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Wayne T. Steward *

Kimberly A. Koester †

Janet J. Myers ‡

Stephen F. Morin **

*University of California, San Francisco

†University of California, San Francisco

‡University of California, San Francisco

**University of California, San Francisco

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Abstract

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Provider Fatalism Reduces the Likelihood of HIV-Prevention Counseling in Primary Care Settings

Wayne T. Steward,^{1,2} Kimberly A. Koester,¹ Janet J. Myers,¹ and Stephen F. Morin¹

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We examined the relationship between provider fatalism, a belief that behavior change among HIV-infected patients is unlikely, and HIV-prevention counseling in 16 publicly funded clinics. HIV-seropositive patients ($N = 618$) completed surveys assessing prevention counseling in the past 6 months. Additionally, 144 interviews were conducted with providers, administrators, and patients to examine beliefs about prevention counseling. We summed the number of fatalistic comments made by providers and administrators in each clinic, and assigned these counts as clinic-level fatalism scores to survey participants. Patients in high fatalism clinics were less likely to report prevention counseling than patients in low fatalism clinics. This difference remained significant even after controlling for clinic characteristics or patients' sexual risk and health status. However, clients in high fatalism clinics were more likely to be White, gay, educated, and older. Provider fatalism is a barrier that must be addressed when implementing HIV-prevention counseling in primary care settings.

KEY WORDS: fatalism; prevention with people living with HIV; clinic-based prevention; provider beliefs.

INTRODUCTION

The success of antiretroviral drug therapies has prompted calls for expanding and adapting HIV-prevention services (Global HIV Prevention Working Group, 2004; Institute of Medicine, 2001). HIV-positive individuals are living longer and more sexually active lives (CDC, 2003c; Erbeling *et al.*, 2000), and now face the challenge of maintaining safer sex practices over many years.

In the US, incorporating HIV-infected individuals into prevention activities was initially identified by the government as a key objective when a goal was established to reduce the number of new infections annually by 2005 (CDC, 2001). Unfortunately, recent studies have documented setbacks in prevention efforts, with reports of increased risk behaviors

(CDC, 1999; Chen *et al.*, 2002, 2003; Dodds *et al.*, 2000; Ekstrand *et al.*, 1999; Elford *et al.*, 2002; Katz *et al.*, 2002; van de Ven *et al.*, 2000), sexually transmitted infections (STI) (CDC, 1999; Chen *et al.*, 2002; Dupin *et al.*, 2001; Klausner *et al.*, 2000; Stolte *et al.*, 2001), and HIV (CDC, 2003b; Katz *et al.*, 2002), particularly among men who have sex with men (MSM). In response, the CDC (2003a, d) announced a new initiative to focus attention specifically on reducing HIV transmission by intervening with infected individuals.

A central component of this new initiative is the incorporation of prevention counseling into clinical care settings that serve patients with HIV (CDC, 2003a,d). Such counseling is currently not a standard care practice. In a recent study, 29% of patients said they had never discussed HIV prevention with their providers (Marks *et al.*, 2002). Furthermore, the likelihood of this outcome varied by a person's race and ethnicity, with African Americans and Hispanics reporting more counseling than Whites (Marks *et al.*, 2002). In order to be effective, risk assessments and prevention counseling need to

¹Center for AIDS Prevention Studies, University of California, San Francisco, California.

²Correspondence should be directed to Wayne T. Steward, Center for AIDS Prevention Studies, University of California, San Francisco, 50 Beale Street, Suite 1300, San Francisco, California 94105; e-mail: Wayne.Steward@ucsf.edu.

become a routine component of ongoing primary care (CDC, 2003d).

At the request of the Health Resources and Services Administration (HRSA), we conducted a study to examine the nature and likelihood of HIV-prevention counseling in clinics publicly funded by the Ryan White CARE Act. We used a research design consisting of two methods: (1) a quantitative survey administered to patients leaving primary care appointments, which allowed us to assess the likelihood of HIV-prevention counseling, and (2) qualitative interviews conducted with service providers and patients, which allowed us to explore the perceptions of HIV-prevention counseling and barriers to its implementation. We previously reported results from this study that indicated that prevention counseling is not routine in most clinics, especially those that lack formal procedures to guide its administration (Morin *et al.*, 2004; Myers *et al.*, 2004). Furthermore, findings suggested that insufficiencies in appointment lengths, provider training, and funding pose barriers to the provision of prevention programming to people living with HIV (Morin *et al.*, 2004).

In this paper, we report on findings involving provider fatalism, a belief that behavior change among HIV-infected patients is unlikely. Qualitative interviews allowed us to examine, in an open-ended manner, the types of provider beliefs and attitudes that affect the provision of prevention counseling. Fatalism emerged as one particularly salient finding in our analyses of these interviews. Here, we describe a set of procedures that we used to examine whether the providers' fatalistic beliefs are associated with the provision of prevention counseling.

The importance of exploring the effects of fatalism is highlighted by previous research. Over 50% of the healthcare providers surveyed in a recent study described their HIV-infected patients' futures as uncertain or hopeless, despite recommending the conveyance of hope as a counseling strategy (Westburg and Guindon, 2004). Research suggests that these beliefs can impact clinical services. Studies from the psychological literature have shown that providers' and patients' expectations about the likelihood of success are associated with actual outcomes in experimental or therapeutic interventions (Martin *et al.*, 1977a,b; Stewart-Williams and Podd, 2004). Additionally, multiple studies in the HIV-prevention literature have documented a relationship between an individual's fatalistic attitudes and his or her HIV-risk behaviors (Kalichman *et al.*, 1997; Somlai *et al.*, 2000). In light of these findings, we expected

that fatalistic beliefs among providers, as identified in our qualitative interviews, would be associated with less frequent administration of HIV-prevention counseling.

METHOD

Sixteen publicly funded clinics were included in the study. They were located in 11 different cities and were selected to include a geographic range of high, medium, and low AIDS-incidence areas (CDC, 2000), a mix of Ryan White CARE Act program types (Titles I–IV), and diversity in patient volume and demographics. In addition to human subjects' review at the University of California, San Francisco, we obtained approval from local institutional review boards when required by a participating clinic.

Exit Surveys

The first component of the study consisted of anonymous exit surveys administered to 618 HIV-infected patients leaving primary care appointments. These surveys allowed us to assess the percentage of patients who reported receipt of HIV-prevention counseling and other clinic services. To be included in the survey, a person had to be HIV-positive, have received primary HIV care at the clinic, and have provided verbal informed consent. The number of participants surveyed at each clinic ($M = 39$; range: 9–69) was dependent on the patient volume during a 1-week field visit. Participants were either recruited by interviewers in the waiting room or were referred by a clinic's front desk staff, depending on the nature of the setting and the confidentiality procedures at each clinic. Surveys were conducted in private or semiprivate areas arranged by the participating clinics. Fifty-six of the exit interviews were conducted in Spanish and the remainder in English. Patients were reimbursed \$10 for their participation.

The survey instrument assessed the kinds of services that had been received at the clinic. Each patient was queried specifically about whether or not he or she had discussed "safer sex and ways to prevent HIV transmission" with a provider in the clinic (prevention counseling). Respondents were asked to indicate the presence or absence of such discussions during three previous time intervals: at that day's clinic visit, at any other visit in the previous 6 months, and ever. Because prevention counseling is recommended at least twice a year (CDC, 2003d),

we limited analyses to only the first two time periods. The response categories were combined so that the results reported in this paper reflect receipt of prevention counseling (yes vs. no) at any time in the preceding 6 months (including that day's visit).

Participants also answered questions about their age, race, gender, sexual orientation, education, and recent sexual activity. They were asked about their medical history (time since HIV diagnosis, CD4 cell count, viral load, antiretroviral use, recent STI testing) and their history with the specific clinic in which they were interviewed (length of time as patient at the clinic; length of appointment that day). Most participants were African American ($n = 313$; 50%), White ($n = 155$; 25%), or Hispanic ($n = 116$; 19%). Approximately equal numbers identified as heterosexual ($n = 298$; 48%) and as gay/lesbian/bisexual ($n = 283$; 45%). Majority of the participants were male ($n = 451$; 73%), were 35 years of age or older ($n = 480$; 78%), had not obtained any college education ($n = 336$; 54%), had a detectable viral load ($n = 441$; 71%), were using antiretroviral medications ($n = 472$; 76%), and reported sexual activity in the previous 6 months ($n = 413$; 69%).

Qualitative Interviews

The second component of the study consisted of a rapid assessment of HIV-prevention practices within the clinics (Beebe, 1995). For a full description of the qualitative methods, please see Morin *et al.* (2004). Briefly, we conducted semistructured interviews with two primary care providers, two support service providers, one clinic administrator, and four patients from each of the 16 clinics ($N = 144$); recorded observations of clinic waiting rooms for presence or absence of HIV-prevention materials; and collected background information on each clinic, including descriptions of mission statements, structure, and population served. We used a purposeful sampling strategy, a method designed to select "information rich" participants assumed to have an in-depth knowledge about the research topic (Patton, 1990). At each clinic, a staff person closely linked to the providers assisted us in identifying participants to be interviewed, a recruitment strategy used when researchers are unable to identify appropriate informants due to logistical limitations (Morse, 1994). Interviews were conducted in a private space at each clinic, tape-recorded, and transcribed. Patients

were reimbursed \$25 for their time. Providers and clinic administrators were not reimbursed, but each clinic received \$200 for agreeing to participate in the study.

Interview Guides

The main purpose of these interviews was to capture the perceptions of and concerns about clinic-based HIV prevention (Morin *et al.*, 2004). For example, we oriented our provider participants by prefacing each interview with the following statement: "We are interested in how clinics and providers within these clinics approach HIV prevention with HIV-infected patients." The interviews then proceeded using a set of core questions that were structured to elicit providers' practices and perspectives about HIV prevention and their clinical encounters. Interviewees were asked to describe their role in prevention discussions and activities with HIV-infected patients, and to describe: (1) how they talked with infected patients about HIV prevention and (2) the typical occasions that prompted discussions of HIV prevention. We also asked providers to describe the factors that affected their ability to discuss HIV prevention and the issues that they felt influenced patients' HIV-prevention practices.

For clinic administrators, interviews focused on institutional (clinic) philosophy and resources for HIV prevention. Example questions included, "What is the clinic's view of HIV prevention?," "Are there designated procedures that are used for HIV-prevention assessment and discussion with HIV-infected patients?," and "How do you think HIV-prevention issues would ideally be addressed within your clinic?" On the other hand, patients were asked to describe their most recent clinical experience and then were queried about occasions in which HIV prevention may have been discussed.

Data were analyzed using an open-coding process developed by Strauss and Corbin (1998). Analysts read a cross section of interviews to identify an initial set of analytic codes. This preliminary codebook was applied to a second set of interviews; codes were further modified and clarified. After several revisions to the preliminary codes, the final codebook was applied to the entire dataset. The coded data were subsequently organized using Ethnograph[®], a qualitative software program. The characteristics of the major themes were identified and comprehensive reports were drafted for each site. The final

codebook and the interview guide are available from the authors.

Analytic Plan for Linking Qualitative and Quantitative Findings

Fatalism was first identified as an important theme in the 80 qualitative interviews with providers and clinic administrators. The Results section provides a more detailed description of these initial findings. For this paper, we primarily were interested in examining the link between fatalism and the provision of prevention counseling, which necessitated linking the qualitative findings with the quantitative exit survey. Mental concepts like fatalism vary in their accessibility, the degree to which a person is likely to think about them (Higgins, 1996). Behavioral scientists have used a variety of techniques to measure accessibility. One option is to count the number of times a particular concept is mentioned (Higgins *et al.*, 1982; Lau, 1989). This particular approach is based on the assumption that people are more likely to discuss spontaneously concepts that they think about regularly.

Based on this research, we enumerated the number of segments (i.e., blocks of text) coded as “fatalism” in the interviews conducted with each of the clinics’ providers and administrators. (We excluded from this tallying the one segment of text that was coded as “fatalism” in the patient interviews.) These counts were aggregated to form an overall fatalism score for each of the 16 clinics. Scores ranged from 0 to 12 ($M = 2.96$, $SD = 3.33$), with a higher number indicating greater fatalism. This clinic-level variable was added to the exit survey data set and used to assess the extent to which provider fatalism was associated with the likelihood of HIV-prevention counseling.

An initial inspection of the relationship between fatalism and prevention counseling revealed a nonlinear relationship. There was a 15 percentage point difference in the average number of patients who received counseling in clinics with fatalism scores of four or below and the average number of patients reporting counseling in clinics with scores of five or above. Furthermore, within these groupings, there was no evidence of a linear relationship between fatalism and counseling. These findings weighed against the treatment of fatalism as a continuous variable. Therefore, we divided the participants according to the groupings observed in the

data. The 80% of patients ($n = 495$) who were seen in clinics where providers had made zero to four fatalistic statements were assigned to a “low fatalism” group and the final 20% of patients ($n = 123$), who were seen in clinics where providers had made five to 12 fatalistic statements, were assigned to a “high fatalism” group.

Model Selection

Because data collected in clinic settings is often clustered (i.e., a patient is more similar to other patients in the same clinic than to patients in other clinics), we analyzed the relationship between prevention counseling and fatalism using robust generalized estimating equations (GEE). These models allowed us to obtain odds ratios for the various predictors while adjusting the estimated standard errors for the potential clustering.

We ran three models. The first GEE analysis examined the bivariate relationship between fatalism and prevention counseling. The second model explored the moderating effect of clinic characteristics. In this multivariate analysis, we examined the association between fatalism and prevention counseling, after controlling for clinic size, length of patients’ appointments, and clinic procedures. Our previous work has shown that each of these characteristics is an important determinant of counseling. Patients are more likely to receive prevention counseling when they are seen at smaller clinics (Morin *et al.*, 2004), when they have appointments longer than 30 min (Morin *et al.*, 2004), and when the clinic has formal procedures to guide the administration of prevention services (Morin *et al.*, 2004; Myers *et al.*, 2004).

Finally, in a third GEE analysis, we explored the effects of patient characteristics. Because these characteristics vary in their relevance to prevention counseling, we decided to construct a hierarchical model. Along with fatalism, we first entered into the model characteristics that should be used by providers to target prevention counseling to people who need it most. These variables included indices of risky behavior (recent sexual activity; recent STI testing), as well as items encoding the length of time since HIV diagnosis and the length of time that a patient had been using clinic services. (The latter variables were included because prevention guidelines recommend counseling for all new patients (CDC, 2003d).) For the second step of the model, we added in variables

that are associated with a patient’s health (viral load; use of antiretroviral medications). Although these characteristics are not a formal component of HIV-risk assessments, they still may provide information on the likelihood of risk behaviors (e.g., sicker patients are less likely to be sexually active). We did not include CD4 cell count in this step because of a large amount of missing data. Finally, in Step 3, we added in patients’ demographic information (race; gender; sexual orientation; age; education), characteristics that presumably are not part of a formal risk assessment. After each step in the model, we examined the association between prevention counseling and fatalism.

RESULTS

Initial Findings From the Qualitative Interviews

In the qualitative interviews, some clinic personnel expressed feelings of ineffectiveness. Providers in 14 of the 16 clinics described frustration at, or outright failure in, their efforts to counsel patients on HIV prevention. They also identified a number of interrelated reasons for this frustration, including drug use among patients, a feeling of invincibility among youth, nonadherence from patients, and structural limitations (e.g., time constraints). However, frustrations were most pronounced in clinics that served primarily MSM. Providers in these settings expressed a sense of fatalism—a feeling that behavior change was highly unlikely among their patients. These responses were often elicited after the following interview questions: “How do you see your role in prevention discussion with HIV-infected patients?,” “How do you approach patients on this [prevention counseling]?,” “Is there anything that you find personally difficult about talking about prevention with your patients?,” and “What are some of the difficulties in addressing prevention with HIV-infected patients?”

Fatalism was manifested in general statements such as, “*how much of this can we change if it hasn’t changed already*” (physician), “*it’s fundamentally very hard to change people’s behavior, I have become more and more cynical*” (physician), “*I think it’s really hard to know how to approach getting people to take responsibility*” (physician), and “*you talk until you’re blue in the face and you think they’ve heard everything and understand everything and yet they’re still out there infecting other people*”

Table I. GEE Analysis Predicting Prevention Counseling, When Controlling for Clinic Characteristics

Predictor variable	<i>n</i> ^a	Adjusted <i>OR</i>	95% <i>CI</i> ^b
Fatalism			
Low fatalism	481	1.00	Reference
High fatalism	117	0.51	0.32, 0.81
Clinic HIV-prevention procedures			
No clinic or provider procedures	95	1.00	Reference
Informal procedures used by individual providers	384	0.79	0.57, 1.08
Formal clinic procedures	119	1.54	0.75, 3.15
Size of clinic			
Small (less than 300 clients)	42	1.00	Reference
Medium (300–1000 clients)	224	0.68	0.40, 1.15
Large (more than 1000 clients)	332	0.39	0.23, 0.67
Length of a patient’s appointments that day ^c			
30 min or shorter	469	1.00	Reference
Longer than 30 min	129	1.50	1.00, 2.24

^aDue to missing data, the number of participants does not sum to 618.

^b*CI* : 95% Confidence Interval. Standard errors were adjusted for clustering by clinic.

^cThe data for patients’ appointment lengths are dichotomized to ease interpretation of the *OR*. Findings were similar when appointment length was entered into the GEE model as a continuous variable.

(nurse practitioner). One clinic director described several barriers to conducting HIV prevention and concluded by questioning the efficacy of brief counseling:

I suppose one is time, finding the time to do it. The other is having a mechanism whereby it happens consistently. I suppose the other is patients’ reluctance to talk about it, that they might not be concerned about transmission. The patients may not disclose accurately their sexual behaviors. And I think the biggest issue is that it’s probably really hard to change behaviors. And I don’t know if just talking about it briefly and commenting on it, you know really makes much behavioral change. Maybe it does, maybe it doesn’t, in terms of using safer sex methods. (Director of a clinic with an all-male clientele)

Some providers offered a rationale for their fatalistic beliefs. For example, another clinic director identified relevant opinions in the local gay community: “*Some people feel if you’re gay, it’s just a matter of time before you get it. It doesn’t matter when.*” In contrast, a provider rooted her fatalistic belief in an epidemiological understanding of HIV transmission:

We just heard the statistics that something like 9 cities across the United States—something like 10–15% of all new infections are people getting infected with drug resistant virus. So the people that are giving the virus to these people already know they're infected and they're already taking medications. So these are our patients that we teach and instruct on a daily basis who are going out and infecting other patients. In some regards I think it's like almost hopeless to try to change people's sexual behavior, I shouldn't say that but you know, that's basically what my feeling is. (Nurse Practitioner)

Findings From the Exit Survey

There was a significant bivariate association between provider fatalism and prevention counseling, which was tested in the first GEE model. Sixty percent of participants seen in clinics with low fatalism had discussed, within the previous 6 months, safer sex and ways to prevent HIV transmission. By contrast, 45% of patients in clinics with high fatalism had similar discussions, ($OR=0.54$, 95% CI 0.35–0.81, $p<.005$).

In the second GEE analysis, we investigated whether other clinic characteristics moderated the association between fatalism and prevention counseling. As seen in Table I, fatalism remained a significant predictor even after accounting for the effects of clinic size, length of patients' appointments, and clinic procedures.

Finally, in the third GEE model, we explored whether patient characteristics moderated the relationship between fatalism and prevention counseling. As seen in Table II, fatalism remained a significant predictor of counseling when indices of risk behavior (Step 1) and patients' health status (Step 2) were included in the model. However, when patient demographic characteristics were added (Step 3), the association between fatalism and prevention counseling dropped to nonsignificant. In the final model, patients were more likely to report receipt of prevention counseling if they were sexually active in the previous 6 months, recently tested for an STI, not on antiretroviral therapy, under 35 years of age, and not college educated.

We used GEE to conduct additional posthoc analyses exploring the relationship between fatalism and patient demographic characteristics. Compared to low fatalism clinics, patients in high fatalism clinics were more likely to be White as opposed to African American $OR=5.34$, 95% CI 1.43, 19.97, to report a homosexual or bisexual orientation as opposed to

a heterosexual orientation $OR=2.30$, 95% CI 1.08, 4.89, to have had some college education as opposed to a high school education or less $OR=3.10$, 95% CI 1.21, 7.91 and to be 35 years of age or older as opposed to under 35, $OR=2.90$, 95% CI 1.79, 4.71. They also tended to be male, although this difference failed to reach significance, $OR=1.75$, 95% CI 0.98, 3.13.

DISCUSSION

Introducing prevention services into healthcare settings is a key component of recommendations to integrate HIV prevention and treatment activities (CDC, 2003a,d; Global HIV Prevention Working Group, 2004). However, the success of these new efforts requires the support and effort of the medical and service providers who treat HIV-infected individuals. Our study in publicly funded clinics suggests that some providers feel that behavior change is unlikely among their clients, thus leading them to believe that prevention interventions will be ineffective. Consistent with this belief, we found that patients receiving care in clinics with high provider fatalism are less likely to have had recent conversations about safer sex and HIV prevention than patients in clinics with low fatalism.

The relationship between provider fatalism and the provision of counseling is not moderated by prevention counseling's associations with clinic characteristics, patients' sexual risk-taking, and health status. Instead, fatalism and counseling were associated only with patient demographics. Clinics characterized by high fatalism and a relatively low provision of prevention counseling had a patient population that tended to be White, gay, male, educated, and older.

Recent research indicates that unprotected anal intercourse occurs more frequently among HIV-infected MSM who are White and older (Chen *et al.*, 2003). Thus, these men should be *targeted* to receive prevention counseling. Instead, our research suggests that older, White MSM are receiving treatment from providers who feel unmotivated to address the topic of HIV prevention. This finding highlights a critical challenge when implementing prevention counseling in clinical settings. Behavioral interventions need to occur most often with individuals who engage in risk behaviors repeatedly and with groups known to be at high risk. Thus, providers must be persistent in pursuing prevention counseling with the clients that they perceive to be the least likely to change their

Table II. Hierarchical GEE Analysis Predicting Prevention Counseling, When Controlling for Patient Characteristics

Predictor variable	n ^a	Step 1		Step 2		Step 3	
		Adjusted OR	95% CI ^b	Adjusted OR	95% CI ^b	Adjusted OR	95% CI ^b
<i>Fatalism</i>							
Low fatalism	431	1.00	Reference	1.00	Reference	1.00	Reference
High fatalism	104	0.52	0.35, 0.76	0.51	0.34, 0.75	0.76	0.41, 1.39
<i>Length of time as patient at clinic^c</i>							
1 year or less	152	1.00	Reference	1.00	Reference	1.00	Reference
More than 1 year	383	0.60	0.32, 1.14	0.62	0.33, 1.15	0.59	0.29, 1.19
<i>Time since HIV diagnosis^c</i>							
Less than 1 year	56	1.00	Reference	1.00	Reference	1.00	Reference
1 year or more	479	0.42	0.17, 1.03	0.42	0.17, 1.06	0.44	0.17, 1.19
<i>Sexually active in previous 6 months</i>							
No	162	1.00	Reference	1.00	Reference	1.00	Reference
Yes	373	1.65	1.15, 2.38	1.62	1.12, 2.34	1.77	1.27, 2.48
<i>Tested for STI in previous 6 months</i>							
No	342	1.00	Reference	1.00	Reference	1.00	Reference
Yes	193	3.19	2.07, 4.93	3.16	2.03, 4.91	3.21	2.02, 5.11
<i>Viral load</i>							
Undetectable	155			1.00	Reference	1.00	Reference
Detectable	380			0.95	0.61, 1.47	0.84	0.54, 1.32
<i>Antiretroviral use</i>							
No	128			1.00	Reference	1.00	Reference
Yes	407			0.63	0.41, 0.98	0.63	0.41, 0.98
<i>Race/ethnicity</i>							
White	138					1.00	Reference
African American/Black	272					1.67	0.98, 2.86
Hispanic/Latino	100					1.19	0.68, 2.07
Other	25					0.94	0.45, 1.98
<i>Gender^d</i>							
Female	127					1.00	Reference
Male	408					0.79	0.53, 1.18
<i>Sexual orientation</i>							
Heterosexual	267					1.00	Reference
Gay, Lesbian, or Bisexual	268					0.73	0.42, 1.27
<i>Age^c</i>							
34 years or younger	121					1.00	Reference
35 years or older	414					0.66	0.44, 1.00
<i>Education^c</i>							
High school graduate/GED or less	293					1.00	Reference
Some college or more	242					0.69	0.48, 1.00

^aDue to missing data, the number of participants does not sum to 618.

^bCI : 95% Confidence Interval. Standard errors were adjusted for clustering by clinic.

^cThe data for these characteristics are dichotomized to ease interpretation of the OR. Findings were similar when these characteristics were entered into the GEE model as continuous variables.

^dBecause of low numbers, transgenders were dropped from this analysis.

behaviors. The difficulty of initiating these prevention conversations is heightened in the context of ongoing patient-provider relationships, which rely on good rapport for promoting compliance with other components of medical treatment and care.

In our previous work, we suggested that clinics should establish clear, written procedures for the provision of prevention services (Myers *et al.*, 2004). This recommendation is also of use in overcom-

ing the impact of fatalism among providers. Formal guidelines help guarantee that all patients receive a minimal level of counseling, thus limiting the role that providers' subjective impressions play in the provision of services.

However, fatalism among providers may also affect the *quality* of counseling, a problem not rectified by written procedures. Although the data in the current study do not allow us to examine this

issue directly, research in other domains has shown that outcome expectancies are associated with intervention success in both therapeutic and experimental situations (Martin *et al.*, 1977a,b; Stewart-Williams and Podd, 2004). Patients are less likely to successfully change their behavior if they, or the people administering the intervention, believe that failure is likely. To reduce the likelihood of this outcome, the introduction of prevention counseling programs should include proper training in behavioral intervention techniques. This step helps ensure that providers have the skills and confidence to intercede with even the most challenging patients. Providers have many reasons to expect success with their counseling. Research demonstrates that clinic-based behavioral interventions are effective at changing patients' health behaviors (Bolu *et al.*, 2004; Calfas *et al.*, 1996; Campbell *et al.*, 1994; Cornuz *et al.*, 1997; Fleming *et al.*, 1997; Hartmann *et al.*, 1996; Hollis *et al.*, 1993; Ockene *et al.*, 1999; Richardson *et al.*, 2004; Rost *et al.*, 2000; Senft *et al.*, 1997; Stevens *et al.*, 1995). More specifically, recent trials of clinic-based HIV-prevention interventions indicate that providers are able to implement intervention protocols in most clinical encounters (Fisher *et al.*, 2004) and that such programs can reduce HIV-infected patients' transmission risk behaviors (Richardson *et al.*, 2004).

The findings from this study are tempered by several limitations. First, the nature of our study design—and the fact that fatalism emerged first as a finding in the qualitative portion of the research—limits our ability to study the effect of provider attitudes on individual patient outcomes. Within clinics, some providers are likely to be more fatalistic than others, and some patients are more likely than others to induce fatalistic responses. Understanding the characteristics of these individual providers and patients will be an important step for future research. Second, our ability to generalize our findings is limited by the fact that the clinics were exclusively publicly funded. In addition, the rules at some of the clinics required staff to make an initial inquiry about study participation, which prohibits us from determining if patients who refused to participate in the exit survey were different from those who did participate.

Instituting HIV-prevention counseling in primary care settings creates new opportunities to provide education, information, and support for seropositive individuals. However, provider training and support are necessary to ensure that attitudinal

and skills-related barriers do not limit the regularity with which such counseling is offered.

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