

mental health AIDS

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Biopsychosocial Update

HIV Prevention News

About Adolescents & Young Adults

Houck et al. (2006) observe that “[p]revention efforts are most successful when they are compatible with their target audiences. ... In the field of HIV prevention, the challenge of addressing adolescents within the context of other risk behaviors and life circumstances provides an opportunity to **increase the relevance of intervention approaches** to reduce the transmission of HIV” (p. 627). To this end, Houck and colleagues utilized cluster analysis to categorize a community sample of 1,153 adolescents (ages 15 to 21 years) with histories of unprotected sex into five HIV risk domains: unprotected sex, mental health crises, alcohol/marijuana use, other drug use, and arrest/school dropout. “Cluster analysis revealed separate three-cluster solutions for males and females. Among males, clusters were characterized by (a) mental health crises and unprotected sex, (b) alcohol/marijuana use and unprotected sex, and (c) lower risk. Among females, clusters were distinguished by (a) unprotected sex, (b) substance use and mental health crises, and (c) lower risk” (p. 619). The “lower risk” clusters reflect the finding that “most of the sexual risk behavior was accounted for by less than 50% of the participants” (p. 624).

With regard to risk reduction interventions, the investigators stress that

“adolescents with a history of mental health crises are likely to be at sexual risk and may benefit from prevention efforts” (p. 626) and that “[c]omprehensive interventions that convey an understanding of adolescents’ situations, including acknowledging the complex reasons for engaging in risk, appear to be the next step in adolescent HIV prevention efforts” (p. 627).

[C]omprehensive interventions may provide greater impact by addressing the “bigger picture” of adolescent’s lives. For example, adolescents can be encouraged to adhere to prescribed psychiatric medication. Moreover, specific mental health issues may dictate differences in clinical intervention efforts. Programs for adolescents with a history of psychiatric crises may require greater focus on identifying strategies that decrease emotional distress and enhance social support, whereas those targeting teens with arrest or truancy histories might focus on helping young adults identify more options for their futures or strategies for reducing impulsive behavior that may lead to arrest. (p. 627)

Houck and colleagues also stress that “clusters labeled ‘lower risk’ included large numbers of adolescents. ... [who] still engaged in behaviors that put them at significant risk for HIV and ST[D]s [sexually

transmitted diseases]”. Unlike with other clusters that exhibited co-occurring risks (e.g., substance use, mental health crises), identifying factors contributing to sexual risk as targets for intervention among this subsample proves more difficult, but nonetheless critical” (p. 627).

Less comprehensive interventions do, of course, continue to have their place in the prevention armamentarium. It stands to reason, for example, that interventions designed to increase condom use may be enhanced if they furnish **cues to recall safe-sex messages** in the context of sexual activity. In Canada, Dal Cin, MacDonald, Fong, Zanna, and Elton-Marshall (2006)

tested this notion by assigning sexually active introductory psychology students ($N = 196$) to a standard safe-sex intervention, a safe-sex with reminder intervention, or a control (drinking and driving) intervention. Participants assigned to the reminder intervention were given a “friendship bracelet” to wear and were instructed to have the bracelet remind them of the intervention. In

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a follow-up session (5-7 weeks later), they were asked questions pertaining to condom use. Of the 125 participants who had engaged in sexual intercourse, condom use at last intercourse was higher in the bracelet condition (55%) than in the standard (27%) or control (36%) conditions. The authors also found that the bracelet remained effective, even when participants were under the influence of alcohol. These findings therefore imply that health intervention programs may be more efficacious if they include ... reminder cues to increase the salience of health information in the appropriate contexts. (p. 438)

About Men Who Have Sex With Men

Williams, Bowen, Timpson, Ross, and Atkinson (2006) randomized a targeted sample of 112 **street-based male sex workers** to one of two brief HIV risk reduction interventions: a two-session "standard" information and skills-building intervention or a two-session "standard-plus" intervention offering the same information and skills, but designed to increase intentions to use condoms during anal intercourse with paying partners. Data were collected at baseline, at 1 month postintervention, and at 3 months postintervention. The investigators found that "[c]ondom use during paid anal sex increased postintervention. In addition, condom use intentions, positive condom use

outcome expectations, and condom use normative expectations increased preintervention to postintervention. However, there were no significant differences between the standard and the standard-plus brief interventions in any of the outcomes measured" (p. 204). Although conclusions cannot be generalized beyond this targeted sample, "at least some street-based [male sex workers] ... can be engaged in brief HIV risk reduction interventions and are able to ... [reduce] sexual risk behaviors after participating in an intervention" (p. 214).

French investigators (Bouhnik et al., 2006) interviewed 607 gay men living with HIV who acknowledged that they had engaged in sexual activity with casual partners during the preceding 12-month period; 140 (20%) of these men acknowledged that at least one of these encounters included unprotected anal intercourse. Importantly, "[p]oor mental HRQL [**health-related quality of life**] was encountered in 68% of the patients and found to be independently associated with unsafe sex, even after multiple adjustment[s] for number of partners, occurrences of binge drinking, use of anxiolytics, use of the Internet, and use of outdoor and commercial venues for sexual encounters" (p. 597). The investigators conclude that "[r]isky sexual behavior with casual partners is frequent among HIV-infected gay men. In addition to other well-known factors, be-

havior of this kind was found in this study to be related to poor mental HRQL. A more comprehensive approach to care designed to improve mental quality of life might therefore make for more effective secondary prevention" (p. 597).

About Women & Men

Walch and Rudolph (2006) explored the relationship between HIV-related risk behavior and **negative affective symptomatology** among 185 consecutively recruited men and women who presented for anonymous HIV testing. The investigators found that "[g]reater HIV-related risk behavior was associated with *high* levels of anxiety and moderate or high levels of depression for bisexual women. Greater HIV-related risk behavior was also associated with *low* levels of anxiety and mild to moderate levels of depression for bisexual men" (italics added; p. 324).

The findings ... suggest that simple, linear models may not accurately capture the nature of the relationship between negative affective states and sexual risk behavior. Results indicated that depression and anxiety were significantly related to HIV-related risk behavior among bisexual men and bisexual women but not among heterosexual men, heterosexual women, or homosexual men, suggesting that the relationship between negative affect and HIV-related risk behavior is moderated by gender and behavioral sexual orientation. (p. 332)

Walch and Rudolph astutely observe that, "[w]hether depression and anxiety are the cause or consequence of HIV-related risk behavior, interventions aimed at reducing these uncomfortable and potentially debilitating affective states are warranted. Given an association among these variables, interventions that influence one factor may also have an influence on the other factor ..." (p. 331).

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Noar, Carlyle, and Cole (2006) conducted a meta-analysis

to quantitatively synthesize the growing literature on **the relationship between safer sexual communication (SSC) among sexual partners and condom use**, and to systematically examine a number of conceptual and methodological moderators of this relationship. Data from 53 articles published [between 1989 and 2003] in 27 journals met criteria for the study. Fifty-five independent effect sizes coded from samples totaling $N = 18,529$ were meta-analyzed. Results indicate that the mean sample-size weighted effect size of the SSC-condom use relation was $r = .22$. (p. 365)

"An effect of this magnitude suggests that communicating with a sexual partner about safer sex is important, and suggests that this may be an important determinant of safer sexual behavior. In addition, the effect held up in longitudinal ($r = .20$) as well as cross-sectional studies ($r = .22$), suggesting that the effect is robust" (p. 380). Moreover, several conceptual variables were found to moderate the relationship between SSC and condom use.

Specifically, communication about condom use ($r = .25$) and sexual history ($r = .23$) had significantly ... larger effect sizes than communication about safer sex ($r = .18$). In addition, SSC measures operationalized differently had significantly ... different effect sizes. From largest to smallest, these were behavioral format ($r = .29$), intentional format ($r = .18$), and self-efficacy format ($r = .13$).¹ Measures that

¹ Behavioral format: "The extent to which one *has communicated* or insisted on safer sex with a sexual partner" (p. 371). Intentional format: "The extent to which one *plans on communicating* about or insisting on

tried to assess persuasion attempts as compared with informational exchanges were not found to have significantly different effect sizes Further, methodological moderators tended to be unrelated to effect size. (pp. 365-366)

Noar and colleagues emphasize that

[t]he data from this meta-analysis ... suggest that behavioral skills such as SSC must be a major focus of HIV preventive interventions. ... Although the current meta-analytic data are correlational in nature, they may represent the strongest evidence yet that possessing and using communication skills ... [are] related to increased safer sexual behavior. ... Interventions ... to ... teach ... individuals how to talk about safer sex ... should attempt to build individuals' self-efficacy to talk about and negotiate condom use as well as other important sexual risk reduction skills such as refusal of unwanted intercourse. (pp. 383-384)

About Women

On the subject of safer sexual communication, Perrino, Fernández, Bowen, and Arheart (2006) studied **condom use and condom use attempts** among 305 low-income, African American women at high risk for HIV infection who reported having a main sex partner. The investigators found that

[w]omen who had recently attempted to convince their main partner to use condoms were almost 10 times more likely to have recently used condoms with their partner than women who had not made an attempt. Among the subsample of 116 women who

safer sex with a sexual partner" (p. 371). Self-efficacy format: "One's *perceived ability to communicate* about or insist on safer sex with a sexual partner" (p. 371).

had recently made a condom use attempt with their main partner, having a history of childhood [emotional, physical, or sexual] abuse and having one's main partner raise infidelity questions in response to the condom use attempt were negatively associated with recent condom use with this partner. (p. 70)

Perrino and colleagues observe that clinicians working with "women who experienced childhood abuse should address safer sex negotiations as an important treatment goal, given these women's vulnerability to HIV infection" (p. 79). Additionally, "HIV prevention interventions should target accusations of infidelity as potential outcomes of condom use attempts. Specifically, interventions that help women prepare for these responses from their main partner and develop effective ways of defusing these situations should be very helpful. Special emphasis may have to be paid to appropriately timing condom use discussions, and framing them in nonthreatening manners that stress the value of safer sex even in committed relationships" (p. 80). Finally, Perrino and colleagues observe that

HIV infection prevention programs that target women individually have a distinct disadvantage when it comes to modifying partner behavior or relationship dynamics and patterns ... The benefit of intervening at the relationship level is that both partners can become actively involved in behavior change goals. At the same time, interventions can use methods that minimize disruption within the relationship, thereby preserving its integrity. This is especially important when one targets women in established relationships. Given the tendency for women, perhaps especially minority women, to place their relationships ahead of their own personal interests ..., this type

of intervention may be especially effective as well as highly sensitive and culturally appropriate. (p. 81)

About Men

Harvey and Henderson (2006) investigated the influence of a variety of factors on the **use of condoms** in a community-based sample of 191 **young Latino men** (of primarily Mexican descent) living in greater Los Angeles. Interestingly, the investigators found that

relationship factors were more predictive of men's condom use behaviors than were intrapersonal factors. More specifically, ... [Harvey and Henderson] found that in addition to more positive attitudes toward condoms, stronger partner condom norms and greater participation in decision-making about condom use were significantly associated with both condom use and condom use intentions. Moreover, men reporting lower expectations of negative partner reactions to condom requests were more likely to use condoms, and condom use intentions were higher among men reporting more health protective communication in the relationship. Taken together, these findings indicate that men's protective behaviors are influenced by their female sexual partners and the dynamics within their relationships. (p. 566)

Drawing on these findings, Harvey and Henderson stress that

interventions to prevent HIV among Latinos need to include men as well as women and address the role of relationship factors and dynamics in safer sex practices. Interventions may also need to engage both members of a sexually active couple in order to improve communication about sexual needs and safer sex strat-

egies. By providing couples with opportunities to discuss these issues, encouraging them to share responsibility for these decisions and promoting positive attitudes towards condom use, programs and services could potentially increase protective behavior among young Latino women and men at risk for HIV. (p. 568)

Tool Box

New Thinking on Not Thinking About HIV Risk

"Theories underpinning HIV prevention generally do not account for ... nonrational aspects of sexuality ..."
— Martin, 2006, p. 214

In 1996, McKirnan, Ostrow, and Hope observed that "[e]xplanatory models that link [HIV-related] risk-taking and prevention to rational processes such as knowledge, social norms, behavioural intentions, or perceived vulnerability to infection ... cannot fully account for the continued risk behaviours observed in virtually all cohorts of gay men" and that "innovative conceptions of risk and risk prevention are needed, that emphasize non-rational, affective processes in risk-taking and decision-making" (p. 655).

McKirnan and colleagues further contend that "for many people risk behavior is not the result of limited resources, misinformation, or inappropriate attitudes. Rather, many people find it aversive to be continually aware of HIV and restrictive sexual norms. By cognitively 'escaping' from this awareness, they may be particularly vulnerable to sexual risk. Alcohol or drug use, or the approach of highly stimulating sexual contexts, may facilitate this cognitive escape" (p. 656).

More recently, Hoyt, Nemeroff, and Huebner (2006) synthesized this cognitive escape paradigm with Wegner's ironic processing theory. Ironic processing theory, which is based on experiments that suggested paradoxical effects associated with the conscious act of thought suppression,

The National Institute of Mental Health (NIMH) Multisite HIV Prevention Trial Group (2006) conducted a new study of **Project LIGHT** (Living in Good Health Together), a seven-session, small-group HIV prevention intervention originally tested in a large, randomized, controlled trial involving low-income women and men served in 37 public health settings across the United States (NIMH

echoes the work of Sigmund Freud. The theory stipulates that

an attempt to control cognitive activity through conscious escape (suppression) activates the "unconscious ironic monitoring process," which searches the ... [unconscious] to catch the unwanted thought before it breaks through to conscious awareness. The result is that the very thoughts that are least desirable become more highly accessible to the conscious mind, and more difficult to avoid, than would occur without suppression (hence the term *ironic*). Individuals who attempt to suppress certain thoughts soon become overwhelmingly preoccupied with them This in turn may lead to increased unwanted emotional, cognitive, and behavioral expression so that cognitive escape might, in fact, be a pathway to risk behaviors and other negative affective and cognitive consequences. (Hoyt, Nemeroff, & Huebner, 2006, p. 456)

In their synthesis of these two areas of investigation, Hoyt and colleagues "hypothesized that thought suppression might increase risk by leading MSM [men who have sex with men] to 'escape' from sexual safety norms and engage in risky sex behaviors and, via a paradoxical process, increase future use of community prevention services" (p. 455). To test out this hypothesis, Hoyt and colleagues surveyed a convenience sample of MSM at baseline ($n = 709$) and again approximately 6 months later ($n = 399$).

As expected, ... findings suggest that suppressing HIV-related

Multisite HIV Prevention Trial Group, 1998). In this new study, 99 adult men receiving outpatient mental health services in Los Angeles or New York City were randomized to either Project LIGHT or a one-session video intervention. "The seven [Project LIGHT] sessions covered the following topics: (a) knowledge of HIV; (b) personal triggers for risk behavior; (c) use of problem solving skills to re-

duce risk; (d) condom use; (e) assertiveness in negotiating safer sex; (f) negotiation strategies for risk reduction; and (g) relapse prevention ..." (p. 145).

Consistent with other studies, individuals with mental health problems in this study responded to the intervention with significant decreases in the number of un-

protected sexual risk acts. The effect size (78.7%) indicated that these changes were not just statistically significant, but also clinically meaningful. ... [Moreover], the effects of Project LIGHT were sustained at similar levels across 12 months with little variation in effects over time. The sustainability of the results of the intervention at 12 months is an im-

thoughts is associated with concurrent, but not future increased sexual risk behavior. Conversely, thought suppression was associated with future increased use of HIV/AIDS-related community prevention services yet not concurrent use of these services. Although the magnitude of effects observed in this study is small, this pattern of results supports the hypothesized framework, in which suppressing HIV-related thoughts is associated with current health risk behavior and a later rebound in attending to protective and preventive services. (Hoyt, Nemeroff, & Huebner, 2006, pp. 458-459)

Hoyt and colleagues conclude that, "[a]lthough thought suppression may be only one component of a more broadly conceptualized phenomenon of cognitive escape ..., the present study provides support for the association between cognitive escape and risk behavior, as thought suppression may lead to slips in safety practices that might otherwise be maintained" (p. 459).

"The importance of the cognitive variable would not be predicted on the basis of any well-recognized theory of HIV risk behavior ..."
— Stacy, Ames, Ullman, Zogg, & Leigh, 2006, p. 204

Cruising on Automatic

Stacy, Ames, Ullman, Zogg, and Leigh (2006) enlarge this focus on the relationship between cognition and HIV risk behavior in their recent reporting on the phenomenon of "spontaneous cognition." According to these investigators, "spontaneous forms of cognition ... do not address or encourage consideration of pros or cons, judgments of effects, self-perceptions, or

other processes characteristic of executive control functions The focus is simply on activation of content in memory ... " (p. 196). "Risk-consistent spontaneous cognitions ... represent both chronically accessible cognitions and cognitions that are readily prompted by related cues. In both cases, these cognitions are ... important for risk behavior because they color one's train of thought, delimit the range of behavioral options available for subsequent processing, and essentially steer behavior in the direction of risky actions" (p. 197).

Stacy and colleagues administered three measures of spontaneous cognition (i.e., a letter-completion task, a behavior-completion task, and an event-completion task, in each of which sex-related responses were noted) to an ethnically diverse sample of 502 adults participating in drug diversion and drug treatment programs in greater Los Angeles. Additional measures focused on impulsivity, sensation seeking, acculturation, drug use, and sexual behavior. All measures were completed anonymously.

Importantly, Stacy and colleagues found that

spontaneous cognition has statistically predictive effects on risk tendencies, even in competition with much more frequently emphasized constructs of major focus in HIV-related research. Spontaneous cognition was a better independent predictor of HIV risk behavior tendencies overall than was drug use, which is often a focus of sex-related research. Spontaneous cognition is not merely a symptom of problem behaviors associated with drug use. The independent pre-

dictive effects of spontaneous cognition usually were comparable with the prediction power of sensation seeking, a personality trait frequently related to HIV risk behavior. Spontaneous cognition also fared well when investigated after adjusting for a range of other variables, including possible ethnic or acculturation effects. (p. 203)

Stacy and colleagues anticipate that "[f]uture research may further elucidate the process through which spontaneous cognition and risky sex are linked" (p. 205). The investigators expect that such research efforts "should advance theories relating basic processes to behavior as well as interventions that typically focus only on explicit cognition or rational models of a frequently irrational behavior" (p. 205).

"Under conditions of cognitive disengagement, knowledge or intentions, no matter how appropriate, cannot have a decisive influence on behaviour."
— McKirnan, Ostrow, & Hope, 1996, p. 666

Countering Cognitive Disengagement

Anticipating the above-referenced research on spontaneous cognition, McKirnan and colleagues suggest that "negative affect over HIV may lead people to 'cognitively disengage' within the sexual situation, ... not ... follow their norms or intentions toward safety[, and instead] ... enact 'automatic' sexual scripts and/or become more responsive to external pressures toward risk" (p. 655). Moreover, "[i]f HIV-related thought suppression is associated with sexual risk behaviors," reason Hoyt and colleagues,

(Tool Box is continued on Page 6)

portant advance over earlier interventions tested with [persons with mental health problems] and is similar to the findings with participants in the [original] NIMH HIV Prevention Trial ...

While there were also significant

intervention effects for condom use, these effects were observed only among African Americans, the large majority [72.4%] of the participants. Condom use increased significantly among African Americans, rising 264.8% following the interven-

tion, and consistent condom use increased by 50.1% among African Americans. ... Similar to the decreases in risk acts, the effect sizes were large and both clinically and statistically significant, and persisted at the same level over 12 months.

(Tool Box -- continued from Page 5)

"this cognitive process could be systematically undermining education and prevention efforts" (p. 456).

Speaking to education efforts, Gold (2000) shares this concern, contending that "the beliefs [regarding sexual risk] that are accessible at the time [AIDS] education is being received – the beliefs with which ... [information] comes into contact, as it were – are 'cold light of day' beliefs. To the extent that self-justifications [for risky sexual behavior] arise out of reasoning that is rejected in the cold light of day, they may be untouched by the educational information; the information may just pass the self-justifications by" (pp. 269-270).

Therefore, according to Gold, "AIDS education needs to make contact ... with the reasoning that is present during actual sexual encounters" (p. 270), as it is this reasoning, in his view, that enables high-risk sexual behavior to proceed. Gold examined "studies in which gay men who had engaged in unprotected anal intercourse recalled the occasion concerned in detail, including any self-justifications they had used; and ... controlled intervention studies, in which gay men who had engaged in unprotected anal intercourse were confronted with the thinking they had employed in the heat of the moment" (p. 267). Drawing on these studies, Gold proposes that "(1) at the time they are deciding to have high-risk sex, gay men generally engage in an 'internal dialogue' that justifies this decision to themselves; (2) the AIDS-related thinking underpinning such self-justifications can differ appreciably from the AIDS-related thinking that takes place outside the sexual context; and (3) AIDS education can profitably exploit this difference between 'heat of the moment' and 'cold light of day' thinking" (p. 267).

Waking Up One's Mind

Referencing their findings and, in particular, the small magnitude of effect sizes overall, Hoyt and colleagues suspect that

thought suppression is relatively less important for some individuals and more important for others. Recent research suggests that individually tailored interventions might more effectively address individual differences in risk factors for HIV infection Such individualized clinical interventions could focus on fostering alternative coping responses to thought suppression (e.g., accessing social support, cognitive restructuring strategies to alter fear appraisal) and might be appropriate adjuncts to current prevention efforts. Further, expressive writing interventions specific to HIV prevention that are designed to address threat appraisal, as well as targeting moments of sexual safety decision making may also prove effective. (p. 460)

"Clinical interventions should promote adaptive coping strategies that emphasize maintaining healthy behavior, effective problem solving skills, and stress management techniques."

— Brady & Donenberg, 2006, p. 673

In planning an intervention, McKirnan and colleagues observe that "[a]n escape model raises paradoxes for both the structure and the content of HIV prevention. If people are motivated to not be aware of HIV risk, how do we structure HIV interventions so that people will be willing to participate? As well, intervention content that stresses the danger of unsafe sex may, by increasing anxiety, make self-awareness of HIV risk even more aversive, and cognitive escape from such awareness

more appealing" (p. 663).

As with psychotherapy generally ..., most intensive HIV prevention programmes consist of several common factors: information, behavioural skills training, identification and problem-solving for individual risk patterns, group or normative feedback about risk, a non-judgemental atmosphere, and a comprehensible 'model' of how risk occurs By increasing commitment to prevention and fostering behavioural skills these basic ingredients are integral to any structured intervention approach.

An escape perspective adds to cognitive-behavioural or related approaches the concept that whatever a person's skills or commitment to safety, in the 'real world' of sexual interactions specific moods or sexual contexts may lead him temporarily to abandon the larger safer sex enterprise. Further, extremely strong intentions to be safe may actually increase escape motivation by increasing anxiety or inducing shame over previous risk-taking. Getting high-risk men to recognize that cognitive escape may be implicit in certain patterns of substance use or sexual activity, and to recognize the precursors of an escape process, may enable them to apply their safer sex strategies more consistently.

Of course for some men safer sex is itself an 'automatic' response, and cognitive disengagement is not a health risk. Alternatively some men may simply decide, within a perfectly mindful state, to be risky. However, ... [McKirnan and colleagues] propose that for many men the most immediate 'cause' of risk is not a decision to be unsafe, but temporary cognitive dis-

(pp. 149-150)

The investigators conclude that "HIV risk reduction groups such as Project LIGHT may have utility in public mental health care settings [that serve clients with moderate to severe dysfunction]" (p. 142).

engagement regarding HIV. In this view, effective interventions must not simply strengthen skills or intentions, but must include strategies for maintaining self-awareness in very high-risk settings or states of mind.

An escape-based intensive intervention attempts to induce awareness that using sex or drugs to become cognitively disengaged is not 'accidental', but reflects a larger pattern of cognitive disengagement and risk, particularly among men who combine substance use with sex. As with motivational interviewing or cognitive-behavioural approaches, participants must 'deconstruct' recent episodes of sexual risk to articulate their personal risk pattern, i.e., in terms of settings, partners, or other elements that make sexual control difficult. Unlike more standard approaches, an escape-based intervention assists men to understand not simply the conditions under which they are risky, but when they become 'mindless' about sexual risk. Thus, intervention materials attempt to clarify the moods and emotions, as well as expectancies and coping styles, that make men vulnerable to a pattern of cognitive escape.

The escape framework ... posits that awareness of HIV risk induces negative affect, and safety requires 'effortful' cognitive restraint that detracts from the immediate sexual experience. This makes cognitive escape during sex attractive. Vulnerability for a particular form of cognitive escape depends upon other variables, such [as] the expectancy that substance use reduces anxiety, a sensation-seeking or avoidant coping style, low self-esteem, or a risk-oriented

About Persons Who Use Substances

Purcell et al. (2006) examined sexual risk behaviors among a convenience sample of 469 men who were **injecting drug users (IDUs), living with HIV, and sexually active with female partners exclusively.** The

social network. High vulnerability for escape may lead men to be responsive to – or actively approach – situations where they have learned to be cognitively disengaged during sex, e.g., specific settings, partners, or substance use. Risk patterns may be lessened through structured exercises to self-diagnose personal vulnerabilities, plus directed behavioural skills, training in self-monitoring, substance use control strategies, or interventions to alter coping styles or social networks. (McKirnan, Ostrow, & Hope, 1996, p. 665)

In short, according to McKirnan and colleagues, "[r]ather than simply strengthening resolve to 'be safe', interventions should assist people to remain mindful of their safety standards while 'in the trenches' of the sexual situation" (p. 666).

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investigators "examined associations separately for four non-exclusive groups of men by crossing partner type (main or casual) and partner serostatus (HIV-positive or HIV-negative/unknown)" (p. 656) and found that "[a] third of ... [these] men reported unprotected sex with HIV-negative and unknown serostatus main and casual partners, and over 50% of men engage in unprotected sex with HIV-positive partners" (p. 664). Additionally,

[s]ignificant multivariate associations for unprotected sex with HIV-negative or unknown serostatus main partners were less self-efficacy to use condoms, weaker partner norms supporting condoms, and more negative condom beliefs. Similar correlates were found for unprotected sex with HIV-positive main and casual partners. In addition, alcohol or drug use during sex was a significant correlate of unprotected sex with HIV-positive main partners, while depression was significant for HIV-positive casual partners. For unprotected sex with HIV-negative/unknown status casual partners, self-efficacy for condom use, sex trade, and education were significant multivariate correlates. (p. 656)

On the basis of these findings, Purcell and colleagues offer the following treatment recommendations:

General interventions that also include targeted strategies based on the relationship pattern of men's lives may improve ... current prevention strategies. Constructs such as self-efficacy for safer sex, partner norms, and condom beliefs should be part of most intervention strategies for HIV-positive men. In a group setting, different types of partnerships can be explored, and men can learn about all pairings,

whether or not they are currently relevant for them, as well as learning about treating mental health and substance abuse. Relationship factors are also important, and working with couples or separately with the female partners is another intervention strategy. For men with more anonymous couplings (casual partners of unknown serostatus), social factors such as sex trade must be addressed. In sum, prevention efforts with HIV-positive IDU men need to consider personal, partner, and social factors in order to reduce sexual risk behavior with female partners. (p. 666)

HIV Assessment News

Psychiatric Assessment

Pence, Miller, Whetten, Eron, and Gaynes (2006) “estimate[d] the **12-month prevalence of DSM-IV-defined mood, anxiety, and substance use diagnoses** in a sample of ... [1,125] HIV-positive patients at an academic medical center in the southeastern United States” (p. 303). The investigators “estimated that in the clinic patient population as a whole, 2 out of every 5 patients would meet DSM-IV criteria for a mood or anxiety diagnosis during the preceding 12 months, 1 out of 5 would meet criteria for ... [a substance abuse] or dependence diagnosis, and 1 out of 12 would have both types of diagnoses. Three out of every 10 patients would have clinically relevant depression” (p. 303).

Of note is the investigators' comparison of these data with those derived from a nationally representative sample of adults receiving HIV medical care in 1996. “Although cross-study comparisons cannot be conclusive, ... [these] results suggest that mood, anxiety, and substance use disorders may be more common in HIV-positive patients in the Southeast than nationally” (p. 304). Pence and colleagues point out, however, that in their sample,

“none of the diagnoses was associated with clinical measures of immunologic and virologic status[, which] support[s] the hypothesis that mood, anxiety, and substance use disorders generally are not secondary to HIV disease progression in this population” (p. 304), but may instead pre-date infection with HIV. These investigators, among others, are conducting research to further explore this supposition and to identify factors that may be contributing to the development of these disorders in that region of the United States. In the meantime, Pence and colleagues conclude that the present findings “underscore ... the importance of integrating mental health assessment, treatment, and referral into clinical HIV care. ... The links between these disorders, medication adherence, clinical outcomes, and risk behavior indicate a clear need for mental health treatment in HIV-positive patients. Well-tested psychotherapeutic and pharmacological interventions can successfully address these disorders. ...” (p. 304).

Taking a new tack, Wu, El-Bassel, Gilbert, and Morse (2006) examined “psychological distress as a function of **dyadic HIV status** – that is, the combination of a participant and her partner's HIV statuses – among women attending methadone maintenance treatment programs (MMTPs)” (p. 113). The investigators conducted interviews with a random sample of 349 women attending MMTPs who had an intimate partner. Interestingly, “[l]evels of psychological distress did not differ significantly between HIV-negative and HIV-positive women. HIV-negative women with HIV-positive partners reported significantly greater global levels, number of symptoms, and symptom severity of psychological distress compared to those with HIV-negative partners. HIV-positive participants with HIV-positive partners reported significantly lower global

levels and symptom severity of psychological distress compared to those with HIV-negative partners” (p. 113). These findings suggest that psychological distress “differ[s] as a function of the combination of a woman and her partner's HIV status rather than the woman's HIV status alone” (p. 113) and that “dyadic HIV status represents an important factor with respect to the mental health needs of women in drug treatment” (p. 113). To promote psychological well-being with such clients more effectively, Wu and colleagues recommend that clinicians “not stop with only a client's HIV status, but ask about and explore distress associated with [the] HIV status of significant others in a client's living situation. ... [An additional implication of these findings] is that supportive services need to be provided for HIV-negative clients, particularly those who have HIV-positive intimate partners” (p. 119).

Finally, 4 years following enrollment in a family-based intervention study², Lester et al. (2006) measured recent and lifetime anxiety and depressive disorders among 339 **adolescents who had a parent with AIDS**. These adolescents “had high rates of any lifetime and recent anxiety disorders. In particular, both lifetime and recent rates of post-traumatic stress disorder [PTSD] were high. Lifetime anxiety disorders were significantly associated with older age, baseline emotional distress and prior traumatic exposure, while lifetime depressive disorders were associated with female gender, parental bereavement and prior traumatic exposure” (p. 81). “These findings underscore the importance of appropriate assessment and intervention protocols for post-traumatic stress” (p. 96) among youth affected by parental HIV illness and death.

² Two additional papers emerging from this study are summarized under “Coping Strategies, Social Support, & Quality of Life,” p. 16.

HIV Treatment News

Medical Care

The U.S. Food and Drug Administration (FDA) recently announced two new antiretroviral treatment options:

o On June 23, the FDA approved **Prezista™** (darunavir, formerly known as TMC-114) for use with treatment-experienced adults who have developed resistance to first-line antiretrovirals. "Prezista, a protease inhibitor, is indicated to be co-administered with a low-dose of ritonavir [Norvir®], in combination with other active anti-HIV agents. Ritonavir, which is also a protease inhibitor, slows the metabolism of Prezista, resulting in increased plasma concentrations. The recommended oral dose of Prezista tablets is 600 mg (two 300 mg tablets) twice daily taken with ritonavir 100 mg twice daily and with food. The type of food does not affect exposure to darunavir" (FDA, 2006a). Study participants taking the darunavir/ritonavir combination reported diarrhea, nausea, and headaches as side effects, and "[a]bout seven percent of patients on this combination therapy experienced skin rashes ranging from mild to serious" (FDA, 2006a). The risks and benefits of darunavir for adults who are antiretroviral-naïve, or for children, have not yet been established, but studies by the manufacturer will continue as a condition of the accelerated approval process for this medication.

o On July 12, the FDA announced the approval of Atripla™ tablets, "a fixed-dose combination of three widely-used antiretroviral drugs, in a single tablet taken once a day, alone or in combination with other antiretroviral products for the treatment of HIV-1 infection in adults. **Atripla, the first one-pill, once-a-day product to treat HIV/AIDS**, combines the active ingredients of Sustiva (efavirenz), Emtriva (emtricitabine) and Viread (tenofovir disoproxil fumarate)" (FDA, 2006b).

FDA approved Sustiva in 1998, Viread in 2001 and Emtriva in 2003. In addition, the safety and effectiveness of the combination of these three drugs were shown in a 48 week clinical study with 244 HIV-1 infected adults receiving the drugs contained in Atripla. In this trial, 80 percent of the participants achieved a marked reduction of the human immunodeficiency virus and a substantial increase in the number of healthy CD4 cells – cells that fight against infection.

The labeling of Atripla includes a boxed warning that the drug's use can cause lactic acidosis (buildup of lactic acid in the blood). In patients with chronic Hepatitis B infection, the discontinuation of the treatment with Atripla (which is not approved for this use) can result in severe flare-ups of Hepatitis B infection. Other potential serious adverse events reported for the use of Atripla's ingredients include serious liver toxicity, renal impairment and **severe depression**. The most common adverse events experienced by participants in the combination trial included headache, dizziness, abdominal pain, nausea, vomiting and rash. (FDA, 2006b)

Given its association with frequent (although transient) neuropsychiatric complications, studies involving **efavirenz** (EFV) are continuing:

o Ward and Curtin (2006) evaluated 40 recipients of HIV primary care who had achieved an undetectable or nearly undetectable viral load, but were experiencing neuropsychiatric side effects (e.g., depression, anxiety, or fatigue with or without sleep disturbances) or elevated lipid profiles and were therefore **switched** from an EFV-containing antiretroviral regimen **to a nevirapine** (Viramune®)-**containing regimen**. "In this study, the improvement or reso-

lution of CNS [central nervous system] and psychiatric adverse effects, coupled with the maintenance of viral suppression, showed that switching to nevirapine-containing therapy may be an attractive choice for patients unable to tolerate long-term CNS and psychiatric or other side effects associated with efavirenz. ... Patients uniformly reported improvement of the neuropsychiatric symptoms, whether mild or severe, that prompted their regimen change" (p. 546).

o French investigators (Journot et al., 2006) conducted a 48-week prospective, randomized trial comparing "the maintenance of a treatment regimen that contained protease inhibitors (177 subjects) with a switch to a once-daily combination of EFV, didanosine, and emtricitabine (178 subjects)" (p. 1790). The investigators "found that the switch to an EFV-containing regimen did not affect the **risk of depression or suicide attempt[s]** among patients with or without a history of depressive disorder and during the first 48 weeks of the study or the 36-month extended follow-up period in the EFV-based group. Rates of [current depression] ... were also higher among patients with a history of depressive disorder, but there was no difference in these rates between treatment groups" (p. 1797). Journot and colleagues conclude that "[t]he frequency of depressive disorders was high in this population, but the disorders were not related to EFV treatment. Younger age and a history of depression are important determinants for depression and should be considered for early detection and case management" (p. 1790).

Psychiatric/Psychological/ Psychosocial/Spiritual Care Adherence to Treatment

Kremer, Ironson, Schneiderman, and Hautzinger (2006) examined rationales offered by a diverse sample of 79 adults living with HIV for **decid-**

ing to take or not to take antiretroviral therapy.³ Study participants learned their HIV-positive status an average of 11 years earlier. “Qualitative content analysis of semistructured interviews identified 10 criteria for the decision to take or not to take [antiretroviral therapy]: CD4/viral load counts (87%), quality of life (85%), knowledge/beliefs about resistance (66%), mind-body beliefs (65%), adverse effects of [antiretroviral therapy] (59%), easy-to-take regimen (58%), spirituality/worldview (58%), drug resistance (41%), experience of HIV/AIDS symptoms (39%), and preference for complementary/alternative medicine ([CAM;]17%)” (p. 335). In comparisons with the 73% of this sample that decided to take antiretrovirals, the 27% who decided not to take antiretroviral therapy

emphasize[d] three criteria more strongly than those deciding to take [antiretroviral therapy]: the preference for CAM, avoiding adverse effects of [antiretroviral therapy], and the perceived benefit in psychosocial quality of life through not taking [antiretroviral therapy]. All other criteria did not differ.

Another important finding ... [was] that existential issues such as mind-body beliefs and spiritual beliefs ... [were] used by approximately half of ... [those sampled] in making decisions about treatment. These beliefs can be used both in the decision to take as well as in the decision not to take treatment. Of particular note, sometimes patient’s spiritual belief system or belief in a mind-body connection is in conflict with the recommendation of a physician (e.g., people feeling that they do not need [antiretroviral therapy] because they believe

that the body can heal itself). (p. 344)

With regard to addressing the 10 decision-making criteria identified in this study, Kremer and colleagues offer the following suggestions:

Surrogate markers

[CD4/viral load counts]

Explain the importance of surrogate markers in a manner that is not too abstract and is connected with a patient’s feelings. Recognize that [people living with HIV] may prefer to start [antiretroviral therapy] later than guidelines recommend and ensure that they understand the consequences of this decision.

Better quality of life

Regular assessments of quality of life may be as important as measuring surrogate markers.

Beliefs/knowledge about resistance

Make sure that all patients understand the concept of resistance and how nonadherence is related to the development of resistance.

Mind-body belief

As many patients believe in a mind-body connection it is important to explore how this may affect their decision-making.

Adverse effects

It is important to acknowledge not only whether the patient experiences adverse effects, but also how he/she perceives them. Some people are willing to tolerate adverse effects, because they believe the medication is very necessary or the body will adjust to it. Others are inclined to stop and not to start treatment to avoid adverse effects.

Easy to take regimen

Simplify [antiretroviral therapy] as

much as possible for people to whom this is important, but remember that this is not the most important issue for many [people living with HIV].

Spirituality/worldview

Take a patient’s spirituality and worldview into account as it may have an impact on decision-making. Operate within the patient’s spiritual belief system rather than your own. Acknowledge and support the patient’s spiritual beliefs and worldviews that aid in coping in living with HIV.

Drug resistance

Offer drug resistance testing to all patients who need it.

Experience of HIV/AIDS symptoms

Assess regularly the symptoms related to HIV with checklists.

Preference for CAM

Acknowledge patients['] preference for CAM and ask (and record?) each patient[']s use of CAM, being aware of potential drug interactions. (p. 347)

Drawing on additional data from this same sample of adults living with HIV, Kremer and Ironson (2006) inquire **if patients “tell their physicians whether they take antiretroviral treatment ... as prescribed and why”** (p. 520). The investigators found that

[p]atients are more likely to inform physicians why they take than why they do not take [antiretroviral therapy] Only half of those not taking [antiretroviral therapy] shared the reasons for their decision with their physician. The six motives [for not confiding] were: anticipation that physicians will not support the decision, cannot discuss feelings, lack of trust in physician’s opinion, unable to

³ A recent review on the topic of treatment readiness (Nordqvist, Södergard, Tully, Sönnnerborg, & Lindblad, 2006) is highlighted in [this issue's Tool Box](#) on “Resources.”

discuss spiritual/moral issues, no need for physician to know, and not seen physician yet. Of those taking [antiretroviral therapy], 21% did not tell their physician why they missed doses. The five motives were: not viewed as important, physician not asking, not seen physician yet, rarely non-adherent, no indications in surrogate markers. (p. 520)

Kremer and Ironson conclude that “[a] significant proportion of patients are not taking their medications as prescribed and are not telling their physicians. To facilitate the chance that patients communicate with their physicians, physicians need to ask and, while giving the patients medical information, create a non-judgmental, respectful atmosphere where patients feel comfortable sharing their personal view” (p. 520). The [Summer 2006 Tool Box](#) on “Emerging Methods for Motivating Effective Medication Practice” may be of help in this regard.

As for taking medication as prescribed, Nilsson Schönnesson, Diamond, Ross, Williams, and Bratt (2006) monitored a convenience sample of 144 combination antiretroviral therapy recipients in Sweden over a 2-year period. In addition to “dose” adherence (i.e., taking the number of pills that have been prescribed), these investigators measured “**schedule**” adherence (i.e., following instructions related to the time interval between doses) and “**dietary instructions**” adherence (i.e., following instructions related to whether each medication is taken with or without food). Nilsson Schönnesson and colleagues found that

61% [of study participants] maintained consistent full-dose adherence throughout baseline and all follow-up visits[, while an] ... equivalent proportion of 100% schedule adherence was 39%. Among patients with dietary in-

structions, 37% retained consistent adherence at all visits. Only schedule adherence was predicted by baseline data; perceived pressures from medical staff to take HIV medications ..., life stress ..., [antiretroviral therapy] health concerns ..., and [the belief that antiretroviral therapy] prolongs one’s life ... predicted reduced schedule adherence over time. Perceived medication pressures from those close to the patient ..., [PTSD] symptoms ..., and adherence self-efficacy ... predicted positive schedule adherence over time. These results clearly illustrate difficulties in sustaining [antiretroviral therapy] adherent behaviour, in particular schedule and dietary restrictions, over time and thus emphasize ... the importance of multiple periodic assessments of all three types of adherence. Interventions aimed at improving schedule adherence should in particular focus on psychological and cognitive factors. (p. 407)

On this point, Johnson, Elliott, Neilands, Morin, and Chesney (2006) interviewed a convenience sample of 545 adults living with HIV to test “an explanatory model of HIV medication adherence using a **social problem-solving** (SPS) framework” (p. 355). Johnson and colleagues found that “[a] constructive problem-solving style was associated with a more optimal psychological adjustment and a greater likelihood of adhering to recommended regimens. A dysfunctional problem-solving style was associated with poorer psychological adjustment, which was associated with compromised adherence. Overall, ... [this] model accurately classified 97% of the cases as adherent or nonadherent, representing a vast improvement on other attempts to predict adherence” (pp. 360-361).

According to the investigators, “SPS

is an attractive model for studying adherence to HIV medications because problem-solving interventions can be effectively provided in individual ... and group formats SPS interventions can also be adapted for use in brief interactions in primary care clinics ... and in ongoing telephone sessions with low-cost service providers Problem-solving interventions appear to be particularly useful in promoting optimal adjustment, alleviating distress, and reducing relapse among persons with chronic health conditions ...” (p. 361). Johnson and colleagues further suggest that “SPS interventions can be modified for use with HIV+ populations to include problems specific to HIV that may contribute to psychological distress such as stigma, loss of social support, challenges of health care decision making, and fears over transmission of HIV to others. ... If effective, such interventions would offer clinicians a strategy for improving psychological well-being and medication adherence among individuals with chronic illness such as HIV” (p. 361).

Rintamaki, Davis, Skripkauskas, Bennett, and Wolf (2006) evaluated the relationship between concern over the threat of **HIV-related social stigma** and self-reported treatment adherence among 204 people living with HIV in two different settings: one serving an urban/suburban population in Chicago, Illinois, and the other serving a rural population in Shreveport, Louisiana. The investigators report that “[n]early one third of the patients in ... [this] sample were less than 100% adherent to their HIV medication regimen within the past 4 days, and approximately 1 in 5 patients reported high concern for stigma related to their HIV status” (p. 364). Across the two locations, “[p]eople with high HIV stigma concerns were 2.5 times less likely to define and interpret the meaning of CD4 count correctly and 3.3 times more likely to be nonadherent to their

Tool Box
Resources

Books & Articles:

Albarracín, D., Durantini, M.R., & Earl, A. (2006). Empirical and theoretical conclusions of an analysis of outcomes of HIV-prevention interventions. *Current Directions in Psychological Science*, 15(2), 73-78.

Albarracín and colleagues distill meta-analytic findings on HIV prevention interventions into "five important empirical and theoretical conclusions. First, interventions are more successful at achieving immediate knowledge and motivational change than they are at achieving immediate behavioral change. Second, the immediate motivational change decays over time, whereas behavior change increases over the same period. Third, interventions that engage audiences in particular activities, such as role-playing condom use, are more effective than presentations of materials to passive audiences. Fourth, interventions consistent with the theories of reasoned action and planned behavior, with self-efficacy models, and with information-motivation and behavioral-skills models prove effective, whereas interventions designed to induce fear do not. Fifth, expert intervention facilitators are more effective than lay community members in almost all cases. When populations are unempowered, expert facilitators are particularly effective, and they are most effective if they also share the gender and ethnicity of the target audience" (p. 73).

Amico, K.R., Fisher, W.A., Cornman, D.H., Shuper, P.A., Redding, C.G., Konkle-Parker, D.J., Barta, W., & Fisher, J.D.

medication regimen than those with low concerns. Concern over revealing HIV status was the only statistically significant, independent predictor of adherence in multivariate analysis" (p. 359). Consequently, Rintamaki and colleagues recommend that

care providers ... address stigma-related issues when counseling patients before they are placed on an antiretroviral regimen. When possible, providers may

(2006). Visual analog scale of adherence: Association with 3-day self-report and adherence barriers. *Journal of Acquired Immune Deficiency Syndromes*, 42(4), 455-459.

"This research assessed the association between self-reported adherence on visual analog scales (VASs) and an existing, more complex self-reported measure of adherence ... and the degree to which each method distinguished optimally and suboptimally adherent patients in terms of reported barriers to adherence. ... Results generally support the construct validity of the VAS and its use as an easily administered assessment tool that can identify patients with barriers to adherence who might benefit from adherence support interventions" (p. 455).

Arendt, G. (2006). Affective disorders in patients with HIV infection: Impact of antiretroviral therapy. *CNS Drugs*, 20(6), 507-518.

"This article focuses on affective (mood) disorders ... seen in individuals with HIV infection; the impact of HAART on the frequency and clinical presentation of these disorders ... [is] discussed in detail, as ... [is] the impact of these disorders on adherence to HAART" (p. 508).

Colfax, G., & Guzman, R. (2006). Club drugs and HIV infection: A review. *Clinical Infectious Diseases*, 42(10), 1463-1469.

"The present article provides a general overview of the epidemiological profile and medical consequences of club drugs and also provides recommendations for clinicians treating patients who use club drugs, emphasizing the implications of club drug use

want to consider prescribing ... inconspicuous regimens [i.e., those that require fewer dosages or that do not require medication consumption in less-than-private environments] for those most sensitive to HIV stigma[, as this] may ultimately improve the proper usage of these medications among this group. In addition, psychosocial interventions should be identified that offer stigma-afflicted patients additional social support and resili-

among persons with HIV infection and persons at high risk for HIV infection" (p. 1463).

Collins, P.Y., Holman, A.R., Freeman, M.C., & Patel, V. (2006). What is the relevance of mental health to HIV/AIDS care and treatment programs in developing countries? A systematic review. *AIDS*, 20(12), 1571-1582.

"This systematic review of the literature on HIV and mental illness in developing countries examines the mental health risk factors for HIV, mental health consequences of HIV, psychosocial interventions of relevance for HIV-infected and affected populations, and highlights the relevance of these data for HIV care and treatment programs" (p. 1571).

Fisher, J.D., Fisher, W.A., Amico, K.R., & Harman, J.J. (2006). An information-motivation-behavioral skills model of adherence to antiretroviral therapy. *Health Psychology*, 25(4), 462-473.

"The current analysis conceptualizes social and psychological determinants of adherence to HAART among HIV-positive individuals. The authors propose an information-motivation-behavioral skills (IMB) model of HAART adherence that assumes that adherence-related information, motivation, and behavioral skills are fundamental determinants of adherence to HAART. According to the model, adherence-related information and motivation work through adherence-related behavioral skills to affect adherence to HAART. Empirical support for the IMB model of adherence is presented, and its application in adherence-promotion intervention efforts is discussed" (p. 462).

ency training to mitigate the negative treatment impact of stigma. (p. 365)

Boarts, Sledjeski, Bogart, and Delahanty (2006) assessed 57 adults living with HIV (82% male, 44% African American) for PTSD and depression symptoms and took measures of antiretroviral adherence and HIV disease markers (CD4 cell count and viral load) at baseline and again approximately 3 months later. "Symptoms of PTSD and depression were

Holt, M., & Stephenson, N. (2006). Living with HIV and negotiating psychological discourse. *health: An Interdisciplinary Journal for the Social Study of Health, Illness & Medicine*, 10(2), 211-231.

"While there has been concern about the 'remedicalization' of HIV, there is apparently less concern about its 'psychologization'. This article considers how the expansion of psychological discourse about HIV impacts on the lives of HIV-positive people in the era of contemporary treatments. ... Our analysis suggests a need for greater scrutiny of the ways in which psychological techniques are employed as solutions to the ambiguities of living with HIV" (p. 211).

Indyk, D. (Ed.). (2006). The geometry of care: Linking resources, research, and community to reduce degrees of separation between HIV treatment and prevention. *Social Work in Health Care*, 42(3-4), 1-250.

"The work in this special volume rests on several related insights. First, that changing the *focus* of a problem means changing the *locus* of the expertise relevant to address it. Thus, for example, while the ultimate cure for AIDS may come from basic scientists, community-based providers – with their access to, trust commanded among, and familiarity with at-risk populations – are often the experts in designing realistic prevention interventions. Second is the corollary point that each aspect, each phase of a problem, has its own set of experts. This leads to the third, and central insight, that addressing complex socio-medical problems such as TB or AIDS requires linkage between these dis-

parate types of providers and sites, and mechanisms by which all types of providers – and patients – can exchange their unique observations and harness their respective expertise in prevention, education, research, and service. A final major insight flowing from this work is the overwhelming importance of cultivating the proper site for each given function – prevention, education, research and service. Shifting the locus of care along the continuum of prevention and treatment requires a major shift in the 'geometry of care'" (p. 2).

Nordqvist, O., Södergard, B., Tully, M.P., Sönnberg, A., & Lindblad, A.K. (2006). Assessing and achieving readiness to initiate HIV medication. *Patient Education & Counseling*, 62(1), 21-30.

"The aim of this review is to identify theories used to explain readiness for HIV treatment and to describe factors of importance for achieving readiness The aim is also to identify the instruments that have been used to assess readiness for HIV treatment and to describe interventions to increase readiness for HIV treatment" (p. 23).

Persson, A., & Newman, C. (2006). Potency and vulnerability: Troubled 'selves' in the context of antiretroviral therapy. *Social Science & Medicine*, 63(6), 1586-1596.

"In this paper, ... we wish to explore the more problematic tensions between self and medicine that materialise when the self is vulnerabilised by prescribed drugs, an outcome that contradicts the restorative promise of biomedicine" (p. 1588). "We situate our discussion in the context of *efavirenz*, an antiretroviral drug prescribed and

consumed for the treatment of HIV infection. This drug, commonly described as 'potent', can have a number of troubling effects on a person's everyday sense of self, including insomnia, confusion, cognitive disorders, depression, depersonalisation, psychosis, and suicidal ideation. While efavirenz may be clinically effective in its capacity to suppress the virus, these effects are at odds with the implicit aim of HIV medicine to restore and secure the self by way of immunological integrity and strength" (p. 1586).

Sherhoff, M. (2006). Condomless sex: Gay men, barebacking, and harm reduction. *Social Work*, 51(2), 106-113.

"This article summarizes current research findings on sexual risk taking among gay men, discusses psychosocial issues that contribute to barebacking, and suggests a harm-reduction approach to clinical work with gay men who bareback as an effective method of addressing the behavior" (p. 106).

Simoni, J.M., Kurth, A.E., Pearson, C.R., Pantalone, D.W., Merrill, J.O., & Frick, P.A. (2006). Self-report measures of antiretroviral therapy adherence: A review with recommendations for HIV research and clinical management. *AIDS & Behavior*, 10(3), 227-245.

"A review of 77 studies employing self-report measures of antiretroviral adherence published 1/1996 through 8/2004 revealed great variety in adherence assessment item content, format, and response options. ... Clearly,

(Tool Box is continued on Page 14)

common, with almost half of the participants likely meeting diagnostic criteria for at least one of the two disorders and 36.8% potentially meeting diagnostic criteria for comorbid PTSD and depression" (p. 259). Notably, this study

is the first to prospectively examine the impact of **comorbid PTSD and depression symptoms** on adherence levels and HIV disease markers among [people living with HIV]. Results

... [indicated that] comorbid PTSD and depressive symptoms were related to lower adherence levels ... and a higher likelihood of having a detectable viral load. ... [B]oth PTSD and depression symptoms were associated with poor adherence, although depression symptoms were also directly predictive of lower CD4 counts and higher likelihood of having detectable viral load. These findings highlight the prevalence of PTSD and depression symptoms

in [people living with HIV] and reinforce the necessity of addressing psychological symptoms in treatment and adherence interventions. Further, the high prevalence of comorbid symptomatology suggests that focusing on independent diagnoses may not adequately portray the extent to which clinical symptoms may alone and comorbidly affect disease status. (p. 260)

Similarly, the importance of address-

ing psychosocial needs in support of antiretroviral use and adherence cannot be overemphasized. Reif, Whetten, Lowe, and Ostermann (2006) investigated the **relationship between various unmet psychosocial needs** (including housing, emergency food/clothing, supplemental nutrition, support groups, counseling, legal assistance, and financial assistance/benefits) **and antiretroviral use and adherence** among 526 adults receiving HIV care in the southeastern United States.

Most participants (84.5%) reported at least one service need in the past year. Nearly half (47%) of participants with service needs reported that at least one need was not met. Participants with one or more unmet needs were less likely to be taking any HIV medications ... and reported poorer medication adherence The specific unmet needs for benefits (including Social Security, health insurance and prescription coverage) ... and a support group ... were associated with being less likely to be taking any HIV medications. Unmet need for mental health-related counseling was associated with poorer medication adherence Study findings regarding the high level of unmet need and the association of unmet need with poorer outcomes illustrate the importance of interventions to address these needs. (p. 277)

Case managers often serve as a conduit to psychosocial services. Kushel et al. (2006) monitored a probability-based community sample of 280 homeless and marginally housed adults living with HIV in San Francisco over a 15-month period. The investigators found that "having **[case management]** was independently associated with improved adherence to [antiretroviral therapy] and improved CD4 ... cell count. ... [Case management] was not associated

(Tool Box -- continued from Page 13)

the field would benefit from item standardization and a priori definitions and operationalizations of adherence. We conclude that even brief self-report measures of antiretroviral adherence can be robust, and recommend items and strategies for HIV research and clinical management" (p. 227).

Thomas, N. (2006). When it happens to your family: One social worker's response. *Journal of HIV/AIDS & Social Services*, 5(1), 57-66.

"This article is a case study of how an African American family that includes a social worker ... responded when three members received an HIV/AIDS diagnosis; two of whom are now deceased. It provides a retrospective look at a family's response to the diagnosis and resilience in the face of terminal illness" (p. 57).

Valcour, V., & Paul, R. (2006). HIV infection and dementia in older adults. *Clinical Infectious Diseases*, 42(10), 1449-1454.

with changes in health services use; it was associated neither with an increased rate of receipt of primary care nor with reductions in emergency department use or hospitalizations" (pp. 239-240). Kushel and colleagues note that, "[w]ithout a randomized trial, ... [it] cannot [be] state[d] that there was a causal association between [case management] and improved outcomes" (p. 240), but suggest, on the basis of these findings, that "case management "may be an effective way to improve health outcomes among disenfranchised HIV-infected populations" (p. 241).

In Seattle, Washington, Frick, Tapia, Grant, Novotny, and Kerzee (2006) conducted a retrospective cohort analysis involving 261 recipients of HIV primary care who were either administered the highly active antiretroviral therapy (**HAART Protocol**) ($n = 109$) or were part of a historical control group ($n = 152$).

Per clinic policy, once the patient

"This article provides an overview of HIV cognitive impairment as it relates to aging and presents some emerging issues in the field. Particular emphasis is placed on describing the changing landscape of HIV-related cognitive impairment and discussing possible concerns regarding the long-term effects of antiretroviral treatment. A brief discussion of potential adjunctive therapies to reduce cognitive symptoms associated with HIV infection in older individuals is provided" (p. 1449).

On the Web:

The Health Resources and Services Administration (HRSA) has assembled a Web page listing "Cultural Competence Resources for Health Care Providers." The page is designed to help providers enhance their clinical and organizational skills in cultural competence. Go to <http://www.hrsa.gov/culturalcompetence/>.

– Compiled by
Abraham Feingold, Psy.D.

and his/her provider begin the discussion to initiate antiretrovirals ..., the patient is referred to the HAART Protocol and one-on-one appointments with a pharmacist, dietician, and social worker are scheduled. During the allied health appointments, each discipline provides education, assesses patient readiness to begin HAART, and identifies and offers solutions for any potential barrier to successful HAART adherence. ... Each discipline documents the content of his/her interaction with the patient on the patient's HAART Protocol routing form and recommends to the provider whether the patient is ready to begin HAART or needs additional time to resolve barriers prior to initiation. After completion of appointments, providers review the comments/suggestions from each discipline and initiate medication if deemed appropriate. (pp. 512-513)

In 12-month comparisons made be-

tween clients receiving the HAART Protocol and clients in the control group, the former continued on HAART longer than the latter (> 360 days vs. 210 days), with 55% continuing on HAART for the full year; only 43% of control group participants continued on HAART for the full year. Similarly, clients receiving the HAART Protocol experienced a greater reduction in viral load over the 12-month period than clients in the control group.

The protocol identified potential barriers, such as concern over side effects, mental health diagnosis, active alcohol or drug use, or unstable housing situations, ... offering opportunity for solution implementation prior to initiation of medications, thus potentially leading to the prevention of early discontinuation. These above effects are most evident by the large proportion (nearly 15%) of patients in the control group stopping medications after their first [pharmacy] fill, whereas this phenomenon does not occur among the protocol group ... Implementing periodic adherence assessments over time, especially early on (e.g., first 2 to 4 months on therapy) could prove useful for expanding the utility of this intervention by addressing new adherence barriers as they present themselves and preventing further therapy discontinuation over time.

In addition, the effect of the Protocol is greatest among those patients with viral loads 100,000 copies per milliliter or more. This may suggest that patients at high risk of disease progression respond to and are more greatly motivated by the education received from allied health professionals about their disease status and the importance of medication adherence than those with lower viral loads. (pp. 517-518)

In short, according to these investigators, “[t]he effect of the intervention may be both to keep people on medication longer who would otherwise stop, and to help people at highest risk of disease progression to better adhere. ... [T]his study provides strong evidence that a multidisciplinary intervention can improve duration on therapy and reduce viral load” (pp. 520, 522).

These findings may be contrasted with findings from a pilot study conducted in Houston, Texas. Visnegarwala et al. (2006) “evaluated a novel strategy of **weekly delivery of medications** (Directly Delivered Therapy: DDT) for six months using an outreach worker (ORW), among [antiretroviral-]naive indigent women starting HAART and compared the ‘during intervention’ and ‘post-intervention’ outcomes to the health care team (a nurse educator, a case worker, a pharmacist and social worker/drug addictions counsellor) based approach termed Adherence Coordination Services (ACS) and the Standard of Care (SoC) historical referent group” (p. 332). The three groups had comparable baseline characteristics and were monitored over a period of 14 months. Visnegarwala and colleagues report that “[t]he proportion of women who achieved sustained virologic suppression in [the] 4-8 month period for DDT ... [.] ACS and SoC groups were 86% (18/21) ... 54% (6/11) ... and 36% (8/22) ...; and in the 10-14 month period were 80% (12/15) ... 54% (6/11) and 45%(10/22) Retention rate in the DDT was 87%, and 92% of 307 ORW visits were kept, and post-intervention satisfaction was high” (p. 332). The investigators conclude that “[s]hort-term weekly delivery of medications using a community based liaison is a feasible, acceptable and a cost-effective strategy for improving both short-term and perhaps long-term adherence among women initiating their first HAART regimen” (p. 332).

Similarly, Williams, Fennie, et al. (2006) conducted

[a] 2-arm, randomized, controlled trial [to] evaluate ... the efficacy of a community-based, **home-visit intervention** to improve medication adherence. Participants were 171 HIV-infected adults prescribed a minimum of 3 antiretroviral agents. The majority had a past or current history of substance abuse[, often with co-occurring mental illness]. Subjects were randomly assigned to receive home visits [by a nurse and peer support worker] for 1 year or usual care. Medication adherence was assessed with Medication Event Monitoring stem caps at 3-month intervals from randomization through 3 months after the conclusion of the intervention. (p. 314)

Williams and colleagues found that a larger proportion of those receiving home visits demonstrated antiretroviral adherence greater than 90% when compared with those in usual care at each point of measurement beyond baseline. Although a statistically significant intervention effect on viral load or CD4 cell count was not noted, a statistically significant association between antiretroviral adherence greater than 90%, regardless of treatment arm, and an undetectable viral load over time was noted. The investigators point out, however, that “although a consistently larger proportion of subjects in the intervention group demonstrated greater than 90% adherence, most subjects in *both* groups failed to achieve this important milestone. Therefore, the intervention, although effective, was not universally so. In future studies, it will be important to determine if there are specific individuals for whom this type of intervention is more or less effective and which specific elements of the intervention exert the most powerful effect on adherence behavior” (p. 319).

On this same note, Wagner et al. (2006) conducted a three-arm, randomized, controlled trial involving 199 antiretroviral therapy recipients at five California HIV primary care clinics. The investigators developed a cognitive-behavioral adherence intervention

based on the information-motivation-behavioral skills (IMB) model of behavior change The intervention components include providing education about HIV, [antiretroviral therapy] and the importance of adherence, tailoring the regimen to the person's daily routine, using problem-solving skills to overcome identified adherence barriers, reframing beliefs and attitudes about treatment to increase adherence self-efficacy, and facilitating positive social support for adherence. ... [This] intervention is distinctive in including **a 2-week, pre-[antiretroviral therapy] placebo practice trial** that simulates the challenges of [antiretroviral therapy] adherence, with the exception of treatment side-effects. (p. 1296)

Study participants were assigned either to this five-session intervention, to a five-session intervention that substituted mental rehearsal for the placebo practice trial, or to usual care. The investigators found that *either* of the

cognitive-behavioral intervention[s] evaluated in this study helped patients take at least 90% of prescribed doses in the initial weeks following the completion of the intervention, and to take doses on time. Intervention patients sustained a mean adherence level of 90% or more for 24 weeks, and a large majority maintained this adherence level throughout the study. The nearly 10% difference in mean adherence between the groups at week 24 was statistically significant;

however, ... [no associations with viral load or CD4 cell count] were found Adherence rates generally remained high across all groups, with few group differences beyond week 4. Therefore, as in other published controlled trials of [antiretroviral therapy] adherence interventions, the effects on adherence observed in this study were modest and relatively short-term ..., and no effects were found with regard to virologic and immunologic outcomes (p. 1300)

Wagner and colleagues conclude that

the front-loaded cognitive-behavioral intervention had modest, transient effects in improving antiretroviral adherence, and no effects on viral load and CD4 cell count. For effects to be more robust and durable, interventions may need to vary the amount of training, and perhaps the nature of the training strategy as well, utilizing the full armament of adherence enhancing strategies (e.g., cognitive-behavioral counseling, beeper/alarm reminders, directly observed therapy) depending on the needs of the patient. Accordingly, a practical and accurate method to assess the patients' need for adherence intervention would be of great value.⁴ (p. 1301)

The last word on the topic of antiretroviral adherence (for this issue of the newsletter, at least) goes to Rueda et al. (2006) of the highly respected Cochrane Collaboration, which conducted a systematic review of research literature published between January 1996 and May 2005 on the effectiveness of patient education and support to improve adherence to HAART.

⁴ See Amico et al. (2006) and Simoni et al. (2006), highlighted in [this issue's Tool Box](#) on "Resources."

This review identified 19 studies involving a total of 2,159 participants that evaluated an intervention intended to improve adherence. Ten of these studies demonstrated a beneficial effect of the intervention. We found that interventions targeting practical medication management skills, those administered to individuals vs groups, and those interventions delivered over 12 weeks or more were associated with improved adherence to antiretroviral therapy. We also found that interventions targeting marginalized populations such as women, Latinos, or patients with a past history of alcoholism were not successful at improving adherence. We did not find studies that evaluated the quality of the patient-provider relationship or the clinical setting. Most studies had several methodological shortcomings. (p. 2)

Coping, Social Support, & Quality of Life

Drawing on findings from their multi-year study of **adolescent children of parents living with** (or having died from) **AIDS** who had been randomly assigned to either a **time-limited, family-based, cognitive-behavioral, skill-focused intervention** or standard care, Rotheram-Borus, Stein, and Lester (2006) assessed predictors of adolescent adjustment 3 and 6 years after this intervention was originally implemented. The investigators neatly summarize the results as follows:

Protective factors: Youth in the intervention condition reported significantly less substance use three and six years later. In addition, positive parental bonds reported at baseline reduced emotional distress at three years and increased positive future expectations [in the realms of developing stable, supportive romantic partnerships and attaining aca-

demic and career goals] at six years. Risk factors: Substance use at three years predicted heightened sexual risk behaviors, continued substance use, and lower future expectations at six years. Early emotional distress and being Latino predicted increased emotional distress at three years. Parental death by three years predicted more sexual risk behavior and lowered future expectations at six years. (p. 174)

Rotheram-Borus and colleagues conclude that this time-limited intervention “demonstrated both direct and indirect benefits on adolescent adjustment that persist into early adulthood, especially in decreasing substance use over time. Youth who lose a parent to HIV illness are at greater risk for adjustment problems as they enter young adulthood, whereas the protective effect of positive parent-child bonds on youth emotional distress, sexual risk-taking, and future expectations suggests the potential role of interventions that enhance developmentally appropriate parent-child interactions” (p. 181).

In a novel exploration of the persistence of benefits associated with this intervention, Rotheram-Borus, Lester, et al. (2006) assessed the intervention’s **intergenerational impact** on the *grandchildren* of parents living with (or having died from) AIDS. Both the parents and their daughters “demonstrated gains over 6 years when randomized to a coping skills intervention compared with a control condition” (p. 622). Similarly, the adjustment of the grandchildren was compared across conditions. The investigators found that the grandchildren in families that had received the intervention

demonstrated significantly fewer behavioral symptoms and tended to have better cognitive outcomes and more enriched home environ-

ments than did grandchildren in families coping with HIV who did not receive an intervention. Although current HIV policies focus primarily on antiretroviral therapies for persons living with HIV, the importance of providing preventive psychosocial interventions for families coping with HIV is highlighted by these findings. The specific mechanisms leading to better grandchild adjustment are not illuminated by this study. Even if it is generic to suggest better adjusted daughters parent better adjusted infants, the findings suggest long-term benefits for preventive interventions with families coping with HIV. Rather than HIV creating a negative spiral for families’ adjustment, interventions can serve to mobilize families to improve the quality of their lives. (p. 626)

In their first *longitudinal* analysis of data emerging from a randomized, controlled trial of a **group coping intervention for AIDS-related bereavement**⁵, Hansen et al. (2006) examined data drawn from a diverse sample of 267 men and women living with HIV who had lost one or more loved ones over the preceding 2-year period. These individuals were randomly assigned to one of two conditions. The intervention condition consisted of a 12-week bereavement coping group intervention conducted in 90-minute sessions and tailored to gender, ethnicity, and sexual orientation. “The group ... format combined semi-structured cognitive-behavioral and support group approaches. ... Specific strategies for dealing with problems of grief included: (a) establishing a sense of control and predictability; (b) anger expression and management;

⁵ Cross-sectional studies involving bereaved, HIV-positive men and women that were previously conducted by this research group may be found in the [Summer 2003](#), [Summer 2004](#), [Summer 2005](#), and [Fall 2005](#) issues of *mental health AIDS*.

(c) resolution of guilt; (d) promoting self-mastery through empowerment; and (e) development of new relationships” (pp. 618-619). The comparison condition consisted of individual psychotherapy and psychiatric services on demand (the community standard-of-care). Measures of grief, psychiatric distress, quality of life, and coping were administered at baseline, 2 weeks following the intervention, and in 4-, 8-, and 12-month follow-up assessments.

The coping theory informing the study intervention proposes that although maladaptive coping strategies do not cause the grief and distress associated with AIDS-related bereavement, they can serve to exacerbate distress and prevent or delay adaptation to bereavement. Through the development of more adaptive coping strategies, ... [the coping] intervention aims to diminish stress, including grief and psychiatric distress. The present study had the dual aim of evaluating the longitudinal effects of active and avoidant coping on grief, psychiatric distress, and quality of life; and testing the ability of a group coping intervention to influence these longitudinal effects by enhancing the positive effects of active coping and diminishing the negative effects of avoidant coping. (pp. 626-627)

Indeed, Hansen and colleagues found that “[c]oping strategies directly impacted all outcome variables for both study conditions. Additionally, the coping intervention moderated the relationship between avoidant coping and the longitudinal course of grief and psychiatric distress, resulting in greater reductions in grief and distress for intervention participants after accounting for avoidant coping strategies” (p. 609). The investigators conclude that “cognitive-behavioral group interventions focused on coping enhancement can

decrease avoidant coping strategies, thus accelerating the adaptation to grief for AIDS-bereaved people living with HIV, a group at increased risk for complicated grief” (p. 630).

Lastly, Bormann et al. (2006) “examined the efficacy of a psycho-spiritual intervention of **mantram repetition** – a word or phrase with spiritual associations repeated silently throughout the day – on psychological distress (intrusive thoughts, stress, anxiety, anger, depression), quality of life enjoyment and satisfaction, and existential spiritual well-being in HIV-infected adults” (p. 359). The investigators randomly assigned 93 study participants to either a mantram ($n = 46$) or attention control group ($n = 47$). Measurements were taken at baseline, week 5, week 10 (at the conclusion of the intervention), and week 22. Over this period, “the mantram group improved significantly more than the control group in reducing trait-anger and increasing spiritual faith and spiritual connectedness. Actual mantram practice measured by wrist counters was inversely associated with non-HIV related intrusive thoughts and positively associated with quality of life, total existential spiritual well-being, meaning/peace, and spiritual faith” (p. 359). Bormann and colleagues conclude that “a mantram group intervention and actual mantram practice each make unique contributions for managing psychological distress and enhancing existential spiritual well-being in adults living with HIV/AIDS” (p. 359).

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Tool Box

A Note on Content

This publication has been developed to help the frontline provider of HIV-related mental health services, allied professionals, and consumers stay up-to-date on research-based developments in HIV care. The contents for the "Biopsychosocial Update" are drawn from a variety of sources including, but not limited to: the *CDC HIV/STD/TB Prevention News Update* (<http://www.cdcnpin.org/news/prevnews.htm>); the *Kaiser Daily HIV/AIDS Report* (<http://report.kff.org/hiv/aids/>); and information e-mailed by Florida International University researcher Robert M. Malow, Ph.D., ABPP. Other sources are identified when appropriate.

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It is presumed that readers have at least a fundamental understanding of medical, psychiatric, psychological, psychosocial, and spiritual considerations when assessing and intervening with people who are living with HIV/AIDS and their families. For additional background information on these aspects of care, the following resources may be of assistance:

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