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HIV and STD Risk among Racial and Ethnic Minority Youth and UCLA's Suite of Effective Behavioral Interventions

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Abstract

Racial and ethnic minority adolescents bear a disproportionate burden of HIV/AIDS and sexually transmitted diseases in the United States. In particular, weakening family stability has opened windows of opportunity for socially determined risks for HIV and sexually transmitted diseases among youth. Some socially determined risks include engaging in early sexual experimentation, being sexually abused, dropping out of school, substance use, and becoming homeless. This paper describes the Centers for Disease Control and Prevention's Division of HIV/AIDS Prevention's processes for selecting, packaging and disseminating evidence- based behavioral interventions for minority youth. In addition, we describe three model programs with proven success for HIV/AIDS risk reduction among Black and Hispanic youth.

Keywords: HIV/AIDS, STDs, racial/ethnic minority, youth, behavior, interventions

In recent years, changes in the United States economy, and with them, options for women working outside the home, changing family composition, family fluidity and weakening of extended family ties have had severe consequences for many children and youth (Berger et al., 2008; Carlson & Corcoran, 2001; Cherlin, 1999; Palmer, 2007; Shaw et al., 1999). These changes have created gaps in stability and protection for many young people, especially among the poor (Brooks-Gunn & Duncan, 1997; Shaw et al., 1999).

In 2006, United States census reports showed that 23% of Black and 19% of Hispanic families lived in poverty. Of these poor minority families, 39% Black and 36.9% Hispanic were headed by a woman with no husband present (United States Census Bureau, 2007). Youth, in the context of the current social and economic landscape, may be viewed as liabilities more than assets in weak or struggling families (Maconis, 2007). Vulnerabilities associated with poverty and fragile home environments increase risks for early sexual debut, either consensual or non-

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The findings and conclusions in this paper are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention.

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consensual, truncated educational opportunities, substance use and homelessness (Cohen et al., 2002; DiIorio et al., 2004; Whitbeck & Hoyt, 1999). These consequences in turn influence additional risks and others consequences including HIV, sexually transmitted diseases (STDs), and unplanned pregnancies. Fragile home environments under-girding the risks are more common among minority youth (Larson et al., 2008; Wood, 2003).

According to the Centers for Disease Control and Prevention's (CDC's) Youth Risk Behavior Surveillance System (YRBSS), many young people begin having sexual intercourse in high school; 47.8% of high school students reported ever having had sexual intercourse. The prevalence of having had sexual intercourse was higher for Black (72.6%) and Hispanic (58.2%) males compared with White (43.6%) males[1] (CDC, 2008a).

For girls, the prevalence of ever having had sexual intercourse is higher among Black (60.9%) and Hispanic (45.8%) girls, compared with White (43.7%) girls. Furthermore, 26.2% of Black males and 11.9% of Hispanic males reported first sexual intercourse before the age of 13 years (CDC, 2008a). Concerning number of partners among high school students, 37.6% of Black males, 23.3% of Hispanic males, 18.1% of Black females and 11.3% of Hispanic females who reported having had sexual intercourse reported having had ≥ 4 partners during their life (CDC,2008a.

Concomitantly, HIV/AIDS diagnoses among persons age 13-19 have increased since 1998 (CDC, 2009). In particular, racial and ethnic minority youth bear a disproportionate burden of the disease (CDC, 2009). When specifically looking at AIDS cases reported in the United States in 2007 among persons ages 13-19 by race/ethnicity, 68% were Black, non-Hispanics and 19% were Hispanic (CDC, 2007a). Variations in HIV-transmission category were observed by gender. For example, 64% of the cumulative AIDS (2003-2007) cases among 13-19 year old males had a principal risk factor of male-to-male sexual contact (CDC, 2007b). For girls ages 13-19 years, high-risk heterosexual contact accounted for 54% of the AIDS cases reported 2003-2007 (CDC, 2007c). High-risk heterosexual contact includes sex with a partner who injects drugs, a bisexual male, a person living with hemophilia, and the most frequently occurring risk, sex with an HIV-infected person, whose risk factors are not specified (CDC, 2009).

Black and Hispanic youth are disproportionately diagnosed with other sexually transmitted diseases including gonorrhea, syphilis and chlamydia (CDC, 2008b). Groundbreaking recent reports suggest alarming rates of chlamydia and human papillomavirus (HPV) among African American teenage girls (Forhan, 2008).

Contrasting with the disproportionate numbers of AIDS cases and reported high rates of STDs among minority youth, recent Youth Risk Behavior Surveillance System data suggest high condom use among males. Among high school students surveyed, 74% of Black and 69.9% of Hispanic sexually active, student males reported using condom use during last sexual intercourse (CDC, 2008a). Whether or not the condoms were used correctly or consistently is unclear. Interestingly, condom use among all students declined by grade level, with a greater percentage of 9th graders (69.3%) reporting using a condom during last sexual intercourse compared with 12th graders (54.2%; CDC, 2008a).

Social Determinants of Risk

Social determinants of risk play an important role in the growing epidemic of HIV and STDs among youth. Social determinants of health and risks are described as the range of personal, social, economic and environmental factors that

[1] **Disclaimer:** The terms "Black" and "Hispanic" are used to distinguish between the minority groups described in this document because HIV and STD surveillance systems use these racial/ethnic categories for data collection purposes. The terms are not suggestive of any systematic cultural or ethnic bias.

determine the health status of individuals or populations (World Health Organization, 2005). Interconnecting-social determinants of risk for minority youth include homelessness, truncated education and escalating illiteracy, teenage pregnancy, parental substance use, substance use and other illegal activities and being in risk sexual networks (Fisher, 2008; Golarzi et al. 2006; Whitbeck & Hoyt, 1999). Becoming homeless is an increasing vulnerability for young people. There are an estimated 1.3 - 2.8 million homeless and runaway youth on the streets of American cities today. Among homeless youth, an estimated 13 adolescents die on the street daily. In addition, some studies estimate that within 48 hours of being homeless, many adolescents on the street are approached to sell drugs or their bodies for survival (Atlanta Journal Constitution, October 4, 2006; Whitbeck & Hoyt, 1999). The rise in homeless and runaway youth is linked to challenges for families created by divorces and remarriages, single parent households, and multi-generational teenage pregnancies (Whitbeck & Hoyt, 1999).

School dropout rates are increasing in minority youth, especially among males (Orfield et al., 2004). Among students entering 9th grade, only 50% of Blacks and 53% of Hispanics actually graduate from high school (Orfield et al., 2004). Moreover, fewer Black (43%) and Hispanic (48%) males complete high school. The road to dropping out of high school begins in kindergarten as children from poor families enter the school system significantly behind their more advantaged peers in literacy and numeracy readiness skills (Rock & Stenner, 2005). Deficits in skills, especially reading readiness, upon entering the school system are difficult to overcome by many minority students. By 4th grade, significant disparities in reading competencies are apparent in achievement test scores for Blacks and Hispanics (Snow & Biancarosa, 2003). Deficits in reading competencies are closely linked to dropping out of school, because without the ability to read and understand content based texts and subject matter vocabulary, learning is severely truncated (Snow & Biancarosa, 2003). Dropping out of school may lead to vulnerabilities such as being left home alone and unsupervised, becoming homeless, using illegal drugs, and engaging in criminal activities which may increase HIV and STD risk taking behaviors (CDC, 2008c; Vanderstaay, 2006). Other factors that contribute to youth risk behaviors include parental substance abuse and self- substance use (Fisher, 2008), and contact with the juvenile justice system (Golarzi et al., 2006; Vanderstaay, 2006).

These life complications support evidence that significant percentages of new HIV infections are contracted by youth under the age of 25. During the years 2003-2006, the estimated number of HIV/AIDS diagnoses among persons ages 15-19, and 20-25 increased 33% and 22% respectively (CDC HIV/AIDS Surveillance Report, 2008; page 11).

Intervening with appropriate strategies for self-empowerment during these crucial years increases the potential for sustainable behavior change in transitioning to adulthood. The CDC packages (Neumann & Sogolow, 2000) and widely disseminates Evidence-Based Interventions (EBIs) for minority youth to health departments and community-based organizations that provide prevention services for at-risk adolescents and young adults. This paper describes a suite of EBIs for HIV and STD prevention that have been designed and tested for homeless and runaway youth, and young persons living with HIV by the University of California at Los Angeles Semel Institute. These programs not only address risks for HIV and STDs, but each also contains components to address the socially determined risks that frequently complicate the lives of disadvantaged minority youth. The programs in this suite of EBIs provide activities to support life skills, self-awareness, problem solving, emotional regulation, building social skills to decrease substance use, access social and health care services, and negotiation of safe sex through education, demonstration, and hands on practice. The activities are specifically

designed for adolescents and their unique emotional, psychological, and physiological requirements for implementation in groups (Street Smart (Rotheram-Borus et al., 1991, 1997) and Together Learning Choices (TLC; Rotheram-Borus et al. 2001, 2004), and for individuals Choosing Life: Empowerment, Action, Results (CLEAR; Lightfoot et al., 2007).

Evidence-Based Behavioral Interventions (EBIs) for HIV/STD Prevention

EBIs are theory-driven activities designed to change thoughts and actions. Based on variants of behavior change theories (e.g., social learning theory; Bandura, 1986) and stages of change (Prochasta, DiClemente, & Norcross, 1992), EBIs for HIV prevention are designed to prevent the transmission of HIV infection and reduce the risk of contracting HIV through the practice of behavior modification activities. Although these theories usually address factors that influence behavior (e.g., the theory of reasoned action and the theory of planned behavior focus on intentions, attitudes, beliefs, and subjective norms), these theories may also address behavioral determinants such as social structures that affect male and female relationships (e.g., theory of gender and power; Connell, 1987). EBIs are carefully crafted to change specific risk behaviors through an incremental process of cognitive remediation. Health departments and community-based organizations (CBOs) should weigh carefully the critically important characteristics of the populations they serve in order to select the most appropriate EBIs. To assist the public in gaining access to state of the art EBIs for public health good, CDC developed a process for (1) selecting the best interventions develop in clinical and experimental research, (2) replicating and translating the intervention materials to make them usable in communities, and (3) national disseminating the materials and providing technical assistance. The (1) Prevention Research Synthesis (PRS), (2) Replicating of Effective Programs (REP) Project and (3) Diffusion of Effective Behavioral Interventions (DEBI) are the three components that complete CDC's Division of HIV/AIDS Prevention's technology transfer model (Collins et al. 2006). In most cases, interventions naturally progress through this model of being determined efficacious by PRS, packaged by REP, and disseminated by DEBI.

Selection of Evidence-Based Interventions for Youth

In recent years, a number of EBIs for HIV prevention have been identified by the CDC Prevention Research Synthesis (PRS) project to target youth. The members of the PRS project team conduct systematic reviews of scientific literature on HIV prevention interventions to ascertain demonstrated effectiveness in reducing sexual and drug-related risk behaviors (Lyles et. al., 2006). This team identifies effective EBIs and provides information to help HIV prevention planners and providers in the United States select the interventions most appropriate for their communities (Lyles et al., 2006). To be selected for translation and transfer, an intervention must meet the PRS criteria for either best or promising evidence of efficacy. These criteria are based on the intervention description; the quality of the study design, implementation, and analysis; and the overall strength of the evidence (Lyles et al., 2006). Interventions with best evidence of efficacy "have been rigorously evaluated and shown to have significant positive effects (i.e., eliminate or reduce sex- or drug-risk behaviors, reduce the rate of new HIV/STD infections, or increase HIV-protective behaviors)." Promising interventions, although not meeting the same level of rigor as interventions with best evidence, are scientifically sound interventions that have also shown significant positive evidence of efficacy, and address the HIV prevention needs of many high-risk populations and communities for whom there are limited available effective interventions (CDC, 2006). The complete criteria for best and promising interventions can be found at

www.cdc.gov/hiv/topics/research/prs/efficacy_criteria.htm.

REP Project

The REP project is a CDC Division of HIV/AIDS Prevention initiative to make HIV/AIDS prevention programs available to communities by converting interventions with evidence of effectiveness into user-friendly packages (Neumann & Sogolow, 2000). The interventions selected by REP are tested, evidence-based behavioral interventions (EBIs) with demonstrated evidence of effectiveness in reducing risky behaviors, such as unprotected sex, or in encouraging safer ones, such as using condoms and other methods of practicing safer sex. The intervention materials from researchers are translated into everyday language and user-friendly packages of materials are made. The packages are field-tested by researchers collaborating with community-based partners. The resulting products can guide prevention providers in replicating effective risk-reduction programs in their own settings and communities. There are REP packages for a variety of target populations and settings. Some REP interventions are designed to be delivered in health clinics. Others take place on street corners or in shelters, bars, and other places. Some rely on one-on-one peer education; others use facilitated discussions in small groups. Some are given to clients in one session; others use several sessions.

Researchers are funded for two years under REP to develop and test their intervention materials with community-based agencies. This collaborative process is generally completed with input from a Community Advisory Board (CAB) that includes members of the intervention's target population, service providers, and agency administrators. The researchers, along with their CAB, develop a user-friendly implementation manual, based on the original intervention protocol, written in everyday language. The implementation manual includes a systematic guide on how to implement the intervention and addresses pre-implementation, implementation, and maintenance issues. A training of facilitator's curriculum is also developed to train agencies to implement the intervention. The implementation manual and training of facilitator's curriculum are field-tested by at least two community-based agencies that are naïve to the intervention. The selected agencies implement the intervention, with training and technical assistance provided by the researchers, and give feedback on the usability, clarity, and completeness of the intervention materials. Experience from the field-test is used to develop a Technical Assistance (TA) guide and to refine the other package materials. Once the implementation manual and TA guide have been finalized, the intervention package, which includes these documents along with supporting materials to conduct the intervention, and training materials, are conveyed to the DEBI program for national diffusion (Collins et al., 2007).

Disseminating Effecting Behavioral Interventions

In response to the availability of effective EBIs packages produced by REP and the public demand for improved HIV prevention for specific groups, CDC introduced an initiative to disseminate behavioral EBIs to community-based HIV prevention providers. The Diffusion of Effective Behavioral Interventions (DEBI) project introduced a nationwide technology transfer plan, taking research-based prevention intervention technologies to practice (Collins, Harshbarger, Sawyer, & Hamdallah, 2006). For many health departments and CBOs, DEBI is the national source for materials, training, resources and technical assistance for EBIs. The DEBI project is charged with

- Establishing and maintaining relationships with intervention developers
- Maintaining the scientific integrity of EBIs in prevention practice

- Strategic planning and coordination of a national dissemination and marketing strategy
- Coordinating training
- Providing technical assistance and capacity building
- Helping to monitor program process and outcomes

CDC supports a number of interventions for HIV/AIDS prevention (individual and small- group) interventions, among others in the DEBI project portfolio of EBIs that have evidence of significant increases in risk reduction among at risk youth (www.effectiveinterventions.org).

UCLA's Suite of Interventions

To date, ten of the eleven interventions packaged by REP are being disseminated by DEBI. Among these are Street Smart (a group-level intervention for homeless, runaway or disadvantaged youth), Together Learning Choices (a group-level intervention for HIV positive youth) and CLEAR (an individual-level intervention for HIV-positive youth.)

Street Smart

Developed by Mary Jane Rotheram-Borus of UCLA, Street Smart (Rotheram-Borus et al., 1991, 1997) is an intensive multiple-session, skills-building HIV and STD prevention intervention tested among predominantly Black (68%) and Hispanic (22%) runaway and homeless youth, ages 11-18 years. Six months after exposure to the intervention, participants were shown to practice safer sexual behaviors and reduce substance use (Rotheram-Borus et al., 1991).

Street Smart is a manual-guided and implemented in small-groups designed to demonstrate and practice methods for effective behavior change, problem-solving skills, and strategies to increase safer sexual behaviors. Life circumstances define risk for some youth; being gay, runaway or homeless, or sexually active increases the potential for risky behavior. Although Street Smart is designed for runaway and homeless youth, it can be easily adapted for youth at very high risk in other settings. The goal of Street Smart is to reduce unprotected sex, the number of sex partners, and substance use among runaway youth. The program is held over a 2- to 6-week period. It consists of:

- 8 drop-in group sessions (1-1/2 to 2 hours each)
- 1 individual session
- 1 group visit to a community health resource

The sessions aim to improve youths' social skills, assertiveness, and coping through exercises on problem solving, identifying triggers, and reducing harmful behaviors. Although it is preferable that clients attend every session, the program is designed so that each session stands on its own. Ideally, 6 to 10 youth attend the 8 group sessions, which are facilitated by 2 trained counselors. CBO staff members provide 2 more opportunities for youth in the form of an individual counseling session and a trip to a relevant community service organization. The sessions aim to improve youths' social skills, assertiveness, and coping through community health provider. The sessions take place in small groups to provide a supportive environment for behavior change. A private session with a counselor enables each client to identify his/her own risk for HIV transmission and find ways to overcome his or her own barriers to safer sex. Additionally, clients can access medical care, mental health care, and referrals for individual health concerns, if needed.

The stabilization and integration of community social services for youth may be the single best predictor of safer sex and drug use behavior. When support from adults is unavailable, youth often rely heavily on peers for information. Therefore, it is essential that HIV/AIDS prevention programs establish strong working links between difference social service agencies at both the leadership and staff levels. Youth need more than just a discussion of where these services can be obtained; they need to be taken so they can personally meet the staff and become familiar with different sites and

their services. Street Smart is held in conjunction with existing services, such as group counseling, that attract youth.

The Abstinence, Be Faithful, [use] Condoms (ABC) approach can be an important component of HIV prevention for youth. Although abstinence-only interventions have not been proven effective at reducing risk for HIV, integration of the ABC message into evidence-based interventions such as Street Smart may enhance safe-behavior education for youth by offering abstinence from sex or drugs as a part of more comprehensive risk-reduction strategies.

Together Learning Choices (TLC)

TLC is an evidence-based, HIV prevention and health promotion intervention for young people (ages 13 to 29) living with HIV. The TLC intervention was developed by Dr. Mary Jane Rotheram-Borus of UCLA (Rotheram-Borus et al., 2004; Rotheram-Borus, et al. 2001; Rotheram-Borus, et al. 2001). As components of a comprehensive, collaborative technology transfer plan, the Centers for Disease Control and Prevention's Replicating Effective Programs (REP) project field tested and packaged the intervention (June 2004-June 2007), and the Diffusion of Effective Behavioral Interventions (DEBI) project will disseminate TLC nationwide in the near future.

TLC is delivered in small groups using cognitive-behavioral strategies to change behavior. It provides young people with the tools and skills necessary to live their best life and to be able to make healthy choices. TLC consists of three sequential modules, each eight sessions in length.

- The *Staying Healthy* module encourages healthy living by focusing on health maintenance and forging effective partnerships with health care providers.
- The *Acting Safe* module is dedicated to primary and secondary HIV prevention by addressing sex- and substance use-related risk behaviors and reducing new infections and re-infections.
- *Being Together* emphasizes emotional well-being and improving quality of life. (Optional Module)

Important Updates for Together Learning Choices

A number of important changes in TLC have been made based on results of packaging and field testing the intervention. First, implementation of the original version of TLC with HIV-infected youth was challenging in other than clinical care settings. Retention of youth over the required 2-3 months and 12 sessions per module for the complete delivery of the intervention was determined to be unfeasible for some community-based organizations and public health programs. The number of sessions delivered in modules 1 and 2 has been reduced. Modules 1 and 2 have been reduced to 8 sessions each (from 12.)

For over one year, CDC's Replicating Effective Programs and Capacity Building Science Application teams collaborated with the original researchers and developers to reduce the number of sessions for modules 1 and 2 without compromising the integrity of TLC's effective behavior modification model. The decision to reduce the number of sessions to 8 per module was consistent with the results of the original research on TLC in which the mean number of sessions participants attended was 7.7 for *Staying Healthy* and 7.6 for *Acting Safe*. Seventy percent of participants attended at least 6 sessions of *Staying Healthy*, whereas 73% attended at least 5 sessions of *Acting Safe.* The decrease in number of sessions did not result in reduction or change to the content of the intervention. As TLC was being packaged, significant portions of the information it contained were updated to reflect new developments in the medical management of HIV and a new realization persons can live HIV for many years. Changes that were made to the original protocol are:

- Elimination of redundant concepts and activities;

- Addition of updated information on prevention technology, medical management of HIV, and "club drugs:" and
- Integration of a perspective that treats HIV as a chronic disease, greater emphasis on non-scripted role-plays.

Second, the behavior modification theoretical paradigm undergirding TLC activities was made more accessible and user friendly by incorporation of a more explicit and easier to remember "**Feel-Think-Do**" framework. The **Feel-Think-Do** framework is a re-wording of problem solving processes intrinsic to TLC activities that emphasize identifying emotions, cognitively processing solutions and carrying out actions for safer, healthier behaviors.

Third, module 3, *Being Together* is now optional. The prevention outcomes of *Staying Healthy* and *Acting Safe* were most rigorously evaluated and showed significant impact. However, the *Being Together* module was less rigorously evaluated due to limited follow-up data and the outcomes, while significant, were not linked to HIV risk reduction. In addition, the techniques used in the module may require extended training. For these reasons, *Being Together* is optional and *not* a part of the intervention package. It can be accessed at http://ucla.chipts.edu.

Group Intervention Behavior Modification Tools

The feelings thermometer and thanks tokens are effective tools applied in group interventions, Street Smart and TLC, in every session to teach adolescents emotional regulation and appropriate social interaction skills they may not have learned due to stressed living conditions, absence of parental figures, and deficits in socialization processes. The feelings thermometer is designed to help identify the physical and psychological signs of relative comfort or discomfort in reaction to social, drug-using, sexual and non-sexual relationship situations. The participants estimate how comfortable (point 0 on the scale) or uncomfortable (point 100 on the scale) they are with talking about condom use, practicing refusing risky sex, engaging in role plays and other intervention activities. Practiced over and again, the participants gradually increase awareness to the physical signs of stress (perspiration, change in heart rate) and learn to slow-down, process the information received and not react out of emotional confusion.

At first glance, the thanks token activity appears trite or even silly. The facilitator distributes small square pieces of colored paper to each participant at the beginning of the first session. As the facilitator leads the first discussion and encourages response from the participants, she or he models, skillfully, the correct use of the tokens by rewarding participants who respond or comment. The facilitator shows appreciation for the participant's contribution to the discussion by rewarding him or her with a single thanks token. Other group participants are encouraged to do the same. With time, the genuine appreciative gestures emerge from the group. This activity also builds group cohesion and camaraderie. These two skill builders are highly effective for modification of antisocial behaviors.

CLEAR (Choosing Life: Empowerment, Action, Results)

The CLEAR intervention was initially developed (Lightfoot, Tevendale, Comulada, & Rotheram-Borus, 2007) in response to challenges faced by TLC, a small group intervention targeting youth aged 13 to 29 living with HIV. TLC aimed to identify ways of increasing use of health care services, decreasing risky sexual behavior (i.e. substance abuse), and improving quality of life. Barriers to participation included scheduling and group interpersonal conflict, and an inability to attend to the diverse needs and functioning levels among intervention participants.

CLEAR offered one-on-one sessions delivered through telephone, individual in-person sessions, or as a delayed-intervention condition to youth and adults (ages 16 to 29)

living with HIV/AIDS (Lightfoot et al., 2007). The intervention was evaluated with 175 youth living in Los Angeles, San Francisco, and New York over a 15-month period. Similar to TLC, the CLEAR intervention was based on social learning theory (Bandura, 1986) and consisted of 3 modules that addressed reducing substance use, decreasing risky sexual acts, and maintaining physical health. Youth in the individual in-person session condition reported an increase in the number of protected sexual acts across all partners. This was irrespective of HIV status as protection rates were found to be at a higher rate for HIV-negative partners (Rotheram-Borus, et al., 2004). Specifically, 58% of the youth used condoms with all partners versus 22% of the youth in the control condition. Additionally, 73% of the youth engaged in protected sexual acts with HIV-negative partners in comparison to 32% of the youth in the control group. The number of HIV-negative partners decreased from 4.0 to 1.4 in the intervention group versus from 4.3 to 2.5 in the control condition. Additionally, ethnicity was a significant modifier of this outcome.

CLEAR was selected to be part of the CDC Diffusion of Effective Behavioral Interventions (DEBI). The CDC's guidelines on Comprehensive Risk Counseling and Services (CRCS), formerly Prevention Case Management (PCM; CDC, 2006), outlined CLEAR as a structured intervention that may be integrated into the CRCS programs as well.

The CLEAR intervention frames HIV prevention and health promotion within the participant's overall life context. Unsafe behaviors that place an individual at risk for HIV/AIDS occur within the context of the individual's life, are amplified by life circumstances, and change according to one's life context. CLEAR inspires short- and long-term behavior change by encouraging participants to examine the impact of their thoughts, emotions, and current life circumstances on HIV risk behaviors. Participants develop an image of the future and establish ideal self concepts that guide their attitudes and choices related to physical and emotional health.

CLEAR provides participants with the skills necessary to maintain health, reduce transmission of HIV and other sexually transmitted diseases, and improve quality of life.

It addresses issues that are specific to youth living with HIV such as substance use, risky sexual behaviors, HIV disclosure, medication adherence, health care, and stigma. Cognitive-behavioral strategies are applied throughout the sessions in order to teach the following skills: 1) emotional regulation through awareness of the linkage between feelings, thoughts, and actions; 2) problem-solving; 3) goal setting; and 4) assertive communication. Various activities such as role playing and worksheet completion are utilized in order to create an opportunity for participants to implement their new skills. The goal is for participants to internalize these coping skills and apply them in everyday life context. CLEAR considers the various barriers that participants face as they attempt to make healthier choices. Participants are taught to anticipate and work through barriers by implementing problem-solving strategies in order to achieve goals. Additionally, the intervention emphasizes the assertion of one's desires and increasing positive social support through instruction of advocating for needs from health care providers, and setting limits in response to risky sexual or substance abuse behaviors.

Problems and Challenges

Public health agencies in communities struggle providing services for at-risk youth. The three evidence-based behavioral intervention options for youth expand possibilities for health departments and community based organizations. The portfolio of programs presented offers a variety of flexible formats that may be matched to agency capacity, staff, fiscal resources and youth population requirements.

Street Smart is a good prevention choice for youth at risk for contracting HIV or STDs

because they have experienced severe life challenges, for example, dropping out of school, collapse of family support, involvement in foster care programs or the juvenile justice system. Homeless and runaway shelters, and organizations with strategies and resources to enhance retention of participants, support maintaining behavioral changes, and help stabilize the lives of participants are more likely to have success with the program. The intervention is lengthy (8 group sessions and 2 optional sessions), requiring that youth attend multiple sessions. Consistency in attending may be difficult for youth living on the street with uncertain living conditions. Out-patient organizations may offer incentives, such as the provision of meals, to boost attendance. Organizations considering implementing Street smart should chose an easily accessible location, near other youth serving agencies or within public transportation routes. Bus or subway tickets may also be used as incentives, if appropriate. The flexible structure of Street Smart also allows for grouping of individuals based on gender, or sexual orientation dependent upon potential participants comfort in discussing sensitive issues. The group process is critical to implementation of Street Smart. Youth with a history of problems communicating in-group settings may have challenges completing the program.

Implementation of Street Smart may not be possible in some juvenile detention centers or alternative schools. To be sure, these venues may serve youth at risk for contracting HIV/AIDS and STDS. However, state rules and regulations vary regarding risk reduction activities for youth, use of condom demonstrations, and sex education. Organizations considering Street Smart should research in-state rules before selecting the intervention. Also, in general, organizations selecting Street Smart should also have strong referral infrastructure to connect youth with mental health providers, education services (high school equivalency, for example), career counseling and job placement, STD clinics, substance use treatment programs, and other available social services.

Together Learning Choices is appropriate for organizations and agencies that provide first line of care for young people living with HIV/AIDS or related conditions. The most challenging issue for TLC is the large number of sessions (i.e., 16). Implementation requires organizational stability and resources to provide the entire intervention to participants, and incentives for youth to complete the program. Thus, medical facilities for example clinics dispensing antiretroviral medications to youth, hospitals with youth programs, substance abuse treatment centers, and mental health facilities may experience fewer difficulties implementing the intervention. TLC is designed for slightly older youth (13-29 years). This requires careful grouping of participants into age appropriate groups. In addition, the intervention provides more sophisticated, subtle presentation of prevention messages and provides discussions relevant for HIV-infected persons, including stigma, and whether or not to reveal HIV-status to family, friends and sexual partners. Methods to approach the subject of HIV disclosure are provided as well. Age appropriate grouping of participants is vital to a successful program.

CLEAR offers flexible alternatives for HIV- positive youth who may not be comfortable in-group settings, have problems with transportation, or are infirmed and cannot attend in-person sessions. Organizations have a number of options for delivery of the intervention that may provide costs savings though elimination of meeting space. Challenges to implementation of CLEAR include labor-intensive single-person sessions for staff, consistent telephone contact may be difficult for some participants, and record-keeping ensuring completion of the intervention may be time consuming if clientele is sufficiently large.

Summary and Conclusions

The three interventions Street Smart, Together Learning Choices, and Clear,

described here have commonalities and differences. All are based on social action theory with similar underlying principles and core elements. They aim at creating healthy behavioral change by focusing on positive self-concepts, a vision of the future, understanding the links between feelings, thoughts and actions, and developing adaptive coping skills (e.g., assertiveness and problem-solving). The selection of an evidence-based intervention for implementation with a particular group in a public health organization should be based on knowledge about the group and knowledge about available interventions. This knowledge is important for at least three reasons. First, program officials should understand the design and intent of the intervention so that they will have clear expectations of what the intervention can and cannot do for the at risk adolescent they serve. Second, the implementation of evidence-based interventions requires fiscal and logistical support. Budgets and the capacity to implement the programs must be considered. Each EBI has different requirements for staffing, materials, space, and scheduling. Third, EBIs have been proven effective with specific populations. Program officials should be cognizant of an intervention's activities and of the sociocultural requirements of the at-risk youth. For example, we recommend conducting pre-intervention placement assessment during the intake process to screen youth for sexual involvement, drug use, homelessness, etc. Youth who may be homeless, but not sexually active, should be placed in other interventions, ones not described here. All of the interventions described in this paper presume a certain degree of sexual activity or knowledge. Very young youth with no sexual experience should be placed in interventions to encourage abstinence as a first line of defense against contracting HIV infection.

References

Atlanta Journal Constitution. (October 4, 2006). *A glimmer of hope for homeless youth Young Americans, often abused or victimized within their own families and neighborhoods, represent the invisible face of the problem -- unnoticed and lost in the shuffle of adult life.* Page D1.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Berger, L. M, Carlson, M. J., Bzoster, S. H., & Osborne, C. (2008). Parenting practices of resident fathers: The role of marital and biological ties. *Journal of Marriage and Family* 70, 625-639.

Brooks-Gunn J., & Duncan, G. J. (1997). The effects of poverty on children. *Children and Poverty* 7, 55-72.

Carlson, M. J., & Corcoran, M. E. (2001). Family structure and children's behavioral and cognitive outcomes. *Journal of Marriage and Family 63*, 779-792.

Centers for Disease Control and Prevention. (2006). *Comprehensive risk counseling and services (CRCS) implementation manual*. Retrieved August 2008 at http://www.cdc.gov/hiv/topics/prev_prog/CRCS/resources/CRCS_Manual/cover.htm

Centers for Disease Control and Prevention. (2007a). HIV/AIDS Surveillance in adolescents and young adults. Slide Number 10. Retrieved: June 2009 at http://www.cdc.gov/hiv/topics/surveillance/resources/slides/adolescents/index.htm

Centers for Disease Control and Prevention. (2007b). HIV/AIDS Surveillance in adolescents and young adults. Slide Number 13, Retrieved: June 2009 at http://www.cdc.gov/hiv/topics/surveillance/resources/slides/adolescents/index.htm

Centers for Disease Control and Prevention. (2007c). HIV/AIDS Surveillance in adolescents and young adults. Slide Number 14, Retrieved: June 2009 at http://www.cdc.gov/hiv/topics/surveillance/resources/slides/adolescents/index.htm

Centers for Disease Control and Prevention. (2008a). Youth risk behavior surveillance—United States, 2007. *Morbidity and Mortality Weekly Report, 57*, 1–132.

Centers for Disease Control and Prevention. Division of Sexually Transmitted Disease Prevention – Surveillance Report-2007. (2008b) December 2008. http://www.cdc.gov/std/stats07/main.htm . Accessed: March 2009.

Centers for Disease Control and Prevention. (2008c). CDC HIV/AIDS fact sheet: HIV/AIDS among youth. Retrieved June 2009 at http://www.cdc.gov/hiv/resources/factsheets/youth.htm

Centers for Disease Control and Prevention. (2009). HIV/AIDS Surveillance Report, 2007.Vol 19. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

Cherlin, A. J. (1999). Going to extremes: Family structure, children's well-being and social science. *Demography 36*, 421-428.

Cohen, D. A., Farley, T. A., Taylor, S. N., Martin, D. H, & Schuster, M. A. (2002). When and where do youths have sex? The potential role of adult supervision. *Pediatrics. 110*, e66.

Collins, C., Harshbarger, C., Sawyer, R., & Hamdallah, M. (2006). The diffusion of effective behavioral interventions project: Development, implementation and lessons learned. *AIDS Education and Prevention, 18*, 5-20.

Collins, C. B. Jr., Johnson, W.D., & Lyles, C. M. (2007). Linking research and practice: Evidence-based HIV prevention. *Focus, 22*, 1-5.

DiIorio, C., Dudley, W. N., Soet, J. E., & McCarty, F. (2004). Sexual possibility situations and sexual behaviors among young adolescents: The moderating role of protective factors. *Journal of Adolescent Health*, 35, 11-20.

Ellen, J. M., Brown B. A. Chung, S., Potterat, J. J., Muth, S. Q., Valente, T. W., & Padian, N. S. (2005). Impact of sexual networks on risk for gonorrhea and chlamydia among low-income urban African American adolescents. *Journal of Pediatrics, 146*, 518-522.

Fisher, H. H., Eke, A. N., Cance, J.D., Hawkins, S.R., & Lam, W. K. (2008). Correlates of HIV-related behaviors in African American adolescents from substance-using families: Patterns of adolescent-level factors associated with sexual experience and substance use. *Journal of Adolescent Health* 42, 161-169.

Golarzi, M., Hunt, S., J., & Anoshiravani, A. (2006). The health status of youth in juvenile detention facilities. *Journal of Adolescent Health* 38, 776-782.

Lightfoot, M., Tevendale, H., Comulada, S., & Rotheram-Borus, M. J. (2007). Who benefited from an efficacious intervention for youth living with HIV: A moderator analysis. *AIDS & Behavior, 11*, 61-70.

Larson, K., Russ, S., A. Crall, J. J., & Halfon, N. (2008). Influence of multiple social risks on children's health. *Pediatrics 121*, 337-344.

Lyles, C. M., Crepaz, N., Herbst, J. H., & Kay, L. S., for the HIV/AIDS Prevention Research Synthesis (PRS) Team. (2006). Evidence-based HIV behavioral prevention from the perspective of CDC's HIV/AIDS Prevention Research Synthesis team. *AIDS Education and Prevention, 18*, 21-31.

Neumann, M. S., & Sogolow, E. D. 2000. Replicating effective programs: HIV/AIDS prevention technology transfer. *AIDS Education and Prevention, 12*, 35-48.

Orfield, G., Losen, D., & Wald, J. (2004). *Losing our future: How minority youth are being left behind by the graduation rate crisis*. Cambridge, MA: The Civil Rights Project at Harvard University. Retrieved August 4, 2008 at http://www.civilrightsproject.harvrd.edu

Palmer, S. (2007). *Toxic childhood. How the modern world is damaging our children and what we can do about it*. London: Orion Books.

Prochasta, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change. *American Psychologist, 47*, 1102-1114.

Rock, D. A., & Stenner, A. J. (2005). Assessment issues in the testing of children at school entry. *The Future of Children, 15*, 15-24.

Rotheram-Borus M. J., Van Rossem R., Gwadz M., Koopman C., & Lee M. (1997). *Reductions in HIV Risk among runaway youths*. Los Angeles, CA: University of California, Department of Psychiatry, Division of Social and Community Psychiatry.

Rotheram-Borus M. J., Koopman C., Haignere C., & Davies M. (1991). Reducing HIV sexual risk behaviors among runaway adolescents. *Journal of the American Medical Association, 266*, 1237–1241.

Rotheram-Borus, M. J., Lee, M. B., Murphy, D. A., Futterman, D., Duan, N., Birnbaum, J. M., et al. (2001). Efficacy of a preventive intervention for youth living with HIV. *American Journal of Public Health, 91*, 400-405.

Rotheram-Borus, M. J., Murphy, D., et al. (2001), Improving the quality of life among young people living with HIV. *Evaluation and Program Planning, 24*, 227-237.

Rotheram-Borus, M.J., Swendeman, D., Comulada, S. Weiss, R., & Lightfoot, M. (2004). Prevention for substance using HIV+ young people: telephone and in-person delivery. *Journal of Acquired Immune Deficiency Syndromes, 37*, Supplement 2, S68-S77.

Shaw, D. S., Winslow, E. B., & Flanagan, C. (1999). A prospective study of the effects of marital status and family relations on young children's adjustment among African American and European American families. *Child Development 70*, 742-755.

Snow, C. E., & Biancarosa, G. (2003). *Adolescent literacy and the achievement gap: What do we know and where do we go from here?* Retrieved April 2008 at www.carnegie.org/literacy/pdf/ALFF1.pdf

Sogolow, E., Peersman, G., Semaan, S., Strouse, D., Lyles, C., and the HIV/AIDS Prevention Research Synthesis project team. (2002). The HIV/AIDS Prevention Research Synthesis project: Scope, methods, and study classification results. *Journal of Acquired Immune Deficiency Syndromes, 30*, 15-29.

United States Census Bureau (2007). *Current population reports: Income poverty, and health insurance coverage in the United States: 2006.* U. S. Government Printing Office. Washington, D. C.

Vanderstaay, S. L. (2006). Learning from longitudinal research in criminology and the health sciences. *Reading Research Quarterly, 41*, 328-350.

Whitbeck, L. B., & Hoyt, D. R. (1999). *Nowhere to grow: Homeless and runaway adolescents and their families.* New York: Aldine de Gruyter.

Wood, D. (2003). Effect of child and family poverty on child health in the United States. *Pediatrics 112*, 707-711.

World Health Organization. (2005). *Action on the social determinants of health: Learning from previous experiences*. Background paper prepared for the Commission on Social Determinants of Health. Geneva, Switzerland: World Health Organization. Available from: http://www.who.int/social_determinants/resources/action_sd.pdf