Prev Sci (2009) 10:76–86
DOI 10.1007/s11121-008-0119-4

Comparisons of Prevention Programs for Homeless Youth

Elizabeth Mayfield Arnold · Mary Jane Rotheram-Borus

Published online: 9 December 2008
© Society for Prevention Research 2008

Abstract There are six HIV prevention programs for homeless youth whose efficacy has been or is currently being evaluated: STRIVE, the Community Reinforcement Approach, Strengths-Based Case Management, Ecologically-Based Family Therapy, Street Smart, and AESOP (street outreach access to resources). Programs vary in their underlying framework and theoretical models for understanding homelessness. All programs presume that the youths' families lack the ability to support their adolescent child. Some programs deemphasize family involvement while others focus on rebuilding connections among family members. The programs either normalize current family conflicts or, alternatively, provide education about the importance of parental monitoring. All programs aim to reduce HIV-related sexual and drug use acts. A coping skills approach is common across programs: Problem-solving skills are specifically addressed in four of the six programs; alternatively, parents in other programs are encouraged to contingently reward their children. Each program also engineers ongoing social support for the families and the youth, either by providing access to needed resources or by substituting a new, supportive relationship for the existing family caretaker. All of the interventions provide access to health and mental health services as basic program resources. A comparison of HIV prevention programs for homeless youth identifies the robust components of each and suggests which programs providers may choose to replicate.

Keywords HIV prevention programs · Homeless youth · Comparison · Components

E. M. Arnold (✉)
Department of Psychiatry and Behavioral Medicine,
Wake Forest University School of Medicine,
Medical Center Boulevard,
Winston-Salem, NC 27157-1087, USA
e-mail: earnold@wfubmc.edu

M. J. Rotheram-Borus
Global Center for Children and Families, Semel Institute for Neuroscience and Human Behavior, University of California, Los Angeles, USA

HIV prevention among homeless youth is a significant and growing problem. Globally, there are approximately 100 million homeless youth (UNICEF 1989), with at least 1.2 million youth homeless in the United States (Ringwalt et al. 1998). The rate of HIV infection among homeless youth is substantially higher than the national rate for youth (2.3% among homeless youth in a multi-site study [Allen et al. 1994] vs. 0.1% nationally [Morris et al. 2006]). However, a more recent smaller study documented an even higher rate of HIV among homeless adolescents (16%; Beech et al. 2003). Homeless youth are at high risk for multiple problem behaviors, with high rates of drug abuse, incarceration, unemployment, school drop-out, and mental health problems (Booth and Zhang 1996; Greene and Ringwalt 1996; Harpaz-Rostem et al. 2006, Kipke et al. 1997).

The concern over the increased relative risk of HIV among these youth has led to the development of at least six different HIV intervention program strategies throughout the United States. There are programs focused on subpopulations of homeless youth: the newly homeless, the serious drug abusing homeless youth, the chronic runaway, and the youth who has returned home. Our goal is to examine and compare intervention approaches that have been developed to reduce homeless youths' risk of being infected with HIV.

In order to conduct these comparisons, we turn to the framework established by Rotheram-Borus and colleagues (Rotheram-Borus 2006; Rotheram-Borus et al. 2008). The

authors developed a structure for identifying common factors for HIV prevention that is developed from the existing literature on common factors in psychotherapy, the core elements of evidence-based HIV prevention, and analyses of the components of HIV and other risk prevention programs (see Rotheram-Borus et al. 2008, for additional detail). While all evidence-based interventions are theoretically-based, there are many more factors involved in delivering an intervention than the theoretically-grounded intervention components. Systematically rating manuals of the HIV-related prevention programs, these researchers perceive that there are at least five common components of evidence-based prevention programs: providing a narrative framework for the problem issue, providing information or education, building skills, providing social support, and addressing environmental barriers to the targeted outcomes. We used this framework to compare the six existing programs for delivering HIV prevention to homeless youth. By examining the commonalities and differences across programs, we anticipated that the robust factors of each prevention program for homeless youth would emerge.

Method

The programs were selected based on an extensive review of the literature in Medline, PsycInfo, and the CRISP database of federally-funded programs. Our search focused specifically on identifying programs that had an HIV prevention focus and targeted homeless youth. We selected programs for which there was sufficient information available in published or written form (from the authors) to provide a comprehensive description of the program and its components. After this review, six programs were identified, and they are described below.

The authors reviewed program material and articles about the programs, including program manuals, and initiated conversations with the Principal Investigators of the programs for any unclear aspects of their programs. The key characteristics of each program are summarized in Table 1, including the target subpopulation of homeless youth, the sites, facilitator training, and the number of sessions. Table 2 describes the common components of these six programs.

Program Descriptions

STRIVE Project STRIVE is a 5-session family intervention for newly homeless youth. Developed by Milburn (2007), STRIVE is based on social learning theory and uses a "family problem hierarchy" to address problems by starting with the least difficult and progressing to the most challenging problems over the course of the intervention sessions (Rotheram-Borus et al. 1994a, b). This program asserts that youth leave home as a way to ineffectively resolve family conflicts and that the family lacks problem-solving skills. The intervention aims to reunite families separated by running away and to reduce HIV risk behaviors. Thus, the HIV risk reduction focus is primarily through focusing on repairing the family relationships so that the youth does not run away again; the run away behavior is the risk factor for contracting HIV through behaviors common among street youth such as sexual behaviors and substance use. Preliminary results show a high rating of both participant satisfaction and adherence (Norweeta Milburn, personal communication, September 4, 2008); however, the outcome is currently being evaluated in a randomized controlled trial.

Project STRIVE strengthens desirable behaviors by having family members exchange tokens or markers of positive feelings during an intervention session. Tools such

Table 1 Descriptive characteristics of programs

	SBCM	EBFT	STRIVE	AESOP	CRA	Street smart
Delivery format	Individual	Family	Family	Individual	Individual	Small group
Facilitator background	Masters level clinicians	Masters level clinicians	Masters and doctoral level clinicians	Community health educators and peer health educators	Masters level female clinicians	Good social skills and problem-solving ability
Site	Rural, North Carolina	New Mexico	Urban, California	Urban, California	Urban, New Mexico	Urban, New York
Number of sessions/duration	12 months- weekly in months 1–6 and then tapered frequency	15 sessions	5 sessions	33 months of follow-up	12 sessions	10 plus individual sessions as needed
Type of youth	Runaway youth who have returned home	Shelter youth	Newly homeless youth	Street youth	Shelter youth	Shelter youth

Table 2 Overview of common components in six different interventions for reducing HIV risk among runaway and homeless youth

Component	EBFT	CRA	SBCM	STRIVE	Street smart	AESOP
Frame on the issue and assessment of current status	Current problems reflect failures of service system, family & youth. Assess each domain	Goal: ↑ happiness and decrease substance use. Assessment includes: enhancing motivation, gathering background & substance use information, & functional analysis of risk acts	Validate + normalize experiences & feelings. Evaluate strengths & current functioning in multiple life domains	Family has poor conflict resolution skills: Increased skills will reduce risk	Pursuing life goals requires a decrease in risk acts; evaluates risk knowledge, attitudes, & behaviors	Youth must access and utilize resources; must meet youth where they are
Theory/model	Homebuilders Family Preservation Model	Behavioral theory- contingency model	Strengths theory	Social learning theory	Social learning theory	Subculture-specific outreach model
Information/ education	Parents: limit-setting & monitoring, address dysfunctional interactions, ↑ strategies to decrease substance use	↑ Protection strategies & health-focused strategies aimed at increasing contingent reinforcement	Normalize behaviors, ↑ protection strategies, & encourage behaviors consistent with personal goals	↑ Strategies aimed at conflict resolution	↑ Protection strategies	↑ Education aimed at specific youth subcultures
Coping Skills	↑ Problem-solving, communication skills	Reward positive behaviors, punish or ignore negative behaviors	↑ Problem-solving, identify personal goals	↑ Problem-solving, including feelings, thoughts, & actions	↑ Problem-solving, including feelings, thoughts, & actions	↑ Access and utilization to prevention services
Social support/ relationships	Improve relationship with parents & other key individuals to support change	Involve "concerned others" in the intervention & encourage positive social activities	Build strong relationship with the case manager, non-deviant peers, & supportive adults	Improve relationships with parent/ guardian & family members	Relationships with group members & the facilitator reduce risk	Relationship with outreach worker will increase service utilization
Environmental barriers	Mobilize resources of service system	Lack of reinforcement for positive changes	Replacing "entrapping niches" that do not support the child's strengths & goals with supportive settings	Develop a referral method for early access to runaways	Provide access to ongoing health care, STD treatment, & condoms	Access to acceptable forms of intervention that fit with the subculture on the street

RHY Runaway and Homeless Youth

as a Feeling Thermometer teach both adolescents and parents to identify and regulate strong emotions and link these emotional states to predictable situations. During sessions, cognitive problem-solving skills are taught by evaluating challenging social encounters and conflicts: The family sets a goal, generates ways to reach the goal, chooses one alternative, and role plays the potential solution. Role playing of HIV-related risk situations and conflictual interactions helps to build assertiveness. In addition, STRIVE is designed for families from diverse cultural and ethnic backgrounds.

Community Reinforcement Approach The Community Reinforcement Approach (CRA) with homeless youth is an intervention model originally developed for substance-abusing adults (Azrin et al. 1982; Meyers and Smith 1995; Hunt and Azrin 1973). The intervention was later adapted and evaluated with adolescent substance abusers (Godley et al. 2001) prior to its current use for homeless adolescents (Slesnick et al. 2007). The model encourages behaviors incompatible with substance use by rewarding positive, prosocial behaviors (Meyers and Squires 2006). The CRA hypothesizes that substance abuse is sustained by environmental rewards from family, friends, peers, and employers (Smith et al. 2001). For runaways, substance use is a risk factor that can lead to HIV transmission that is targeted with CRA. In addition, Slesnick et al. (2007) added sessions as part of the intervention that focused on HIV prevention.

Social cognitive theories argue that the easiest way to eliminate an undesirable behavior is to engage in incompatible actions. CRA is aimed at increasing personal happiness which will likely be incompatible with abusing drugs. CRA includes a functional analysis of the triggers for substance use as well as the consequences of abuse. Behaviors which can produce feelings currently associated with substance use (e.g., elation, relaxation) are identified (Meyers and Squires 2006). In addition, as part of the treatment plan, a Happiness Scale is used to examine 10 life categories: The family problem solves ways to increase happiness in each of these domains and sets goals and strategies for sustaining these positive feelings (Meyers and Squires 2006). In Slesnick et al.'s (2007) recent study, homeless youth who received CRA significantly reduced their substance use and depression and improved their social stability compared to a standard treatment condition.

Ecologically-Based Family Therapy (EBFT) EBFT (Slesnick and Prestopnik 2005) is a family-based intervention for shelter youth and parents that aims to improve youth substance use and other risk behaviors as well as HIV knowledge, family functioning, and psychological functioning. For youth who have maintained contact with their families after leaving home, their family ties are used to motivate both parents and children to shift their interactions and problematic actions (Slesnick and Prestopnik 2005). EBFT builds upon others' work with family preservation (e.g., Nelson and Landsman 1992; Barth 1990) and multisystemic interventions (e.g., Pickrel and Henggeler 1996) that address the numerous influences on youths' behaviors. Both individual sessions with the youth and family sessions are conducted. The family sessions target dysfunctional interactions that help initiate and sustain problem behaviors (Slesnick and Prestopnik 2005). Reductions in substance use are directly addressed. The EBFT therapist assumes that substance abuse occurs for complex reasons, beyond the parent-child relationship. EBFT is efficacious in reducing youth substance use, with additional positive outcomes for youth with histories of physical and sexual abuse (Slesnick and Prestopnik 2005).

Strengths-Based Case Management (SBCM) SBCM is a theory-driven model of case management that has been used extensively and successfully with adults with mental illness and substance abuse (Modicrin et al. 1988; Macias et al. 1994; Rapp et al. 1992). Since the earlier work on the model, SBCM has also demonstrated promise as an intervention for reducing HIV risk behaviors among persons living with HIV/AIDS (Husbands et al. 2007). This model has recently been used for the first time with adolescents by Arnold and colleagues (Arnold et al. 2007; Arnold 2007).

The purpose of SBCM is to work collaboratively with individuals to make positive changes in their lives "by identifying, securing, and sustaining" personal and environmental resources to assist them in reaching their goals (Rapp and Goscha 2006, p. 54). Rather than serving as brokers to access care, the case managers develop a strong positive, caring relationship with the adolescent. The case manager attempts to use their bond to enhance the parent-youth relationship (when possible), but also uses the case manager/youth bond as a source of strength and motivation for change. The case manager empowers the youth to make positive life changes by assessing their strengths, identifying goals, and helping youth learn to mobilize and use community resources (Rapp and Goscha 2006). The case manager typically accesses informal resources (e.g., support from family members, teachers, religious leaders) as opposed to an emphasis on formal services (e.g., psychiatric services, substance abuse treatment). In delivering this intervention, Arnold et al. (2007) found the original model developed by Rapp (1998) needed few adaptations for homeless youth. However, HIV prevention information, skills, and support were added in order to specifically target reductions in unprotected sex, numbers of sexual partners, and substance abuse. Youth were encouraged to incorporate

reduction of risky behaviors into their future goals and plans. The SBCM approach is consistent with the emerging approach of "personalized" interventions (Burke and Psaty 2007).

Street Smart Street Smart is a 10-session intervention delivered in small groups for runaway and homeless youth (Rotheram-Borus et al. 1991b, 2003) that was selected by the Centers for Disease Control as a promising prevention model. Based on social learning theory (Bandura 1986), the intervention teaches youth skills and coping mechanisms to reduce HIV risk behaviors and avoid drug use. Delivered in shelter settings, the main components include providing access to health care services and condoms, as well as training sessions with peers (Rotheram-Borus et al. 1992). Sessions focus on increasing HIV knowledge and social skills; youth also meet individually with a counselor to examine personal barriers to altering sexual behaviors. Research on the use of Street Smart documented positive outcomes in reducing sexual risk behaviors among females and substance use among both male and female runaways over 2 years (Rotheram-Borus et al. 2003).

The AIDS Evaluation of Street Outreach Project (AESOP) AESOP is a component of a larger, multi-site study (Gleghorn et al. 1997). Street outreach differentiates this program from others: Creating a store front drop-in center is a main intervention component. The main point of contact between the youth is on the street, where the project outreach workers attempt to engage the youth, tell them about available services, and provide resources (e.g., tangible items, such as condoms and bleach, as well as referral information). Youth were enlisted to develop and distribute subculture relevant prevention materials (e.g., t-shirts and magazines). For youth who accessed the store-front services, staff provided opportunities for individual and group discussions about risk behaviors. In AESOP, the focus of the intervention efforts varied over time. Although the intervention did not appear to impact condom use, it was associated with more outreach worker contact, which in turn was related to follow-up on referrals and use of clean needles during injection drug use (Gleghorn et al. 1997).

Results

Differences in the Programs

All programs aim to reduce HIV risk, but they vary in whether they are focused on the individual (SBCM, AESOP, & CRA), the youth and their family (EBFT, STRIVE), or the youth as part of a peer group (Street Smart) (Table 1). These are quite different delivery formats, each presenting a different set of challenges. Engagement is difficult, but if parents are involved, recruitment of youth is relatively easy. However, by adolescence, parents have often "given up" on difficult youth (Tischler et al. 2004).

SBCM and CRA focus on the youth: Parents are included so that they can potentially partner with their children in problem solving the precipitating events of the runaway episode. However, with or without parent involvement, the programs attempt to build the capacity of the youth to cope with their families in different ways. SBCM specifically counsels youth that their parents are unlikely to change, and the youth must figure out how to change the trajectory of their adolescence within the family. In contrast, Street Smart has youth drop-in within the shelter program in which they reside. Recruitment is not a problem as long as exciting or fun activities are organized.

The type of program may emerge because of the target population. All programs have an HIV prevention focus and aim to reduce HIV-related sexual (numbers of sexual partners, unprotected sex) and drug use acts. AESOP is designed for drug abusing youth living on the streets. STRIVE is aimed at newly homeless youth, and SBCM targets youth who have run away, but who have been returned to their families. Because almost all chronically homeless youth spend time both in shelters and rotate to the streets, it is likely that Street Smart and CRA address the same populations as AESOP, SBCM, or STRIVE. However, Street Smart and CRA recruit the youth at a different phase of their developmental cycle of homelessness.

Similarly, the site of the project strongly impacts its design. AESOP cannot be delivered in a rural setting; street outreach is limited to urban settings in which services exist, but are not being accessed by the target population. Street Smart is also likely to be very difficult to mount in a rural setting as there are often no shelters or institutions at which youth gather where groups can be conducted. Also, the number of youth in rural areas make it unlikely for one to be able to form a group in these settings. In contrast, SBCM, CRA, and ECFT can be mounted in both rural and urban settings.

Four of the programs are meant to be an enhanced service program in addition to runaway shelter services (EBFT, CRA, STRIVE, and Street Smart). SBCM and AESOP are intended to be the core service to help youth access existing resources. This is a fundamentally different organization of care and perhaps reflects the type of homeless youth targeted by the service, as well as the site. SBCM is being initiated in rural North Carolina and AESOP was conducted in inner-city San Francisco.

The level of skill needed to implement the programs as currently designed varies significantly. AESOP and Street

Smart require the least educational requirements. Good social skills that allow bonding and strong problem solving skills are the primary requirements for the job. However, managing young people in a group setting is an additional skill that can be highly complex, especially when the goal is to teach skills, not to provide an educational intervention. Therefore, the program designers may underestimate what may be required to replicate the intervention. EBFT, CRA, and STRIVE require Master's degrees or higher. SBCM with youth was piloted with master's-level clinicians (but has been used with bachelor's-level staff with adults). Once a program has been proven to work in a particular setting, strategies for less experienced implementers may be possible.

Finally, all of the programs are relatively intensive. SBCM estimates that youth receive about 35 sessions over the year-long program. In contrast, the manualized interventions of Street Smart, STRIVE, and CRA range from 5 to 15 sessions. The street outreach AESOP program has from 1 to 30 contacts over a 6-month period: Youth who stay in the setting longer are more likely to encounter the outreach worker more frequently.

Common Components

Table 2 summarizes the comparisons of the common components in each of the six programs.

Framing the presenting problem The six programs vary dramatically in how they frame the risk for HIV among homeless youth. As part of their overarching framework, some programs narrow the focus of the problem to the family and have an inherent perspective on the role and involvement of the family in the problem. Other programs focus on delivering information or on addressing individual needs.

At least two of the programs see a dysfunctional family as the core problem. In EBFT, parents are seen as lacking skills in monitoring and setting limitations. There is a substantial amount of literature outlining the importance of these parenting skills for adolescents. In STRIVE, the family's ability to manage conflict is labeled the core problem. Without effective strategies to resolve conflict, parents and their adolescent children are likely to be alienated and the youth retaliate by running away. These programs also stress a non-blaming approach so that "fault" is not placed on either the youth or parent. Both programs assert that both the parents and the youth share responsibility for the youth's homelessness. These interventions do not address or debate whether the frame is accurate for a specific family. The program facilitators assert that the fundamental issue is a conflict or monitoring problem and begin to provide the information, skills, and support to shift these practices.

Two of the programs, Street Smart and AESOP, do not rely or focus on the involvement of the family, nor is there much individual assessment of each youth's situation. These interventions focus specifically on providing access to information, skills, or resources. The degree to which the youth accepts responsibility for making changes is left to the youth.

Three of the programs, EBFT, SBCM, and CRA, focus on individual assessment of the unique needs of each youth and their family. These assessments guide the direction of the intervention by narrowing the focus to issues unique to the individual as opposed to making a predetermined assertion of the origin of the problem (e.g., conflict or lack of access to resources). SBCM and STRIVE frame the problem as normative and to be expected during adolescence; neither parents nor youth are "blamed" for the current problems. EBFT frames the parents' limitation setting, consistency, and behavioral management of their children as a primary source of homelessness. CRA is more focused on the environmental influences, which may or may not include the family. Typically, the peer group is a negative influence that is consistently linked to adolescent substance abuse. CRA conducts a functional analysis and posits that the youth is being rewarded for substance abuse. There are no negative contingencies for substance abusing behaviors. Overall, there are significant differences in the existing approaches in how the problem of the youths' homelessness is to be understood by the youth, their parents, and the intervention program facilitator.

Information provided The information provided in each program is aimed at increasing positive interactions, rewarding youth contingently for their actions, and presenting a hopeful look to the future. Some focus mainly on parent/child interaction (EBFT, STRIVE), while others are focused on protection strategies (CRA, Street Smart) or the provision of culturally acceptable methods of information delivery (AESOP). In contrast, SBCM provides education on ways in which positive behaviors can lead to accomplishment of self-identified goals.

Building coping skills Five of the six programs adopt the stance that better problem solving will increase the youth and/or their family's ability to cope with the youth's homelessness. Each adopts a problem solving framework that includes goal setting, generation of alternatives, and evaluation and selection of a strategy. Only one program involves punishment as an active component of skill building: CRA. The functional analyses conducted in the assessment phase of CRA provide the facilitator with a set of behaviors and actions to be rewarded, as well as a set of actions to be punished or ignored. Based on learning theory, it is anticipated that the behaviors that are rewarded will

increase in frequency and the rest will be eliminated or substantially reduced over time.

The AESOP program does not train on improving social skills. Outreach is intended to increase access and use of existing resources, which the outreach worker accomplishes by providing information and having a relationship that the youth sees as congruent with their subculture and ideology. For example, outreach workers will need to tailor their presentation to the subculture: A goth, punk, hippie, preppie, or deadhead are likely to require very different presentations from the outreach worker. The AESOP program does not build skills except in knowing what resources are available.

Social support or relationship building All of the programs have a facilitator or staff person with whom the program expects youth and/or their family to bond. A failure to bond is likely to prohibit any positive behavior change. Positive relationships with the program facilitator, their family, peers, and concerned others provide the motivation to resist risky behavior patterns. In the AESOP, SBCM, Street Smart and CRA, parents specifically are not critical relationships for the success of the program. ECFT and STRIVE depend on the family's involvement.

Address environmental barriers Five of the six programs mobilize community resources to assist youth to cope with their particular problems. The Street Smart program identified three prerequisite services (health, mental health, and recreational sites) and triaged youth to programs that could provide a safety net to youth for these services. In contrast, the referral pattern was relatively individualized for youth in SBCM, EBFT, CRA, and STRIVE. There were many community options in the sites where these programs were conducted and a facilitator would mobilize the service provider to approach the youth or the youth to approach the service site. The entire content of AESOP's program helps youth identify existing resources and to overcome their personal barriers to access the care. Therefore, having resources in the environment were critical for this program's delivery.

Discussion

In this paper, we present an overview of promising models that have been or are being implemented throughout the United States to prevent HIV infection among homeless youth. The common factors model of Rotheram-Borus and colleagues (Rotheram-Borus 2006; Rotheram et al. 2008) also suggests that these programs are highly similar in that each provides training in coping skills, social support, information, as well as addressing environmental barriers. They have other similarities revealed in our review: the emphasis on a safety net, the need for an intensive intervention, and a future-oriented, non-blaming approach. However, it is important to mention some of their differences, examine areas for further innovation in these programs, and discuss the need for dissemination of effective models throughout the U.S. and other countries.

Safety Net for Youth

All of the programs appear to be in agreement that homeless youth need an ongoing safety net. The difference in these programs is the composition of the safety net. In some programs (STRIVE and EBFT), the family is expected to provide the needed support. In others (SBCM, CRA, AESOP), adults outside of the family are enlisted to provide guidance to the youth. In all models, however, there is a safety net that is established, typically for an extended period of time (12–33 months). The youths' needs for the safety net are not short-term, but are intended to provide assistance until youth become stably housed or reach a new developmental milestone in which they live with another person. The safety net includes access to ongoing health and mental health services in all programs (again, a significant similarity across the programs). Each of the models address youths' ongoing needs for services by either building up the family to be able to access services (STRIVE & EBFT), linking the youth to services (Street Smart & AESOP), or triaging and coordinating access to services (SBCM, CRA). There can be variations in how the access is engineered, but all programs engineer such access, and all programs design intensive, holistic approaches for the goal of HIV prevention. These safety nets qualify as "structural interventions" (Sumartojo et al. 2000) as they move beyond the individual level to address broader issues in the environment, such as access to services, that can help these youth implement HIV prevention behaviors.

Intensity of Intervention Efforts

Furthermore, these programs consistently support the notion that homeless youth are in need of intensive and prolonged help. While the number of sessions varies, all but one (AESOP) involves a minimum of five sessions over a period of time that allows for ongoing contact with the youth to build up skills needed to facilitate behavior change. There is no model that anticipates that the youth will be able to protect themselves from HIV without a holistic approach that supports the youths' development and capacity building. All of the models are designed as adjuncts to ongoing services. In four cases, the base

services are a runaway shelter (EBFT, STRIVE, Street Smart, CRA). In SBCM, the services are more likely to be delivered by a mental health provider or social services, as there are few shelters in rural America. AESOP is an adjunct outreach arm of any type of service organization: a shelter, a drug treatment program, a food bank, or a health care center. The specific type of service that utilizes AESOP is unclear and very flexible.

Future-Orientation of Programs

Across programs, successful engagement of homeless youth and their families requires an approach that does not entail assigning blame or re-examining the past. Programs with demonstrated success in recruiting and retaining youth are present/future-oriented, skill-based interventions aimed at increasing the youth's ability to reduce behaviors that lead to HIV. This review of these common factors suggests that these programs do many of the same things using a slightly different approach. Even when dealing with dissimilar types of youth (i.e., newly homeless vs. chronic, hard drug users), these programs all include a safety net for the youth, access to services, the development of meaningful relationships, and the acquisition of information, and coping skills. The key to effective intervention with this challenging population is likely an intensive intervention that amalgamates components being used in the programs described in this article.

Program Differences

Relative to the similarities, these differences are quite small. There are small variations in the ways in which skills are taught or which information is provided. The major difference across programs is their framing of the "problem" of homelessness among adolescents. If one believes that the family can be part of the solution, then family involvement is typically a critical component of the intervention (STRIVE and EBFT). Programs based on the assumption that the family is more accurately portrayed as the problem or as not relevant to the solution, in contrast, typically focus their efforts on the youth as the target of the intervention (SBCM, CRA, AESOP).

Innovation in Future Programs

Given the similarities in these programs, there is ample room for innovation in the next generation of programs. Each of these programs emerges from psychology or social work, professions aimed initially at improving individual adjustment. Given this focus on developing the individual youth's capacity, the structural components of the intervention are all quite similar: health and mental health services. These services at best can only provide short-term support. The next generation of programs may benefit from expanding the types of long-term supports provided: Pathways out of homelessness are needed.

Even in the U.S., shelter and dysfunctional family settings are relatively short-term supports for homeless youth. Designing structural innovations that can provide a more permanent safety net, such as long-term housing and employment are one of the primary challenges facing programs, especially those in developing countries. Jobs and educational success are two primary pathways. When Street Smart was implemented in Uganda with homeless youth, a vocational training program was a central component of the program (Lightfoot et al. 2007). Boys were trained in automobile repair and girls received training as hair braiding attendants. These types of structural components confirm an old adage in attempting to intervene in pathways to chronic homelessness, "If I do not know where my next meal will come from or where I will sleep, why do I care if I die 10 years from now" (Rotheram-Borus et al. 1991a).

Unfortunately, parenthood is part of the trajectory for young women who are homelessness. Greene and Ringwalt (1998) found that 48.2% of street youth and 33.2% of shelter youth ages 14–17 reported having been pregnant in their lifetime. The potential negative consequences of the parenthood pathway have not been well documented. Substantial evidence does demonstrate that teenage motherhood has a lifelong negative impact on the mother's adjustment and achievements (The National Campaign to Prevent Teen and Unplanned Pregnancy 2006). However, there are no longitudinal studies specifically focusing on homeless adolescent females who become pregnant to provide additional insight into their experiences after pregnancy.

Dissemination

It is critically important to create programs that can be feasibly and broadly disseminated, immediately after the program's efficacy is demonstrated (Rotheram-Borus et al. 2004). Efficacy trials aim to show that they can have an impact. While grounded in one theoretical model, there are many activities and processes that are not tightly linked to the theoretical model. In order to ensure a positive impact, many interventions use well-trained staff and require close adherence to a detailed manual with a time-sequenced list of scripts and activities. It is not feasible to train with manuals that require replication with fidelity to each script. Such a process is too time-consuming and tedious, and it is not realistic that all staff will adhere to such demands. It is also not possible to have programs that require complex tailoring for an individual.

We (Rotheram-Borus and colleagues) are currently adapting Street Smart for South African townships. Across four projects in Africa, we have adopted a strategy of identifying Mentors in the community, based on the theory of positive peer deviants (Berggren et al. 1984). Another word for positive deviants is the super healthy "Mentor" whose children thrive in the same community when almost all of the families are failing and struggling. The concept has been applied in maternal and child health in Vietnam, South Africa, and Egypt. It is a concept worth considering for homeless youth. Rice et al. (2008) have identified homeless youth who are themselves positive peer deviants: They are supporting prosocial behaviors among their peers and for themselves. This model has now been adopted in multiple nations for addressing malnutrition (Marsh et al. 2004; Sternin et al. 1998).

The next generation of programs for homeless youth will require that robust intervention components be identified prior to any efficacy or effectiveness trial. In this quest, it is disconcerting that none of the existing evidence-based programs for homeless youth monitored the utilization of the safety net services of health and mental health services. The model of Rotheram-Borus and colleagues on the common components also suggests that these components are likely to be the robust mediators and moderators of change. Yet, many of the trials did not assess how the problem of youth homelessness is framed, nor was there an evaluation of the degree of new social skills acquired. These factors are often identified as critical but are far less often monitored and directly related to outcomes.

None of these programs have been broadly disseminated. Being selected as a model program by the CDC (2006) has led to Street Smart training for community based providers nationally (Centers for Disease Control and Prevention 2006; Collins et al. 2007). Yet all of these programs are intense and four of the six require a Master's degree, a resource certainly not available in the developing world. There is no program that has been broadly diffused, even with substantial national training programs or the passage of 20 years since conception of the original program. Globally, HIV rates are going to continue to rise, especially among homeless youth. In Uganda, one-third of homeless youth are AIDS orphans, one-third are war refugees from the north of the country where there is civil unrest (also known as war) and surging economic crises lead to homelessness of the remaining one-third of youth. There are at least four African countries engaged in civil wars leaving more than 21 million children as orphans necessitating the need for immediate action. The types of programs to be designed under such circumstances must be easily learned, implemented, and diffused. HIV prevention programs for homeless youth must be expanded in the next 20 years, not reduced.

It has been very surprising that tools used in the developed world in programs for homeless youth are highly applicable to the developing world. Our team (Rotheram-Borus and colleagues) is working in China, Uganda, Thailand, South Africa, and India. We find that each of these cultures finds benefits in creating a vocabulary to talk about their feelings. Feeling Thermometers accomplish this goal in the U. S., but emotional self-regulation is a key skill cross-culturally to solve challenging housing issues. Since the early 1970's our team has used a Feeling Thermometer concept (Rotheram-Borus et al. 1987) to teach children how to label the intensity of their feelings, rank order challenging situations according to the intensity of discomfort felt, and use language as a tool to talk about their feelings. In Africa, Feeling Cups are found far more useful. Surprisingly, women in African townships find the concept useful. However, because numbers are not a part of their culture, Feeling Cups are used as the barometer of feelings. Women indicate the discomfort they feel in a situation by pouring water into a clear glass. Filling the Feeling Cup prior to and following a role play helps women see the difference in their feelings. In China, 4500 market workers carry small thermometers, similar to book marks that they can calibrate their feelings. We have observed workers pull the small cardboard cards from their pockets as they argue heatedly in the marketplace. Similarly, thanks tokens are exchanged in groups in the United States, especially among small groups of children. These tokens are not exchanged for rewards, but only have social value. In South Africa, women want round, pink tokens with a silhouette of a family. In Uganda, teenagers exchange poker chips as tokens of appreciation. In Thailand, families use tokens as a monitoring system among themselves in their homes as a way to encourage support. The cross-cultural applicability of these concepts also provides relatively unskilled mentor peers tools to use to build skills and social support, two elements of the common factors paradigm.

There are additional criteria that must be met for any new intervention designed for homeless youth. It must be ready to be broadly diffused by the completion of the research evaluation. In order to achieve this goal, there are a series of prerequisite steps in the design process that are not routinely followed today. First, there has to be a viable funding stream that one could choose to diffuse the intervention. For example, we are currently evaluating Mentor Mothers who are positive peer deviants as potential caretakers and deliverers of HIV prevention in South African townships. We selected this project because there is funding in place if the outcome is useful: the integrated management of childhood disorders funding stream. Second, the intervention "product" must be market driven, as well as science-driven. There was relatively high adherence to all the six HIV prevention programs reviewed in this

article. Adherence reflects the degree of attractiveness, accessibility, and engagement in the program. Only by utilizing the skills of product developers and market analyses when designing the program will we achieve this goal. Third, the training materials and the implementation procedures have to be relatively simple, teachable, and have high quality video tapes or DVDs that not only train providers to deliver the program, but to cope with every type of challenging interpersonal encounter possible.

Summary

The goal of this article is not to conduct a comparative meta-analysis of the existing interventions for HIV prevention among homeless youth. We are attempting to demonstrate the utility of adopting a common factors approach in examining the strengths and differences in the content of the program materials. Our review points out important similarities and differences across programs. The framework for common factors begins to give prevention researchers the vocabulary to evaluate their work at a higher level. Are we thinking about the meaning of homelessness in a young person's life and are our solutions aimed at addressing the long-term meaning and consequences of homelessness? In comparing the programs, we found the common factors approach highly informative and hope to see the interventions in other content domains (violence prevention, school transitions) to evaluate their programs using a similar paradigm. As presented more broadly by Rotheram-Borus et al. (2008), we assert that HIV prevention efforts for homeless youth must focus on the robust components of intervention. If we know what is robust then we can begin to say that we need interventions that replicate these robust factors—but not necessarily all in the same way. In this article, we give examples of doing such components as a starting point for a new approach to dissemination.

Acknowledgement: This study was funded by National Institute on Drug Abuse grant DA-16742 to Dr. Arnold and by National Institute on Drug Abuse grant DA-07903 and National Institute of Mental Health grant P30MH58107 to Dr. Rotheram-Borus.

References

Allen, D. M., Lehman, J. S., Green, T. A., Lindegren, M. L., Onorato, I. M., Forrester, W., et al. (1994). HIV infection among homeless adults & runaway youth, United States, 1989–1992. *AIDS (London, England)*, *8*, 1593–1598. doi:10.1097/00002030-199411000-00011.

Arnold, E. M. (2007). *Strengths-based HIV prevention with runaway youth*. Atlanta, GA: National HIV Prevention Conference December.

Arnold, E. M., Walsh, A. K., Oldham, M. S., & Rapp, C. (2007). Strength-based case management: Implementation with high-risk youth. *Families in Society*, *88*, 86–94.

Azrin, N. H., Sisson, R. W., Meyers, R., & Godley, M. (1982). Alcoholism treatment by disulfiram and community reinforcement therapy. *Journal of Behavior Therapy and Experimental Psychiatry*, *13*, 105–112. doi:10.1016/0005-7916(82)90050-7.

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

Barth, R. P. (1990). Theories guiding home-based intensive family preservation services. In J. K. Whittaker, J. Kinney, E. M. Tracy, & C. Booth (Eds.), *Reaching high-risk families: Intensive preservation services in human services* (pp. 89–112). New York: Aldine.

Beech, B. M., Myers, L., Beech, D. J., & Kernick, N. S. (2003). Human immunodeficiency syndrome and hepatitis b and c infections among homeless adolescents. *Seminars in Pediatric Infectious Diseases*, *14*, 12–19. doi:10.1053/spid.2003.127212.

Berggren, G., Alvarez, M., Genece, E., Amadee-Gedeon, P. M., & Henry, M. (1984). *The nutrition demonstration foyer: A model for combating malnutrition in Haiti. Hoviprep monostraph series #2, International Food and Nutrition Program of MIT*. Boston, MA: MIT.

Booth, R. E., & Zhang, Y. (1996). Severe aggression and related conduct problems among runaway and homeless adolescents. *Psychiatric Services (Washington, D.C.)*, *47*, 75–80.

Burke, W., & Psaty, B. M. (2007). Personalized medicine in the era of genomics. *Journal of the American Medical Association*, *298*, 1682–1684. doi:10.1001/jama.298.14.1682.

Centers for Disease Control and Prevention. (2006). Replicating effective programs plus website. http://www.cdc.gov/hiv/projects/rep/default.htm. Accessed 04 04 08.

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

Gleghorn, A. A., Clements, K. D., Marx, R., Vittinghoff, E., Lee-Chu, P., & Katz, M. (1997). The impact of intensive outreach on HIV prevention activities of homeless, runaway, and street youth in San Francisco: The AIDS evaluation of street outreach project (AESOP). *AIDS and Behavior*, *1*, 261–271. doi:10.1023/A:1026231519630.

Godley, S. H., Meyers, R. J., Smith, J. E., Karvinen, T., Titus, J. C., Godley, M. D., et al. (2001). *The Adolescent Community Reinforcement Approach for Adolescent Cannabis Users, Cannabis Youth Treatment (CYT) Series* (vol. 4). Rockville, MD: Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration DHHS Pub. No. 01–3489.

Greene, J. M., & Ringwalt, C. L. (1996). Youth and familial substance use's association with suicide attempts among runaway and homeless youth. *Substance Use & Misuse*, *31*, 1041–1058. doi:10.3109/10826089609072286.

Greene, J. M., & Ringwalt, C. L. (1998). Pregnancy among three national samples of runaway and homeless youth. *The Journal of Adolescent Health*, *23*, 370–377. doi:10.1016/S1054-139X(98)00071-8.

Harpaz-Rotem, I., Rosenheck, R. A., & Desai, R. (2006). The mental health of children exposed to maternal mental illness and homelessness. *Community Mental Health Journal*, *42*, 437–448. doi:10.1007/s10597-005-9013-8.

Hunt, G. M., & Azrin, N. H. (1973). A community-reinforcement approach to alcoholism. *Behaviour Research and Therapy*, *11*, 91–104. doi:10.1016/0005-7967(73)90072-7.

Husbands, W., Browne, G., Caswell, J., Buck, K., Braybrook, D., Roberts, J., et al. (2007). Case management community care for

people living with HIV/AIDS (PLHAs). *AIDS Care*, *19*, 1065–1072. doi:10.1080/09540120701294302.

Kipke, M. D., Montgomery, S. B., Simon, T. R., & Iverson, E. F. (1997). Substance abuse disorders among runaway and homeless youth. *Substance Use & Misuse*, *32*, 969–986.

Lightfoot, M., Kasirye, R., Comulada, S., & Rotheram-Borus, M. J. (2007). Efficacy of a culturally-adapted intervention for youth living with HIV in Uganda. *Prevention Science*, *8*, 271–273. doi:10.1007/s11121-007-0074-5.

Macias, C., Kinney, R., Farley, O. W., Jackson, R., & Vos, B. (1994). The role of case management within a community support system: Partnership with psychosocial rehabilitation. *Community Mental Health Journal*, *30*, 323–339. doi:10.1007/BF02207486.

Marsh, D. R., Schroeder, D. G., Dearden, K. A., Sternin, J., & Sternin, M. (2004). Education and debate: The power of positive deviance. *British Medical Journal (Clinical Research Ed.)*, *329*, 1177–1179. doi:10.1136/bmj.329.7475.1177.

Meyers, R. J., & Smith, J. E. (1995). *Clinical guide to alcohol treatment: The Community Reinforcement Approach*. New York, Guilford.

Meyers, R. J., & Squires, D. D. (2006). *The Community Reinforcement Approach: A guideline developed for the behavioral health recovery management project*. Retrieved March 14, 2007, from University of New Mexico, Center on Alcoholism, Substance Abuse and Addictions Web site: http://www.bhrm.org/guidelines/CRAmanual.pdf.

Milburn, N. G. (2007). *Project STRIVE*. Washington, DC: Project STRIVE Paper presented at the meeting of the Society for Prevention Research. May.

Modicrin, M., Rapp, C., & Portenor, J. (1988). The evaluation of case management services with the chronically mentally ill. *Evaluation and Program Planning*, *11*, 307–314. doi:10.1016/0149-7189(88)90043-2.

Morris, M., Handcock, M. S., Miller, W. C., Ford, C. A., Schmitz, J. L., Hobbs, M. M., et al. (2006). Prevalence of HIV infection among young adults in the United States: Results from the add health study. *American Journal of Public Health*, *96*, 1091–1097. doi:10.2105/AJPH.2004.054759.

National Campaign to Prevent Teen and Unplanned Pregnancy. (2006). Teen pregnancy—So what? http://www.teenpregnancy.org. Accessed April 9, 2008.

Nelson, K. E., & Landsman, M. J. (1992). *Alternative models of family preservation: Family- based services in context*. Springfield, IL: Charles C. Thomas Publishing Ltd.

Pickrel, S. G., & Henggeler, S. W. (1996). Multisystemic Therapy for adolescent substance abuse and dependence. *Adolescent Substance Abuse and Dual Disorders*, *5*, 201–211.

Rapp, C. A. (1998). *The Strengths Model: Case management with people suffering from severe and persistent mental illness*. Oxford, UK: Oxford University Press.

Rapp, C. A., & Goscha, R. (2006). *The Strengths Model: Case management with people with psychiatric disabilities* (2nd ed.). New York: Oxford University Press.

Rapp, R. C., Siegal, H. A., & Fisher, J. H. (1992). A strengths-based model of case management/advocacy: Adapting a mental health model to practice work with persons who have substance abuse problems. *NIDA Research Monograph*, *127*, 79–91.

Rice, E., Stein, J. A., & Milburn, N. (2008). Countervailing social network influences on problem behaviors among homeless youth. *Journal of Adolescence*, *31*, 625–639. doi:10.1016/j.adolescence.2007.10.008.

Ringwalt, C. L., Greene, J. M., Robertson, M., & McPheeters, M. (1998). The prevalence of homelessness among adolescents in the United States. *American Journal of Public Health*, *88*, 1325–1329.

Rotheram-Borus, M. J. (1987). Evaluation of imminent danger for suicide among youth. *The American Journal of Orthopsychiatry*, *57*, 102–110.

Rotheram-Borus, M. J. (2006). *The next generation of preventive interventions*. Paper presented at the meeting of the Society for Prevention Research. San Antonio, TX, June.

Rotheram-Borus, M. J., Koopman, C., & Ehrhardt, A. A. (1991a). Homeless youths and HIV infection. *The American Psychologist*, *11*, 1188. doi:10.1037/0003-066X.46.11.1188.

Rotheram-Borus, M. J., Koopman, C., Hazignere, C., & Davies, M. (1991b). Reducing HIV sexual risk behaviors among runaway adolescents. *Journal of the American Medical Association*, *266*, 1237–1241. doi:10.1001/jama.266.9.1237.

Rotheram-Borus, M. J., Koopman, C., & Rosario, M. (1992). Developmentally tailoring prevention programs: Matching strategies to adolescents' serostatus. In R. J. DiClemente (Ed.), *Adolescents and AIDS: A generation in jeopardy* (pp. 212–229). Thousand Oaks, CA: Sage Publications.

Rotheram-Borus, M. J., Feldman, J., Rosario, M., & Dunne, E. (1994a). Preventing HIV among runaways: Victims and victimization. In R. J. DiClemente & J. L. Peterson (Eds.), *Preventing AIDS: Theories and methods of behavioral interventions* (pp. 175–188). New York: Plenum.

Rotheram-Borus, M. J., Placentini, J., Miller, S., Graae, F., & Castro-Blanco, D. (1994b). Brief cognitive-behavioral treatment for adolescent suicide attempters and their families. *Journal of the American Academy of Child and Adolescent Psychiatry*, *33*, 508–517. doi:10.1097/00004583-199405000-00009.

Rotheram-Borus, M. J., Song, J., Gwadz, M., Lee, M., Rossem, R. V., & Koopman, C. (2003). Reductions in HIV risk among runaway youth. *Prevention Science*, *4*, 173–187. doi:10.1023/A:1024697706033.

Rotheram-Borus, M. J., Flannery, D., & Duan, N. (2004). Interventions that are CURRES: cost-effective, useful, realistic, robust, evolving, and sustainable. In H. Remschmidt, M. L. Belfer, & I. Goodyer (Eds.), *Facilitating pathways: Care, treatment, and prevention in child and adolescent mental health*. Heidelberg, Germany: Springer-Verlag Telos.

Rotheram-Borus, M. J., Swendenman, D., Flannery, D., Rice, E., Adamson, D. M., & Ingram, B. (2008). Common factors in effective HIV prevention programs. *AIDS and Behavior*. doi:10.1007/S10461-008-9464-3

Slesnick, N., & Prestopnik, J. L. (2005). Ecologically based family therapy outcome with substance abusing runaway adolescents. *Journal of Adolescence*, *28*, 277–298. doi:10.1016/j.adolescence.2005.02.008.

Slesnick, N., Prestopnik, J. L., Meyers, R. J., & Glassman, M. (2007). Treatment outcome for street-living, homeless youth. *Addictive Behaviors*, *32*, 1237–1251. doi:10.1016/j.addbeh.2006.08.010.

Smith, J. E., Meyers, R. J., & Miller, W. R. (2001). The Community Reinforcement Approach to the treatment of substance use disorders. *The American Journal on Addictions*, *10*, 51–59.

Sternin, M., Sternin, J., & Marsh, D. (1998). *Designing a community-based nutrition program using the hearth model and the positive deviance approach—a field guide*. Westport, CT: Save the Children.

Sumartojo, E., Dull, L., Hollgrave, D., Gayle, H. D., & Merson, H. D. (2000). Enriching the mix: Incorporating structural factors into HIV prevention. *AIDS (London, England)*, *14*, S1–S2. doi:10.1097/00002030–200006001-00001.

Tischler, V., Karim, K., Rustall, S., Gregory, P., & Vostanis, P. (2004). A family support service for homeless children and parents: Users' perspectives and characteristics. *Health & Social Care in the Community*, *12*, 327–335. doi:10.1111/j.1365-2524.2004.00502.x.

UNICEF. (1989). *UNICEF annual report*. New York: UNICEF.