drug use issues with their clinicians (Ward and Sanson-Fisher, 1995; Wheat et al., 1993) and regard physicians as their preferred source of HIV prevention counseling (Hazard, 1993). Providers' discomfort with sexual and drug use topics can be alleviated through training, particularly through role-playing and receiving feedback on interpersonal interactions (Epstein et al., 1998).

One approach to understanding personal barriers that may affect a physician's willingness to engage in HIV risk-reduction communications is to examine what physicians do talk about. HIV specific patient-provider discussions are more likely to cover the importance of adhering to antiretroviral medications, the patient's emotional status, diet and nutritional information, and cigarette smoking—all areas that capitalize on the typical physician's core competencies and existing referral resources—than they are the issue of HIV risk reduction. The substance of an HIV risk reduction discussion with providers also varies; in a 6-month period, 24% of patients reported discussing prevention issues in conjunction with discussion of specific sexual activities, 24% reported discussing the issue of disclosing one's HIV status to sexual partners, 27% were provided with HIV prevention reading materials, and only 7% reported having discussed the proper use of condoms (Morin et al., 2003).

The likelihood that a physician will discuss the importance of disclosing one's serostatus with potential sexual partners is particularly variable, even though this topic clearly belongs in a discussion of HIV risk reduction. According to Marks et al. (2002), the frequency with which patients receive advice about disclosure can vary from 31% to 78% between clinics. In research by Richardson et al. (2004), only 45% of HIV positive patients had been involved in a discussion of disclosure with their physicians (see Chapter 3).

It is clear that discussing with patients the importance of disclosing their HIV status to sexual partners is highly sensitive. Indeed, an HIV positive individual who discloses his or her serostatus may be vulnerable to abandonment by a partner or, in the case of women in particular, be subject to physical violence (Kalichman and Nachimson, 1999). Justifiably, physicians who lack referral resources or are not equipped to deal with the ramifications—psychological or otherwise—if a patient were to follow their recommendation may not make the recommendation in the first place (Temple-Smith et al., 1996). This highlights the importance of both training and providing an appropriate referral infrastructure. Alternatively, a

provider who is sensitized to this issue through training can provide counseling strategies—such as encouraging consistent condom use—that may provide alternatives to HIV positive individuals who do not disclose their HIV serostatus to their partner.

Physicians may also avoid topics which cause them personal discomfort or that they find objectionable; heterosexual physicians may be unwilling to discuss specific sexual behaviors with their homosexual patients (Fisher et al., 1988; Wilson and Kaplan, 2000). Resident physicians' homophobia and aversion to IDUs can negatively impact the level of care that his or her patients receive (Yedidia and Berry, 1999). Ironically, disapproval of a patient with an STD who engages in unsafe sex may lead physicians to avoid raising the topic of preventive behavior with that patient (Temple-Smith et al., 1996).

Fortunately, physicians' attitudes toward treating persons with HIV can be improved through education (Makadon and Silin, 1995). Once the physician is encouraged to adopt a collaborative role in the care of his/her patient, working within this role reduces the power differential in the relationship and sensitizes the physician to the individuality of his/her patient. According to Fiske (2000), the increased salience of the individual needs and identity of the patient can directly mitigate the impact of group stereotypes on the doctor's attitudes toward the patient. According to Dovidio and Gaertner (1999), the establishment of a collaborative doctor-patient relationship can reduce prejudice by recategorizing the patient—instead of being a member of a stigmatized group, the patient becomes in a real sense a peer whose opinions and agreement are prerequisites for achieving shared treatment goals. There is, moreover, a willingness on the part of physicians to confront these personal issues if there is a benefit in terms of their interactions with their patients; 87% of physicians in one report indicated that they would welcome professional training to help increase their own comfort in caring for HIV positive patients (CDC, 1994).

More broadly, physicians vary with respect to their general interpersonal skills. This can present a barrier to the effective communication of health-related information; again, interventions exist which train physicians to ask questions more effectively and ensure that their patients have understood what they have been told (Stewart, 1995).

There are also very important structural barriers to clinician-delivered prevention work in clinical care settings. Currently, the mean duration of a doctor's visit in the US is 16 minutes (Blumenthal et al., 1999), and limitations are placed on physicians with respect to the time and resources they can devote to each patient (Calfas et al., 1998; Dietrich et al., 1994; Dickey and Kamerow, 1996; Makadon and Silin, 1995).

Admittedly, there is little that practitioners can do to overcome some of these structural barriers. The strongest case for optimism may come

from recognizing that a growing body of data in the last 15 years lends powerful support to the benefits of preventive medicine, and these data may yet influence policy-makers. And, as will be seen, the time constraint on providers does not rule out the possibility of such interventions. It does, however, underscore the necessity that clinician-delivered interventions be brief in duration.

### EFFECTIVENESS OF PREVENTION INTERVENTIONS IN CLINICAL SETTINGS

Although behavioral counseling by physicians does not have the same level of efficacy as specialized interventions delivered by behavior change specialists, this limitation is offset by the fact that physicians have far greater access to the general population. Taking the case of smoking cessation, physician-delivered interventions result in cessation in 5–10% of cases whereas specialists produce behavior change in 40% of cases. However, specialists only encounter the 3 to 5% of highly motivated smokers who volunteer for treatment, whereas physicians have access to 70% of the at-risk population. Hence, the potential impact of physicians on health behavior change, calculated as  $\text{Impact} = (\text{Participation Rate} \times \text{Efficacy})$ , is substantially greater than that produced by behavioral specialists (Whitlock et al., 2002). Moreover, even those patients who do not exhibit behavior change following a discussion with their doctor may be more attentive to pertinent health education material that they subsequently encounter (Kreuter et al., 2000).

For a clinician-delivered prevention intervention to be successful, it is neither practical nor necessary for the provider to receive extensive training in psychological assessment and counseling. This is evidenced in a number of studies of clinician-delivered interventions, many of them quite brief and involving limited training, that have yielded favorable outcomes in terms of patient behavior change in the areas of exercise promotion (Calfas et al., 1998; Long et al., 1996), decreasing alcohol use (Werch et al., 1996), hypertension control (Grueninger et al., 1989), coronary risk reduction (Scales et al., 1998), seatbelt use, weight loss, breast self-examination (see review by Logsdon et al., 1989), and STD treatment adherence (Montesinos et al., 1990). Clinician-delivered interventions have also been shown to be effective in combating tobacco use, even though it is an addictive and notoriously intractable behavior (Kottke et al., 1992; Klein et al., 1995; Morgan et al., 1998; Ockene et al., 1990; US Department of Health and Human Services, 2000).

The opportunity for repeated contact with the target population can greatly increase the effectiveness of a behavior change intervention. Some



of the demonstrated benefits of repeated contact include, (a) the opportunity for the change-agent to remind individuals of previously established goals (Whitlock et al., 2002), (b) the fine-tuning of goals and the provision of new strategies for change as the individual's circumstances change (Mandelblatt and Kanetsky, 1995; Morgan et al., 1998), (c) the repeated administration of rewards, such as praise, for the individual's successes (Whitlock et al., 2002), and, perhaps most importantly, (d) repeated contact, as assessed by the duration of the relationship, is one of the most reliable predictors of the level of trust a patient has in his or her provider (Wilson and Kaplan, 2000).

Because their health status requires regular monitoring, HIV positive individuals typically have regular, frequent contact with clinicians. These circumstances facilitate the development of a special relationship of trust between HIV positive patients and their clinicians (Gabel et al., 1994; Makadon and Silin, 1995; O'Connor et al., 1994), and led Gabel et al. (1994) to call secondary prevention of HIV transmission, via intervention with HIV positive patients, the "special province" of clinicians.

### Intervention Targets Associated with HIV Risk Behavior Change

Before effective clinician-delivered HIV prevention interventions for persons living with HIV can be designed, it is necessary to understand the dynamics of HIV risk behavior among HIV positive persons.

The current analysis applies the Information-Motivation-Behavioral Skills Model of preventive behavior (IMB; Fisher and Fisher, 1992) and related research findings (e.g., review by Crepaz and Marks, 2002) to conceptualize the determinants of safer and risky sexual behavior among HIV positive persons, and to identify elements of effective prevention interventions for this population.

The IMB model provides a blueprint, identifying a set of empirically established common factors underlying a broad range of health behaviors. This model is applied by particularizing these common factors within the context of a given health behavior—a process referred to as elicitation research. For example, it is understood that, in a general sense, social norms influence the adoption of a health behavior. One goal of elicitation research is to understand and assess specific social norms governing the enactment of the behavior in a given community and leverage this knowledge to promote behavior change in that community. An intervention is designed encompassing all of the common factors identified by the IMB model, followed by rigorous intervention outcome evaluation. The

IMB model of health behavior change has been utilized in understanding HIV risk dynamics and designing HIV risk behavior change interventions in many populations, and recently has served as the basis for designing clinician-initiated interventions to promote safer sexual behavior among HIV positive persons in clinical care settings (Fisher et al., in press, 2004).

According to the IMB model, *information* that is directly relevant to HIV preventive behavior is a prerequisite of preventive action. For HIV positive persons, such information can include specific facts about HIV transmission and about HIV prevention. Information, in the IMB model, also includes HIV prevention heuristics and implicit theories of risk—simple, often incorrect, inferences based on physical appearance or cursory behavior concerning a partner's HIV status and about whether or not to engage in HIV preventive behavior with them—that may contribute to risk behavior.

Even though most HIV positive individuals have accurate HIV transmission information, some information deficits are relatively prevalent. In our own elicitation work, drawing on a sample of HIV positive individuals in clinical care, 35% of patients thought that antiretroviral (ARV) therapy was a cure for HIV (Fisher et al., in press). We also found evidence of information heuristics that are likely to precipitate risky sexual behavior: 47% of HIV positive patients thought that someone who was willing to have unprotected sex with them is probably already HIV positive, and 40% thought that people who spend time in sexual "cruising" areas or in shooting galleries are most likely HIV positive. These heuristics and implicit theories—have been found to be associated with unprotected sex among people living HIV/AIDS (Kalichman, 1999; Kalichman et al., 1998; Kalichman et al., 2001a; Marks et al., 1999; Vanable et al., 2000; van der Straten et al., 2000).

It may seem obvious that behavior change can only occur if an HIV positive person has adequate HIV prevention information. However, barriers to clinician-initiated prevention intervention, discussed earlier, such as discomfort with sexuality, specifically impact the delivery of information. Hence, there is a clear value in systematizing the delivery of tailored, pre-defined information to patients. The effective delivery of information distinguishes effective clinician-delivered interventions from those which have less impact on patient behavior (Makadon and Silin, 1995; Whitlock et al., 2002). Fortunately, the clinic setting provides numerous complementary channels for the communication of information; these include tailored or reinforcing prevention messages provided by multiple health care personnel (e.g., physicians, nurses, pharmacists), referrals to prevention specialists, computer information systems, videos, and voice response systems (Whitlock et al., 2002).

According to the IMB model, *motivation* to engage in HIV preventive acts is a second critical determinant of HIV preventive behavior and determines whether even knowledgeable HIV positive persons will be inclined to act on what they know about HIV prevention. HIV prevention motivation includes HIV positive individuals' personal motivation to practice HIV preventive behaviors and their social motivation to engage in HIV prevention (Fishbein and Ajzen, 1975; Fisher et al., 1995). In one sample of HIV positive MSM, 41% of respondents reported that they did not use a condom because their partner did not wish to do so, while 27% who used condoms did so because of their partner's desire to practice safer sex (Fisher et al., 1998).

Among HIV positive individuals in clinical care, attitudes toward using condoms with casual and steady partners of HIV positive, HIV negative, or unknown HIV status were relatively positive and similar across partner types and serostatus of partners, with approximately 80% of persons indicating that always using condoms with different kinds of partners would be either *good* or *very good*. Normative support for condom use and intentions to use condoms in the future was similarly relatively high, but attitudes towards abstaining from sex were much less positive (Fisher et al., in press).

Beyond these findings, negative attitudes about condoms or safer sex, a hedonistic focus on short-term pleasure, and the desire to avoid thinking about one's own HIV status, are associated with HIV positive individuals' failure to engage in prevention behavior (de Vroome et al., 1998; Fisher et al., 1998; Hays et al., 1997; Kline et al., 1994). When individuals lack a firm intention to engage in HIV preventive behavior, such behavior is less likely to occur (Darrow et al., 1998; de Vroome et al., 1998; Godin et al., 1996), and this has been observed among HIV positive individuals (Fisher et al., 1998).

In the clinician-patient dialog, motivation can be developed by including the patient in the decision-making process, facilitating the patient's self-assessment of his or her own risk behavior, eliciting the patient's own reasons for considering behavior change, and reinforcing positive health behaviors where they occur (Miller and Rollnick, 1991; Rollnick et al., 2000; Morgan et al., 1998), as well as by establishing clearly defined and achievable prevention goals with the patient that provide the patient with the highest likelihood of having a success experience (Paauw and O'Neill, 1990).

In addition to HIV prevention information and HIV prevention motivation, the IMB model identifies HIV prevention *behavioral skills* as a third prerequisite of HIV preventive behavior which determine whether even well-informed and well-motivated individuals will be capable of practicing

prevention effectively. The behavioral skills component of the IMB model is composed of an individual's objective ability, and perceived self-efficacy, with respect to performing HIV preventive behaviors that are involved in effective prevention practice (Bandura, 1989, 1994; J. Fisher and Fisher, 1992; Kelly and St. Lawrence, 1988).

For HIV positive individuals, behavioral skills involved in HIV prevention can include objective and perceived abilities to obtain condoms or clean needles, engage in anticipatory planning (for example, carrying condoms or keeping condoms available), negotiate and maintain abstinence from unprotected intercourse, disclose antibody status, to engage in consistent condom use or safer needle use behaviors, and do so in a fashion that disrupts valued relationships and valued outcomes as minimally as possible. Drawing again from data collected from our sample of HIV positive respondents, we found that a significant minority of participants perceived that using condoms with sexual partners would be difficult. Between 25% - 30% of participants said it would be *hard* or *very hard* to always use condoms with an HIV positive partner, compared to 23% to 26% for using condoms with an HIV negative partner and 24% to 26% for using condoms with an unknown HIV status partner (Fisher et al., in press).

Finally, psychosocial factors such as reliance on an avoidant coping style (e.g., denial, alcohol consumption, or mentally disengagement from the problem; Clement, 1992; Semple et al., 2000a, 2000b), depression (Crepaz and Marks, 2002; Kalichman, 2000), and personality factors such as impulsiveness (e.g., Semple et al., 2000a), sexual compulsivity (Hays et al., 1997; Kalichman et al., 1997), and possibly the fear of victimization by an abusive intimate partner (Kalichman and Nachimson, 1999) are also related to continued risk behavior among people living with HIV. These issues demonstrate the importance of a holistic approach to treatment, in which the resolution of pressing psychosocial issues may have to take place prior to initiating a discussion of HIV transmission risk reduction. The resolution of these issues is facilitated by having in place a comprehensive referral infrastructure.

### Linking HIV Prevention with HIV Clinical Care

At present, several clinic-based interventions designed to help reduce HIV risk behavior among HIV positive individuals are being implemented and tested. These interventions are summarized below. Because these interventions represent a new area of research, outcome data are not yet available in every case.

### The Healthy Living Project

The Healthy Living Project (Rotheram-Borus et al., 2003) is a multi-site intervention conducted in San Francisco, New York, Los Angeles, and Milwaukee that involves HIV positive individuals from across risk groups (study in progress at the time of this writing). Patients are recruited for the intervention at clinical care sites and either HIV positive peers or counselors deliver the 15 sessions comprising the intervention. The material covered in these 90 minute sessions include the following coping, obtaining social support (motivation), communicating effectively, and maintaining optimal health through ARV adherence and other healthy lifestyle behaviors. Of particular interest, HIV risk reduction behavioral skills are also included; specifically, training related to safer sexual behaviors, serostatus disclosure, sexual communication skills, and maintaining safer behavior. Finally, the intervention includes a structure for providing referrals for patients to outside services, such as drug abuse treatment, when necessary. This intervention represents a model suited for case management services. Should the intervention demonstrate effectiveness, its time- and labor-intensive character could pose a barrier to widespread dissemination outside of case management at the same time that it might represent a particularly useful focused and intensive approach for patients who face special challenges with respect to HIV prevention.

### Partnership for Health

The Partnership for Health (Richardson et al., 2004) intervention was developed in part to implement the findings of Rothman and Salovey (1997) and others, who have shown that "framed" messages highlighting either the benefits of performing an advocated health behavior or the personal costs of not performing the behavior are differentially effective depending on specific aspects of the health behavior. This intervention asks health-care providers to deliver an HIV prevention intervention to HIV positive patients. Providers briefly address HIV risk-reduction behaviors during each clinic visit. Each of these discussions lasts between 3 and 5 minutes and includes HIV prevention information, motivation content, and to a lesser extent behavioral skills content. Topics include: protecting one's personal health, protecting sexual partners, and disclosure of serostatus to sexual partners. This intervention was delivered at 6 HIV outpatient clinics throughout California. In two experimental conditions, providers communicated prevention messages using either an advantages (gain) frame, highlighting the benefits of engaging in the behavior, or a consequences

(loss) frame, highlighting the adverse outcomes of not engaging in the behavior. Participants in the control group received an adherence to medication intervention. Providers were trained in the intervention protocol through a 4-hour training session. Intervention efficacy was evaluated at 7 months post-intervention and it was found that the loss framed intervention was effective at reducing unprotected anal or vaginal sex among MSM reporting two or more partners at baseline, compared to the control arm. However, no effects were found for participants who had only one partner at baseline.

### MD 4 Life

The MD 4 Life project enlists clinical care providers to deliver an HIV risk reduction intervention for HIV positive persons (Lightfoot et al., 2004). Patients complete a 20-minute computer-assisted HIV risk behavior assessment during each clinical care visit (approximately every 3 months for 2 years) while waiting to see their clinician. Clinics are randomly assigned to either a computer-delivered intervention condition or a clinician-delivered intervention condition. Both variations are roughly based on Motivational Interviewing (MI) techniques (Miller and Rollnick, 1991) and are brief, each session lasting 5 to 15 minutes. Participants in the computer-delivered intervention receive automated feedback regarding the concordance between their self-reported values and HIV risk behavior. For example, if a patient indicates that responsibility is important to him/her, but reports high-levels of risk behavior, the feedback generated would be that potentially infecting others with HIV is not being responsible, emphasizing the discordance between the patient's values and his/her actions (motivation).

The computer also compares the patient's risk behaviors over time, provides suggestions for how a patient might change his/her behavior, and solicits an intention to reduce HIV risk behaviors. Similarly, in the provider-delivered intervention, clinicians give patients feedback on their risk behaviors in relation to the patients' self-reported values, provide behavior change recommendations, and reinforce patients' self-efficacy to change their behavior. The efficacy of these interventions to reduce HIV risk behavior among HIV positive individuals was being tested at the time of this writing.

### Methadone Maintenance Programs

Another way to link HIV risk reduction with clinical care is through methadone maintenance programs. Inasmuch as injection drug users

(IDU's) are a high-risk group for HIV transmission, this is a logical avenue for gaining access to HIV positive individuals who are IDU. A recent clinical trial of HIV risk reduction interventions for HIV positive IDUs in methadone maintenance compared a standard methadone maintenance program that included an HIV risk reduction intervention based on the IMB model with the same intervention, supplemented by cognitive remediation strategies delivered in psychotherapy to enhance the ability of participants to learn and remember the intervention content (Margolin et al., 2003).

Individuals in the cognitive behavioral condition received usual methadone maintenance treatment and also participated in a 6-session HIV risk reduction intervention. Intervention content included HIV risk reduction information (including information about where to obtain condom and needle cleaning supplies, and where to exchange used needles), feedback designed to increase behavior change motivation, skills building activities to teach patients how to clean needles with bleach and how to correctly use condoms, safer sex negotiation skills, and an emphasis on teaching others in their social group about HIV risk reduction strategies and skills. Individuals in the cognitive-behavioral intervention plus psychotherapy condition participated in the 6-session intervention and attended, in addition, 2-hour long group therapy sessions twice per week for 6 months. These sessions were intended to reinforce the content of the risk reduction intervention and provide additional emotional support using cognitive remediation strategies (Miller, 1993).

The results of this clinical trial demonstrated that while both cognitive and behavioral skills model-based interventions reduced high-risk sexual and drug use behavior comparing baseline data to 3-month post-intervention follow-up, the risk reduction plus group therapy intervention was the more effective of the two (Margolin et al., 2003). These findings suggest that HIV risk reduction interventions for HIV positive individuals may benefit from providing additional support and services to help patients deal with the challenges of living with HIV and IDU. However, an alternative explanation is that because there was greater intervention dosage in the enhanced intervention, this is responsible for the greater efficacy of the supplemented intervention.

### The Options Project

The Options Project is a clinician-delivered HIV risk reduction intervention for HIV positive individuals and is based on the IMB model of health behavior change (Fisher et al., in press, 2004). In the following

section, detail will be provided on the development, implementation, and preliminary results of this project.

The Options Project is the result of applying the IMB model to understand the dynamics of HIV risk behavior among HIV positive individuals, developing an appropriate intervention, and assessing its outcomes. This intervention was specifically crafted to be administered to HIV positive individuals in clinical care, in order to exploit the advantages of this setting enumerated earlier. To understand risk dynamics among HIV positive patients and to design an intervention that providers would be comfortable implementing and that patients would feel comfortable *receiving*, we first conducted elicitation research with providers and with patients (described above, Fisher et al., in press).

**The Options Intervention.** The Options Project intervention, in brief, consists of clinicians addressing specific gaps, identified in elicitation research, in their HIV positive patients' HIV prevention information, motivation, and behavioral skills. Patient motivation to practice safer sex was enhanced using principles of MI (Rollnick et al., 2000); this approach, which has been shown to be effective in brief health behavior change interventions (Miller and Rollnick, 1991; Rollnick et al., 2000), mobilizes the patient's own competencies and behavior change goals in the context of shared decision-making between clinician and patient.

The Options Project intervention occurs on an ongoing basis and is delivered on repeated occasions over the course of HIV positive patients' clinical care. During each routine HIV care visit, a collaborative, patient-centered discussion takes place between clinician and patient. The clinician uses MI techniques to (a) introduce the topics of safer sex and safer needle use, (b) assess the patient's risk behaviors, (c) evaluate his/her readiness to change or maintain safer behaviors, (d) understand the patient's ambivalence about re-evaluating aspects of his/her own risk-reduction information, motivation, and behavioral skills, (e) elicit strategies from the patient for overcoming barriers to change, moving towards change, or maintaining change, and (f) negotiate an individually-tailored risk reduction behavior change or behavior change maintenance goal. Furthermore, the clinician is trained to ask questions of the patient as a means of verifying that the patient has understood what has been discussed.

Options Project discussions of HIV risk reduction are tailored on the basis of patient's current readiness to change his/her risk behavior. For example, a discussion with an individual who has not yet begun to think about changing his or her behavior may focus on different issues and goals than a discussion with a patient who periodically practices safer behavior. In turn, a discussion with a patient who engages in safer behavior on

an ongoing basis will also have unique elements. Initial Options Project discussions can take place in 5–10 minutes for clinicians who are trained in the technique, and who have adequate referral resources for patients who need help with depression, housing issues, and other concerns. During the implementation and evaluation of the Options Project intervention, clinicians were directed to conduct the intervention at the end of every regular HIV care visit with enrolled patients for a period of 18 months. The initial intervention session with each patient was typically the longest (about 10 minutes) because more time was spent assessing the patient's risk behaviors and the dynamics of his/her behavior than in follow-up sessions. Subsequent visits were briefer (~ 5 minutes); these focused on evaluating progress toward the goal set during the previous visit, briefly reassessing risk behavior, and negotiating a new or revised goal.

*The Options Study Design.* The Options Project used a quasi-experimental nonequivalent control group design to evaluate intervention effectiveness within two HIV care clinics in Connecticut. The two clinics represented the two largest providers of HIV care in Connecticut: Nathan Smith Clinic (NSC) at Yale-New Haven Hospital, which served as the experimental site, and Community Care Center (CCC) at Hartford Hospital which served as the control site. These two clinics were located in the two cities in Connecticut with the largest number of reported AIDS cases. Together these two sites reported nearly 40% of the AIDS cases in the state, and at both sites the full range of HIV disease and patient populations was represented. All of the participants were HIV-infected patients receiving healthcare services at one of these two participating sites.

Patients in the experimental intervention condition were informed that they would complete four sets of computer-assisted questionnaires assessing HIV risk reduction information, motivation, behavioral skills and behavior over a period of 18 months (one questionnaire every 6 months) and would also spend a portion of each clinic visit with their clinician discussing risk behavior and how to minimize the risks associated with those behaviors. Control condition patients, on the other hand, were told that they would complete the questionnaires but would not participate in the intervention at this time. All baseline data were gathered from participants prior to implementation of the risk reduction intervention. Patients were administered the questionnaires on a laptop computer in a semi-private area of the clinic. They were paid \$25 for each set of surveys completed, but received no incentive payment for participating in the intervention sessions. Patients were also told that their clinical care provider would have no access to their responses on baseline or subsequent surveys.

*Options Study Findings.* Based on an analysis of 18-month Options follow-up data, this brief, clinician-initiated intervention occurring at the close of a regular HIV care visit, is feasible to implement, has adequate intervention fidelity (Fisher et al., in press) and successfully assists HIV positive patients in maintaining safer behaviors and reducing the frequency of risky behaviors (Fisher et al., 2004).

Regarding intervention fidelity, a review of the data indicates that the intervention has been consistently applied, despite providers' demanding schedules, time constraints, and complex visit agendas (Fisher et al., in press). Seventy-three percent of the patient-provider meetings during the course of the intervention involved the implementation of the protocol. On those occasions when the protocol was not implemented, it was generally because other critical patient issues (e.g., serious illness) took precedence. Regarding intervention fidelity, the majority of regular patient visits have included implementation of at least 7 of the 9 intervention protocol steps, indicating that providers are delivering an adequate number of intervention protocol elements to their patients. On average, clinicians reported delivering a mean of 6.4 out of 9 intervention elements per intervention delivery. This reflects a reasonable level of intervention fidelity under clinical conditions (Fisher et al., in press).

At baseline, there were 490 patients at HIV care clinics ( $n = 252$  experimental and  $n = 245$  control) in the sample. Participants were ethnically diverse and predominantly of low socioeconomic status. The most frequently reported routes of HIV infection were heterosexual sex and IDU, and the majority self-identified as heterosexual. We used random coefficient (RC) regression (Cohen et al., 2003; Raudenbush and Bryk, 2002) to assess changes in risk behavior in experimental versus control participants. The only demographic variable related to risk was receiving welfare or public assistance—with those receiving assistance engaging in lower levels of risk behavior. Welfare/public assistance status was thus included in outcome analyses as a covariate. We then included the fixed effects of time, intervention condition, and the test of the intervention by time interaction. Welfare/public assistance status at baseline was included as a fixed covariate.

There was a significant effect of condition, such that there were a greater number of risk behavior episodes reported in the intervention condition as opposed to the control condition. However, essential to interpreting this data is the significant time  $\times$  condition interaction. Results also indicated that there was a significant decrease in HIV risk behavior in the Options Project intervention condition over time, whereas there was no significant change over time in the control condition.

An average of 21.9 high-risk sexual events in the past 3-months was reported at baseline among participants the intervention group at baseline, which dropped to 2.7 at 18-month follow up. There was no statistically reliable change in the number of high-risk sexual events for participants in the control group from baseline to 18-month follow-up. These results provide support for the continued use of clinician-delivered risk reduction interventions aimed at HIV positive individuals (Fisher et al., in press).

*Adapting Options for South Africa.* Currently, the Options Project is being adapted and developed for implementation in the KwaZulu-Natal province of South Africa, which has one of the highest prevalence rates for HIV in the world (UNAIDS/WHO, 2002). Integrating prevention into care for HIV positive persons in South Africa is a timely issue, because the government has announced plans to distribute antiretroviral (ARV) medications nationally (Tshabalala-Msimang, 2003).

Implementing Options cross-culturally requires extensive elicitation work aimed at identifying unique characteristics of the health care delivery system and the cultural milieu. To this end, focus groups have been conducted in South Africa with physicians, nurses, and other health care providers, as well as with HIV positive patients (Kiene et al., 2004).

Preliminary results of these focus groups suggest that some of the same challenges faced in implementing the Options Project in the US also apply to South Africa; for example, clinicians face severe constraints on the time they can devote to each patient which is often exacerbated by language barriers, and many providers are uncomfortable discussing sexual matters. Other barriers to clinician-delivered prevention efforts are either unique to South Africa or exist to a significantly greater degree than in the US. These include a profound lack of sexual decision making power among women, psychological denial of being HIV positive, mistrust of condoms, and stigma associated with HIV/AIDS (Kiene et al., 2004). Training clinicians to communicate with patients in a non-judgmental manner and enfranchise patients in the decision-making process are particular priorities for implementing such an intervention in South Africa.

It may be the case that, in adapting Options to the South African health care setting, greater reliance will be placed on a team approach than in the US implementation, including perhaps involving clinicians, HIV counselors, and nurses in the delivery of the intervention. In the South Africa focus groups, some female focus group participants voiced the belief that traditional healers (sangomas) and HIV positive counselors should be part of the team who delivers the intervention because there is widespread denial of HIV among men; "men will listen to the traditional healer and to an HIV positive male counselor who says: 'look I have HIV, it's real'. They

will not believe the doctor" (Kiene et al., 2004). Such sentiments may be especially true in rural areas in South Africa. Therefore, the clinician may be a less trusted source of information than a traditional healer or a peer.

There is a major limitation to prevention efforts targeting HIV positive persons in countries in which there is a limited availability of ARV medications. Where ARV medications are scarce, individuals are less likely to seek HIV testing; hence, only a relatively small percentage of people who are HIV positive will seek clinical care (International HIV/AIDS Alliance, 2003). Under these circumstances, a clinician-delivered risk-reduction intervention aimed at HIV positive individuals will only have a limited impact on the HIV epidemic as a whole.

Fortunately, there is a strong hope that ARV medications will be soon made available to a large proportion of South Africans who are living with HIV. This development encourages a vision of positive prevention in South Africa in which clinician-delivered HIV risk prevention interventions form part of an effort to decrease the spread of HIV, while a broader public health campaign, by promoting HIV testing and providing ARV therapy to those who test positive, brings help to those who need it.

Looking more broadly at the issue of prevention work in developing or resource-poor countries, some of the lessons of primary prevention can be applied to prevention efforts aimed at HIV positive individuals. The World Health Organization (2000) has advocated the use of clinics as a cost-effective point of distribution for condoms; they also recommend that clinical care sites provide health education focusing on the provision of information about risk-factors and prevention strategies, motivation to engage in prevention behavior, and behavioral skills needed to use condoms effectively. This approach has been adapted to HIV prevention among HIV positive individuals; for example, Samraksa, a non-governmental organization in Bangalore, India, has trained doctors at STD clinics to provide condoms and prevention messages to HIV positive patients (Baksi et al., 1998). Baksi and her colleagues offer preliminary data suggesting that this project is feasible and accepted by the target population.

## CONCLUSIONS

A significant minority of HIV positive individuals continue to engage in behavior that places others at risk for infection. Both the CDC and NIH have advocated prevention efforts for HIV positive persons as a critical priority to help stem the HIV epidemic, and these organizations along with the International HIV/AIDS Alliance (2003) and others have called for clinicians to play a leadership role in HIV prevention among HIV positive

patients. However, a significant percentage of clinicians do not discuss HIV risk reduction with their HIV positive patients and few if any systematically employ validated behavior change intervention strategies in this context.

Challenges to integrating HIV prevention into the clinical care setting include clinicians' lack of self-efficacy with respect to their role as behavior change agents, discomfort with sexual topics, and limited training and limited time to deliver prevention messages. We have also described important strengths of clinician-delivered behavior change interventions. The clinician, particularly in the US, is a highly trusted source of prevention information, and evidence from a number of health behavior-change interventions indicate that even a brief, clinician-delivered intervention can be effective in promoting change. The clinician, moreover, is in a position to mobilize a range of support services that can serve a wide variety of needs that an HIV positive individual may have and which stand in the way of change. Furthermore, it is possible to provide the clinician with powerful tools to promote behavior change that do not require him/her to undertake extensive training in psychological counseling or assessment. Critically, the clinical care setting provides repeated access to HIV positive persons in large numbers and over extended periods of time.

HIV risk behavior among HIV positive persons is associated with deficits in HIV risk reduction information, motivation, and behavioral skills, as well as psychosocial factors including depression, anxiety, alcohol dependency, or disruptions to effective coping brought on by extrinsic factors such as an abusive relationship or unstable housing. Hence, it is argued that an effective clinician-delivered intervention will identify and address a patient's gaps in information, motivation, and behavioral skills that are known to be antecedents of risk-taking. This approach, supplemented by appropriate referrals to mental health professionals to deal with psychosocial barriers to behavior change, is believed to have considerable potential.

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## CHAPTER NINE

## International Perspectives

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## INTRODUCTION

The burden of HIV/AIDS is shared, although not equally, by all the countries in the world. Most HIV infections occur in countries with the least resources, while most HIV prevention-related research has occurred in countries with the greatest resources. In particular, research on HIV transmission risks among people living with HIV/AIDS has primarily been reported from the US, Western Europe, and Australia. The preceding chapters in this book have strived to represent international aspects of HIV prevention for people living with HIV infection, but in many cases there has just not been enough empirical work to characterize the challenges and opportunities for HIV prevention with infected populations outside the US. This chapter therefore seeks to fill this gap. Contributions for this chapter were sought from researchers working in countries located on four continents; Europe, Australia, Asia, and Africa. Although by no means representing all perspectives from all countries, their perspectives shed light on the cultural boundaries of what we know and point us in the direction of what must be learned.