



## Summary

Some educators, funding officers and program planners may have had an uneasy belief that peer education (or other types of peer involvement) may not be helpful in planning, implementing or operating a program designed to change attitudes, norms and behaviors. Advocates for Youth requested a literature review to either refute or substantiate that belief. Extensive research, published in the last two decades, has shown definitely and beyond question that peer programs can have statistically significant effects on attitudes, norms, knowledge, behaviors, and health and achievement outcomes.

This paper highlights 28 programs, either peer-led or peer-assisted. The published evaluations of these programs should put to rest any concern about peer programming. Peer work makes a valuable and useful contribution to efforts to improve youth's health, success and well-being.

## What Considerations Guided this Literature Review?

An article published in 1999 sought to define peer education as something that *could best be viewed as an umbrella term covering a range of different approaches*. [Shiner, 1999] As such, peer programming, or peer education, peer helping, counseling, or facilitating as well as a variety of other terms, generally has meant that professionals – whether educators, program managers, health care providers, youth development specialists, or others – have decided to affect a target population by harnessing the potential power of its peers. Although often focused on adolescents and young adults, peer programming has also been used with children and with adult men and women. Regardless of the age of the target population, peer programs have been designed to **encourage** attitudes, knowledge, behaviors and outcomes that the community considers desirable, to **discourage** attitudes, behaviors and outcomes that a community considers undesirable, or to accomplish some of each.

Advocates for Youth asked for an assessment of peer programs – programs that empower people to be agents for change among their peers. More specifically, Advocates wanted to know whether evidence existed to support the value of peer programming. Therefore, this literature review did not discriminate between peer education or helping, counseling, facilitating, etc. It was not limited to programs for youth and young adults or to programs focused on sexual health. It did not consider a program's goals. Finally, the review did not discriminate between programs for which peer work was the only delivery mechanism or programs of which it was only one component. The important issues for this literature review were whether:

- The program included the work of the peers of the target audience.
- The program achieved some or all of its behavioral or outcome goals.
- The achievement of these goals could be attributed, at least in part, to the peer workers.

In addition to the attributes listed above, the evaluations of programs included here were also required to meet the following criteria:

- Each was published in a peer reviewed journal.
- Each was either experimental or quasi-experimental in design.
- Each included experimental and control or comparison conditions, including reflexive comparison.
- Each had a minimum of 100 participants in the experimental and control / comparison groups, combined.
- Each assessed outcomes at a minimum of three months after the intervention.

- Each showed statistically significant evidence of achieving the program's behavioral and/or outcome goals.

Careful review identified evaluations of 28 programs meeting all the criteria above. Seventeen of these programs had evaluations published since January 2000. Another 11 had evaluations published since January 1990. Since they provided formidable evidence of the value of peer programming, this literature review was limited to programs with evaluations published since January 1990.

At a glance, the 28 programs highlighted later in this paper provided statistically significant evidence of the positive impacts of peer programming. Findings include:

- Improved reproductive and sexual health outcomes, including reduced incidence of pregnancy (two programs), births (one program) and STIs (one program)
- Reduced sexual risk behaviors, including delayed initiation of sex (four programs), increased contraceptive use (five programs) and condom use (five programs), reduced number of new sexual partners (four programs) as well as increased abstinence among sexually experienced youth, reduced incidence of unprotected sex, reduced frequency of sex, and increased partner communication (one program each)
- Increased incidence of testing and sharing test results, including testing for HIV, for STIs, and sharing positive test results with a partner (one program each)
- Reduced substance use, including alcohol (three programs), cigarettes (four programs), marijuana and other drugs (five programs) as well as anabolic steroids, diet pills, and injection risk behaviors (one program each)
- Improved outcomes of non-sexual risk behaviors, including reduced arrest rates, reduced sports injuries, and refusing to ride with a driver who had been using substances (one program each)
- Improved other outcomes, including employment (two programs), school attendance (two programs), and school grades and graduation rates (one program each)
- Improved healthy behaviors, including seeking appropriate health care (two programs) and also diet, exercise and breastfeeding (one program each)

## What Programs Produced this Evidence?

The strongest, positive evidence for the impact of peers as agents for change has come from 28 programs that were well designed, properly implemented and successfully carried out. Most were entirely peer-led while peers' work was only one component of some programs. They are briefly described here, along with appropriate quotations from the evaluations regarding the contribution of the peer educators, helpers, counselors, etc. More detailed summaries, including evaluations' methodology and findings appear in the Appendix.

1. **Peer Provider Reproductive Health Service** recruited youth who had enthusiasm for the work and also were similar in race/ethnicity and socioeconomic circumstances to the clientele of each participating family planning clinic. Peer providers were well trained, with especially strong emphasis on client confidentiality. Then, prior to an adolescent client's receiving medical services at the clinic, the peer provider conducted an intake session with her/him, focusing on the reason for the visit, what to expect during an exam, and the importance of using condoms to prevent STIs. The peer provider also answered the client's questions. After the adolescent client received appropriate medical services from adult professionals, the peer provider followed up with telephone calls, during which she/he provides test results, answered questions, and scheduled follow-up visits. Findings included increased use of contraception, increased use of health care, and reduced incidence of pregnancy. [Brindis, Peterson-Geierstanger, Wilcox, McCarter & Hubbard, 2005]

*The full model [of peer provider services] was especially useful for Hispanic females. In addition, the full model*

*benefited those born to adolescent mothers as well as a group of relatively low risk clients – those who had, at most, one sexual partner in the previous six months. The fact that the full model was particularly effective for certain subgroups underscores the value of tailoring programs to the needs of different clients.* [Brindis, Peterson-Geierstanger, Wilcox, McCarter & Hubbard, 2005]

2. **Project Wall Talk** was another excellent peer-led program. Sponsored by community-based organizations in towns across Texas that also housed units of the Texas state prison system, Project Wall Talk recruited peer educators from among the prisoners. After receiving a five day, 40-hour intensive training focused on HIV related knowledge and skills as well as the importance of HIV testing, peer educators delivered sessions to other prisoners and also spoke informally about HIV and HIV testing with prisoners and their families, as asked. The Project was credited with doubling the incidence of HIV testing in prison units where peer educators worked. Evaluators also estimated that peer educators spoke informally regarding HIV as many as 154,000 times with other prisoners over a nine-month period. Their being asked for information so many times indicated that prisoners truly wanted the information and also trusted the peer educators as sources of accurate information. [Ross, Harzke, Scott, McCann & Kelley, 2006]

*Although significant differences existed [between peer educators] across race/ethnicity for both knowledge and skills scores at baseline, with African American respondents having lower scores in both cases, these differences disappeared at follow-up... The student data offered striking confirmation of these patterns found for the peer educators... Moreover, more than three-quarters of peer educators reported sending information or sharing it with family and friends on the outside.* [Ross, Harzke, Scott, McCann & Kelley, 2006]

3. **Caught in the Crossfire** was a third highly effective peer program. In this peer-led intervention, peer workers approached youth who had been brought to the emergency room for violence-related injuries. The peer workers, called Crisis Intervention Specialists (CIS), visited each youth as soon as possible after he/she had been admitted to the hospital or at home, if the injured person had been released straight from the emergency room. CIS were all youth from the same communities as the injured youth and had also been previously injured during a violent incident. Some CIS had been permanently injured; some had been imprisoned. The CIS related well to the injured youth and offered ongoing, intensive assistance, lasting up to one year. In the six months following their interactions with CIS, peer-assisted youth had an arrest rate that was 70 percent lower than among comparison youth who had also been injured in violent incidents. [Becker, Hall, Ursic, Jain & Calhoun, 2004]

*This evaluation demonstrates that hospital-based peer intervention programs that employ members of the community and intervene immediately or soon after the injury has occurred can directly reduce criminal activity among youth most at risk for violence.* [Becker, Hall, Ursic, Jain & Calhoun, 2004]

The three peer-led programs described above achieved significant results entirely or almost entirely due to the work of the peer educators or peer leaders (by whatever title). Other examples of effective peer programs that were well designed, implemented and evaluated follow.

4. **ATHENA (Athletes Targeting Healthy Exercise & Nutrition Alternatives)** was a program that used team squad leaders to reduce disordered eating and use of diet pills and anabolic steroids among female athletes. These peer leaders were responsible for delivery of 70 percent of the prevention program that significantly reduced use of diet pills, reduced the number of young women beginning diet pill use, improved diet and exercise, reduced the incidence of riding with a substance using driver, increased use of seat belts, and reduced the incidence of sports injuries. *Sports teams are effective natural vehicles for gender-specific and peer-led curricula to promote healthy lifestyles and to deter disordered eating, athletic-enhancing substance use, and other health harming behaviors.* [Elliot, Goldberg, Moe, DeFrancesco, Durham et al, 2004]
5. **STI Counseling & Treatment in Nigeria** was a comprehensive, peer-led program in which trained high school youth offered accurate information about STI symptoms and treatment and also encouraged other high school students to seek services from physicians rather than from pharmacists or patent medicine dealers. Findings included significantly increased condom use and partner notification of diagnosed STIs (females only), and use of physicians, and significantly reduced the incidence of STIs. *Our findings provide strong, substantive evidence than*

*an informal peer educational program ... can substantially improve the care-seeking behavior with regard to STIs among youths. [Okonofua, Coplan, Collins, Oronsaye, Ogunsakin et al, 2003]*

6. **Social Marketing Campaign in Botswana** was a program that combined extensive and effective peer education with mass media messages to raise youth's awareness of reproductive health services. Evaluation found statistically significant, positive changes in youth's sexual health behaviors, including increased use of contraception and reduced numbers of sex partners. Evaluators credited these changes to wide exposure to the program due to the *strong peer education component... The closely monitored peer education program reached a substantial proportion of adolescents.* [Agha, 2002]
7. **Entre Nous Jeunes in Cameroon** was a program of comprehensive sexuality education, entirely peer-provided to a town's youth. The peer educators worked with youth in discussion groups, one-on-one meetings and at sports and other gatherings. *The evaluation showed several statistically significant findings including increased use of contraception and condoms. The evaluation of the ENJ peer education strategy contributes ... by demonstrating behavioral impacts among all young people who had contact with peer educators, regardless of their school attendance status* (that is, both in-school and out-of-school youth profited). [Speizer, Tambashe & Tegang, 2001]
8. **Substance Abuse Prevention Peer Booster Program** was intended for middle school youth and relied on the work of trained high school students from 10th, 11th, and 12th grades. The peer leaders presented the program to seventh grade students and provided booster sessions again in the eighth grade. Evaluators attributed the statistically significant findings, including reduced incidence of smoking, marijuana use and alcohol use, to the peer leaders. *It is clear from this data that the peer booster condition produced significantly better results in terms of tobacco, alcohol and marijuana use than the control condition and, in most cases, was superior to the other three intervention conditions (teacher-led plus booster sessions, peer-led without booster, and teacher-led without booster)... In fact, the peer-led booster condition was not only more effective with respect to the mediating variables but was the only condition to produce significant behavioral results. Furthermore, the magnitude of these effects was substantial.* [Botvin, Baker, Filazzola & Botvin, 1990]
9. **Project ALERT** aimed to curb use of alcohol, tobacco and other drugs (ATOD) among junior high school students. High school youth were recruited and trained to deliver the curriculum using interactive and participatory methods. Findings included significantly reduced incidence of smoking, use of alcohol and use of marijuana. The Project's success was attributed by the evaluators almost entirely to the teen leaders who delivered the curriculum. *Overall, the findings provide strong empirical support for using social influence prevention programs [i.e., peer-led programs] in middle and junior high schools... The fact that it worked in high and low minority schools from urban, suburban and rural areas, suggests that this approach can be used in widely diverse school environments.* [Ellickson, Bell & Harrison, 1993; Ellickson & Bell, 1990]
10. **Interpersonal Relations Program** recruited youth at risk for dropping out and/or drug abuse to work together as a group, with a chosen mentor teacher, to make significant changes in their lives. Youth were invited to participate; had to commit to program goals; and had to express willingness to provide positive support to their peers. Findings included statistically significant improvements in school grades, decreased truancy, and reduced drug use. The evaluators attributed these statistically significant changes to *the teacher and group's expressive support (acceptance, caring communication and group belonging) and positive reinforcement...* [Eggert, Seyl & Nicholas, 1990]
11. **Horizon Jeunes in Cameroon** was a comprehensive sexual health program that combined mass media with peer education and reached almost all the adolescent population of the target city. Peer education and youth-developed and youth-targeted campaign messages were the heart of this program. Findings included significantly delayed initiation of sex, increased abstinence among sexually experienced youth, reduced numbers of sex partners and increased use of contraception and condoms. Evaluators credited peer workers with these changes. *The data show that the intervention was extremely successful at reaching the target population... [and] very effective at improving perceptions about the benefits of preventive measures.* [Agha, 2002; Van Rossem & Meekers, 2000]

12. **Poder Latino** was a community-wide program, entirely conducted by specially trained peer leaders. The peer leaders made presentations throughout the community – in schools, community organizations and health centers. They held discussion sessions in the homes of community youth, did door-to-door canvassing, made condoms available to their peers, and created and placed radio and television public service announcements. Statistically significant findings, including delayed initiation of sex, reduced numbers of sex partners, and increased likelihood of carrying condoms, underscored the power of this peer-led program. *In the intervention city, 75 percent of respondents responded positively to one or more of three questions during the follow-up interview that inquired about exposure to items (posters, newsletter, condom kit, etc.) specifically associated with the [peer-led] intervention program, indicating that exposure to the intervention activities was rather extensive.* [Sellers, McGraw & McKinlay, 1994; Smith, McGraw, Crawford, Costa & McKinlay, 1993]
13. **Resisting Pressure to Smoke** was a program that included small group discussions and peer-led social resistance training. Findings included significantly reduced onset of smoking and reduced use of alcohol and marijuana. The evaluation identified the peer leader component as absolutely essential to the success of this program among seventh grade students. In fact, evaluators surmised that *the use of peer leaders increases program credibility, which in turn enhances students' attention to the pressure resistance skills being taught.* [Telch, Miller, Killen, Cooke & Maccoby, 1990]
14. **Heritage & Pride Breastfeeding Peer Counseling Program** offered peer counseling services to encourage breastfeeding among low-income, Puerto Rican mothers. The peer counselors were also Puerto Rican and had breastfed at least one of their own children. A peer counselor visited each client before she gave birth, during the perinatal period in the hospital and three times at the mother's home in the next month. The program was successful, significantly increasing both the initiation and also the continuance of breastfeeding. Evaluators noted that, *culturally competent peer counselors can significantly improve breastfeeding initiation rates and positively impact [continued] breastfeeding...* [Chapman, Damio, Young & Pérez-Escamilla, 2004]
15. **Sexual Risk Reduction for Gay & Bisexual Adolescent Males** was a program that relied on two equally important components to reduce sexual risk behaviors in the target population. The first was individualized HIV risk assessment and risk reduction counseling; the second was peer education in cooperation with social support group meetings. The evaluation attributed the statistically significant findings, in large part, to the *opportunities for healthy socialization with peers in safe environments.* [Remafedi, 1994]
16. **Intensive, School-Based Intervention for Teen Mothers** provided pregnant and parenting teens with peer support groups in addition to coordinated medical care and case management. It was successful in reducing the number of rapid, repeat adolescent births among participants. However, the evaluators were unable to identify any one of its components as being most important. *It may well be that all three components are necessary for maximal effectiveness.* [Key, Gebregziabher, Marsh & O'Rourke, 2008]
17. **Teen Health Leadership Council Project** was a comprehensive program aimed at adolescents living in low-income housing developments. Peer activities, developed and sponsored by the Teen Health Leadership Council, were one component of this successful project. Findings included significantly delayed initiation of sex and increased use of condoms among sexually experienced youth. Evaluators acknowledged that, *important program components included the selection of influential peer leaders who developed and implemented community-wide activities.* [Sikkema, Anderson, Kelly, Winett, Gore-Felton et al, 2005]
18. **Mpowerment Project** aimed to prevent sexual behaviors that put young gay men at risk for HIV. Entirely composed of peer outreach, the program successfully diffused HIV prevention messages throughout the target community and significantly reduced the incidence of unprotected sex among young gay men as well as sexual activity with women. *Using peers to support and encourage friends about safer sex appears to be an effective way to diffuse the HIV prevention message throughout young gay men's social networks... We included as many young gay men as possible as sources of outreach. Every man who volunteered with the project in any capacity ... was seen as a potential agent for change.* [Kegeles, Hays, Coates, 1996]
19. **Woodrock Youth Development Project** aimed to reduce use of alcohol, tobacco and other drugs among children

and youth ages six to 14. Findings showed significantly reduced levels of alcohol, tobacco and other drug use among children, ages six to nine, and among early adolescents, ages 10 through 14. Peer mentoring was one component of the successful program. Evaluators said that *the primary function of the peer mentors is to provide tutoring or homework help to individual students... Peer mentors also actively engage youth in individualized projects that develop their ... talents and critical thinking skills. In turn, increased success in the school setting provides a positive foundation for increased self-esteem, which is one of the major resiliency factors targeted by the program.* [LoSciuto, Freeman, Harrington, Altman & Lanphear, 1997]

20. **HIV Risk Behavior Change** used an information-motivation-behavioral (IMB) skills model for HIV prevention and was taught by urban minority youth's regular classroom teachers. The program included a peer intervention, relying on popular students who were trained to provide HIV prevention information, using the same IMB model. The program largely met its goals, including significantly improving HIV related behavioral skills among both sexually inexperienced and sexually experienced youth. *The current results show that ... the combined classroom and peer-based intervention had significant positive effects on inner-city, minority high school students' HIV preventive behavior.* [Fisher, Fisher, Bryan & Misovich, 2002]
21. **Parents Too Soon Project (Ounce of Prevention Fund)** worked with pregnant and parenting adolescents to delay subsequent pregnancy, foster economic self-sufficiency and enhance parenting skills to ensure the children's healthy development. Parent groups acted as emotional and social peer supports to the young parents. The program was highly successful in meeting all of its stated goals. Findings showed significantly increased school enrollment and employment levels and also reduced incidence of rapid, repeat pregnancy. *Even when differences in age at first birth, ethnicity and baseline status were controlled for, the Ounce of Prevention Fund group was substantially more likely to remain in school, to become employed and to have avoided a subsequent pregnancy at 12 months post-baseline. ... The positive findings ... speak well for the OPF family support model of service delivery.* [Ruch-Ross, Jones & Musick, 1992]
22. **RAPP (Rochester AIDS Prevention Project for Youth)** was a peer-led program in which trained high school youth worked with middle school youth to prevent HIV infection. Findings included significantly delayed initiation of sex among adolescent males. *When we examined percentages of males and females who transitioned from abstinence at baseline to sexual intercourse at long-term follow-up, males ... demonstrated a positive effect as compared to controls, especially ... the RAPP peer educator-taught youth.* [Aten, Siegel, Enaharo & Auinger, 2002]
23. **Smoking Prevention in Australia** aimed to increase knowledge of the effects of smoking and to provide resistance skills to counter peer pressure to smoke among seventh graders. Peer workers were other seventh graders, nominated by their classmates. Evaluation showed that *both the teacher-led and the peer-led programs reduced uptake of smoking in girls ... and both maintained their effects over the two years of follow-up.* [Armstrong, de Klerk, Shean, Dunn & Dolin, 1990]
24. **ATLAS (Adolescents Training & Learning to Avoid Steroids)** was a program that used both coaches and also team peer leaders to discourage high school football players from using anabolic steroids. Although this program did not attempt to change drug use behaviors, it nevertheless reduced the incidence of anabolic steroid use. Also, it fully achieved its stated goals of altering attitudes, knowledge, beliefs and intentions regarding anabolic steroid use, in large part because the football players trusted their team and their peer leaders to provide them with accurate information about steroid and other drug use. *ATLAS takes place in the atmosphere of an athletic team setting with peers who share common goals... Peer leaders also teach a major portion of the intervention.* [Goldberg, Elliot, Clarke, MacKinnon, Moe *et al*, 1996]
25. **Youth United through Health Education (YUTHE)** was peer-developed and peer-led, providing outreach to community youth at risk of STIs, including HIV. Findings included significantly increased incidence of STI testing. Evaluators credited the increased STI testing among the community's youth with *health promotion activities ... based on an understanding of the culture, needs and characteristics of the target group.* This understanding was provided by the peer workers who came from the same community and same streets where target youth were found. *Respondents who reported a single contact or multiple contacts with YUTHE [peer workers] were more likely to have been tested for STIs in the previous six months.* [Boyer, Sieverding, Siller, Gallaread & Chang, 2007]

26. **School-Based Peer Sexual Health Program in Zambia** was a peer-based program relying almost entirely on the efforts of peer educators. The program saw a statistically significant reduction in the numbers of youth's regular sexual partners. Evaluators noted that the lack of evidence related to abstinence within sexual partnerships *may reflect the difficulty of increasing abstinence when it is already at a high level... Nearly 80 percent of adolescents reported ever having abstained from sex with their regular partner... A single session, school-based peer sexual health intervention resulted in the development of normative beliefs about abstinence that were sustained over a six-month period.* [Agha & Van Rossem, 2004]
27. **West African Youth Initiative (WAYI)** was a comprehensive, community-wide program involving youth from program design through implementation and evaluation. Peer educators provided much of the actual work of the project in each community. Evaluation showed WAYI to be successful in significantly improving sexual health knowledge and attitudes as well as youth's use of contraception. The evaluators noted, *overall, the project provides evidence that peer education is effective at improving knowledge and promoting attitudinal and behavior change among young people in school settings.* [Brieger, Delano, Lane, Oladepo, Oyediran, 2001]
28. **Peer Education Skills Training** taught peer education skills to injection drug users (IDUs) so that they could utilize these skills to reduce their own and their peers' risky injection drug use behaviors, such as sharing syringes. Evaluation showed that IDUs who had been taught peer educator skills reduced their own risky injection behaviors; however, there was little evidence that their peers profited from the trainees' newfound knowledge and skill. *Interventions providing information, enhancing risk reduction skills and motivating behavior change through peer education training can reduce injection risk behaviors...* [Garfein, Golub, Greenberg, Hagan, Hanson et al 2007]
- Taken together, these 28 evaluated programs provide wide-ranging evidence of the power of peer programming. Regardless of whether the subject was reproductive health, HIV or STI testing, sexual risk behaviors, substance abuse, riding with a driver under the influence, exercise, breastfeeding or employment outcomes, whether the program targeted children, adolescents, or adults – these 28 programs, all with evaluations published since January 1990, offered clear and unambiguous evidence of the value of peer programming.

## What Other Evidence Supports Peer Programming?

In addition to these 28 programs, this literature review also identified additional, effective comprehensive programs of which peer education or another type of peer-to-peer work was one component. Their evaluations did not, however, determine which components may have contributed most significantly to programs' successes, nor did the written evaluations specifically credit peer workers. Nevertheless, because the programs were successful and included a peer worker component, they may be considered additional evidence supportive of peer programming. Such programs included:

- SiHLE (Sisters Informing, Healing, Living & Empowering), a highly successful program for African American adolescent females with sessions led by an African American female health educator and two African American female peer educators [DiClemente, Wingood, Harrington, Lang & Davies et al, 2004]
- Safer Choices, an effective HIV and STI prevention curriculum that also included a peer team to host school-wide activities as well as a school health protection council. [Kirby, Baumler, Coyle, Basen-Engquist, Parcel, et al, 2004; Coyle, Basen-Engquist, Kirby, Parcel, Banspach et al, 2001; Coyle, Basen-Engquist, Kirby, Parcel, Banspach et al, 1999]
- Postponing Sexual Intercourse, Human Sexuality & Health Screening, an effective reproductive health program for seventh and eighth graders, including a peer-led sexual health curriculum called Postponing Sexual Involvement. [Aarons, Jenkins, Raine, El-Korazaty & Woodward et al, 2000]
- Postponing Sexual Involvement, a successful reproductive health program for inner-city African American eighth graders that included both health professional-led and peer-led components as well as referral for nearby health care. [Howard & McCabe, 1990]

- School / Community Program for Sexual Risk Reduction among Teens, an effective community-wide, comprehensive program of which one component was peer education led by high school students. [Paine-Andrews, Harris, Fisher, Lewis, Williams et al, 1999; Koo, Dunteman, George, Green & Vincent, 1994; and Vincent, Clearie & Schluchter, 1987]
- Making Proud Choices!, a successful community-based sexual health program for urban African American youth, one important component of which was peer educators using experiential activities to build skills in communication and partner negotiation. [Jemmott, Jemmott & Fong, 1998]  
[For details on these six programs, please see Science & Success at <http://www.advocatesforyouth.org/storage/advyf/documents/sciencesuccess.pdf>]

The search of Advocates for Youth's comprehensive adolescent sexual health database also identified several pertinent, previous literature reviews. The most recent of these, published in 2003, reviewed adolescent reproductive health interventions in developing countries. Only a small group of the reviewed programs included a peer education component. Yet among other things, the authors concluded that, *in view of the critical role that STI testing and voluntary counseling and testing (VCAT) for HIV are likely to play in helping to contain the HIV/AIDS epidemic in the developing world, finding ways to get clinical services to youth is a high priority. It would appear that more must be done in the way of community outreach for facility-based services or, alternatively, finding ways of providing these service in less threatening / more socially acceptable environments.* [Speizer, Magnani & Colvin, 2003] Peer programming will be one avenue to meet this need.

In 1999, researchers published an integrative research review of risk behaviors among adolescents in cities, suburbs and rural areas. The researchers particularly singled out one successful smoking cessation program that was multifaceted and relied on developmentally appropriate activities, peer and adult support, and role modeling. Their conclusion was a strong argument for carefully designed and implemented peer programming. *Successful intervention programs rely on congruent social, cultural and developmental strategies... The development of relationships within programs, either peer or mentor, appears to increase successful outcomes.* [Fahs, Smith, Atav, Britten, Collins et al, 1999]

In 1998, evaluators looked at data from 120 drug prevention programs in order to determine whether peer-led drug prevention programs for middle school youth might be a vital resource in minimizing youth's use of alcohol, tobacco and other drugs (ATOD). The researchers concluded that *interactive school prevention programs for middle school students seem effective in reducing drug use. However, it is important not to over-represent or under-represent the efficacy of these programs because there are a few qualifiers. First, most studies have been conducted with middle school children where drug use is lower... Failures of programs may be due to ... poorly designed interventions that have little chance of producing an effect from the outset. Use of National Peer Helper Association Programmatic Standards is highly recommended. Programs that follow [these] standards seem to be efficacious. It is also important not to misconstrue the results presented [here] as a condemnation of teachers or that teacher/researcher programs are of no value. Instead, an interactive peer program represents an **important potential resource** ... and should be considered as a **welcome adjunct** to existing school ATOD reduction programs.* [Black, Tobler & Sciacca, 1998]

A 1998 review of evaluations of 15 youth development programs found three that incorporated peer helping and also achieved positive outcomes. The authors concluded that *youth development programs were most successful when they provided opportunities and supported youth to gain the competencies needed to meet the challenges of the future, when they included a caring adult-adolescent relationship (not limited to one-on-one mentoring), and when they engaged youth throughout adolescence.* [Roth, Brooks-Gunn, Murray & Foster, 1998] This seems a clear call for excellence in peer programming.

In 1993, a researcher published a meta-analysis of adolescent smoking prevention programs. The author asserted that *behavioral effect sizes for programs with social reinforcement and social norms orientation were consistently positive and significant; those for developmental orientation were mixed ..., but generally positive and significant; and those for programs with rational orientation were mixed ... and usually **not significant.*** [Bruvold, 1993] Again, this is a clear and cogent reason to support peer programming.



In 1999, the National Campaign to Prevent Teen Pregnancy released a document on the power of peers to influence one another. The last chapter, written by Susan Philliber, underlined the rationale for the use of peers, the challenges that peer programs face, and important points to consider in creating a successful peer program. [Philliber, 1999] Overall, the review should have been very helpful to professionals intending to implement a peer program. Yet, the review was written *prior* to April 1999. Many evaluations of strong peer programs were published after that date. These later evaluations have provided increasing support for the value of peer programming. They have also underscored the importance of carefully designing, implementing, operating, and evaluating peer programs.

## What about Unconvincing or Less Convincing Research?

The literature review included a careful scrutiny of 134 articles, published since 1990, about or purporting to be about peer programming.

- Thirty-two were descriptive in nature and provided no new, quantifiable evidence of the effectiveness of peer programming.
- Five did not include, or appear to include, peer programming.
- Thirteen had less than 100 participants in experimental and comparison groups, combined.
- Six had follow-up at less than three months post intervention and other evaluation problems as well.
- Thirty-three showed no statistically significant evidence of having achieved behavioral or health outcome goals.

A lot of research regarding peer programming has been easily available in the public domain. Many articles were descriptive and advisory rather than evaluative. Moreover, many that claimed to be evaluations provided no data to show the program's worth (or lack thereof). Some evaluations that had negative findings regarding behaviors or health outcomes were seriously flawed. And some evaluations aimed only at tracking changes in attitudes, norms, and knowledge despite the fact that plenty of research shows no inevitable link between knowledge and attitudes on the one hand and changed behavior on the other. Because this literature review worked to identify evidence of successful and effective peer programming, not one of these 89 articles contributed to the goal of this literature review and so were not included in the bibliography.

## Conclusion

Despite the difficulties and drawbacks in the literature on peer programming, the evidence is there – easily accessible – to demonstrate the value of peer programming. Extensive research, published in the last two decades, has shown definitely and beyond question that peer programs can have statistically significant effects on attitudes, norms, knowledge, behaviors, and health and achievement outcomes. Programs need to be well designed, properly implemented, appropriately run, and regularly evaluated to assess currency and how they fit both the target audience and also the talents of the peer workers. Then, peer programs can have a significant effect on reducing risk seeking behaviors and improving health and other outcomes. Peer work is a valuable and useful component of efforts to improve youth's health and well-being.

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## Appendix – Effective Peer Programming

### 1. Peer Provider Reproductive Health Service

**Program Goals:** To improve adolescents' clinic utilization and to decrease risky sexual behaviors

**Program Components:** 1) Prior to medical services, intake session from peer providers focusing on: a) the reason for the visit; b) what to expect during a physical exam; c) importance of using condoms to prevent STIs; d) condom use demonstration; and e) answers to clients' questions; 2) follow-up telephone calls to each female client; 3) two-person teams providing group outreach to adolescents in schools and to male youth in community settings; and 4) where possible, separate teen entrance, waiting room and counseling rooms or, if necessary, designated hours for peer providers to use adult spaces

**Peer Workers:** Female and male youth, ages 16 to 22, representing the ethnicity of the community

**For Use with:** Female and male community youth, ages 12 through 20, especially Latinas and daughters of adolescent mothers

**Evaluation Methods:** Quasi-experimental design, using reflexive comparison with baseline and follow-up surveys to collect demographic, behavioral, medical and service data on adolescent clients (n=1,424 females; n=166 males) receiving reproductive health services at five peer provider clinics; follow-up including details of services received

**Length of Follow-up:** Three years (July 1996 through June 1999)

**Findings:**

- **Increased use of contraception** – Female clients were significantly more likely at their most recent visit than at their first visit to report consistent birth control use (odds ratio [OR] 1.9), birth control use at last sex (OR 1.8) and use of an effective method (OR 3.5). Hispanic clients who received the full model were significantly more likely than those in the clinic-only group to report consistent birth control use (OR 1.7) and use of an effective method (OR 1.7). Clients born to adolescent mothers and receiving the full model were also more likely to report consistent use of birth control (OR 1.5).
- **Increased use of health care** – Clients who also received at least one follow-up call were significantly more likely to return for an annual exam (OR 1.4) than those who received no follow-up calls.
- **Reduced incidence of pregnancy** – Clients who received at least one follow-up call were *less* likely to report a pregnancy at any follow-up (OR 0.9) compared to clients who received no follow-up call. Hispanic clients who received the full model were significantly *less* likely to report a pregnancy (OR 0.2) compared to clients who received no follow-up call. Clients who reported at their first visit that they had only one sexual partner, at most, in the previous six months were less likely to test positive for pregnancy (OR 0.8) if they received clinic and telephone components compared to clients who received fewer services.

**Evaluators' Comments:** *The full model [of peer provider services] was especially useful for Hispanic females. In addition, the full model benefited those born to adolescent mothers as well as a group of relatively low risk clients – those who had, at most, one sexual partner in the previous six months. The fact that the full model was particularly effective for certain subgroups underscores the value of tailoring programs to the needs of different clients.*

**Evaluation Authors:** Brindis, Peterson-Geierstanger, Wilcox, McCarter & Hubbard et al, 2005

## **2. Project Wall Talk**

**Program Goals:** To increase HIV related knowledge and HIV testing intentions and behaviors among prisoners in the Texas prison system

**Program Components:** Community-based, peer-led HIV prevention education focused on HIV related knowledge and skills as well as the importance of HIV testing; 40-hour, 5-day intensive training for peer educators; ongoing HIV education sessions delivered by peer educators to other inmates; annual regional conferences to update peer educators on new HIV data and treatment information and to provide additional skills training as well as opportunities for peer educators to communicate with CBO staff respecting curricula, implementation and additional training needs

**Peer Workers:** Incarcerated males (n=495) and females (n=95)

**For Use with:** African American, white, and Hispanic male and female incarcerated adults, average ages 34-43

**Evaluation Methods:** Quasi-experimental design with reflexive comparison, collecting baseline and nine-month follow-up data on peer educators (n=257); pre- and post-session data from prisoners (n=2,506) who participated in peer education sessions; number of HIV tests conducted in participating prison units versus comparison units

**Length of Follow-up:** Nine months for peer educators, immediately post-program for recipients; HIV testing follow-up at 12- and 18-months after Project's inception

**Findings:**

- **Increased knowledge** – Among peer educators, knowledge scores increased significantly ( $p=.02$ ) and knowledge differences associated with race/ethnicity *disappeared* at follow-up ( $p=.008$ ).
- **Improved attitudes** – A significantly smaller proportion of peer educators reported *never* having had an HIV test at follow-up compared to baseline ( $p=.03$ ). More peer education recipients indicated plans to take an HIV test at follow-up than at baseline (26 versus 21 percent).
- **Increased incidence of HIV testing** – The numbers of HIV tests at the five units that implemented peer education were roughly twice that of five, matched comparison units without peer education at 12-month follow-up (OR 2.76) and at 18-month follow-up (OR 1.78). More peer educators knew their HIV status at follow-up compared to baseline (66.9 versus 59.3 percent, respectively), although this difference was not statistically significant.

**Evaluators' Comments:** *Although significant differences existed across race/ethnicity for both knowledge and skills scores at baseline, with African American respondents having lower scores in both cases, these differences disappeared at follow-up... The student data offered striking confirmation of the patterns found for the peer educators [with] significant differences in seven of eight items on the knowledge scale as well as the total knowledge score.... In terms of diffusion of peer educators' knowledge, the number of times peer educators reported being asked about HIV outside the classroom may be as many as 154,000, representing numerous teachable moments... Moreover, more than three-quarters of peer educators reported sending information or sharing it by phone with family and friends on the outside.*

**Evaluation Authors:** Ross, Harzke, Scott, McCann & Kelley, 2006

### **3. Caught in the Crossfire**

**Program Goals:** Among youth hospitalized for violence-related injuries: to reduce rates of entry or re-entry into the criminal justice system; to reduce rates of re-hospitalization for violence-related injuries; and to reduce the rate of violence-related death

**Program Components:** Peer-based violence prevention intervention for youth who were hospitalized with violence-related injuries; up to two hours meeting one-on-one, peer counselor with the injured youth, very soon after hospitalization or at home if the youth was released from the ER; ongoing, intensive follow-up for as much as one year with the injured youth and his/her family, including home visits, referral to community services, and assistance with job placement, court and probation hearings, school enrollment and housing

**Peer Workers:** Called Crisis Intervention Specialists (CIS), young adults from the same communities as the youth they served and who have experienced violence in their own lives; some have been previously incarcerated and/or have been disabled from the violence-related injuries they suffered

**For Use with:** African American, Latino and other minority youth, ages 12 to 22, injured during acts of violence

**Evaluation Methods:** Retrospective case-controlled design including treatment ( $n=43$ ) and control ( $n=69$ ) youth, matched by age and injury severity and followed for six months after the individual date of injury

**Length of Follow-up:** Six months after each individual date of injury

**Findings:**

- **Reduced arrest rate** – Intervention youth were 70 percent less likely to be arrested for any offense (OR 0.257)

when compared to controls. The reduced odds of having a criminal outcome during the evaluation period were particularly significant among the less severely injured youth, where treatment youth were 72 percent (OR 0.237) less likely to have a criminal outcome versus comparison youth. Not one of the treatment youth was arrested for a violence-related offense during the six-month evaluation period, compared to 5.8 percent of controls, although this was not statistically significant.

**Evaluators' Comments:** *This evaluation demonstrates that hospital-based peer intervention programs that employ members of the community and intervene immediately or soon after an injury has occurred can directly reduce criminal activity among youth most at risk for violence.*

**Evaluation Authors:** Becker, Hall, Ursic, Jain & Calhoun, 2004

#### **4. ATHENA (Athletes Targeting Healthy Exercise & Nutrition Alternatives)**

**Program Goals:** To prevent female high school athletes' disordered eating and drug use

**Program Components:** 45-minute classroom sessions integrated into a team's usual practices; each session consisting of three to five activities that foster active learning; depression prevention component; skills building in refusal and establishing healthy norms; peer workers providing 70 percent of the program

**Peer Workers:** Squad leaders from the team, chosen by the coach, to lead six-person squads of teammates

**For Use with:** White female athletes on high school teams

**Evaluation Methods:** Prospective controlled trial in 18 high schools with random assignments, by school, of 40 teams to the intervention (team members, n=337) and usual-care control (team members, n=331) conditions; assessment at baseline and within two weeks of the end of each team's sports season

**Length of Follow-up:** One sports season for each team

#### **Findings:**

- **Reduced use of diet pills** – At follow-up, intervention participants reported significantly less recent diet pill use ( $p < .05$ ) than did control participants.
- **Reduced numbers of young women beginning to use diet pills, steroids, etc.** – Significantly fewer intervention athletes reported first-time use of diet pills ( $p < .05$ ) and other body shaping substances (amphetamines, anabolic steroids, and muscle-building supplements ( $p < .05$ ) than did control athletes.
- **Improved diet and exercise habits** – Intervention athletes reported statistically significant, positive changes in dietary habits and exercise training (tracking protein intake,  $p < .005$ ; eating more protein, ( $p < .001$ ); and properly lifting weights for strength training ( $p < .001$ ).
- **Reduced incidence of riding with a substance using driver** – Intervention athletes were significantly less likely than controls to ride in a car with a substance using driver ( $p = .05$ ).
- **Increased use of seatbelts** – Intervention athletes were significantly more likely than comparisons to use seatbelts ( $p < .05$ ).
- **Reduced incidence of sports injuries** – While control athletes' sports injuries increased following the season, intervention athletes' sports injuries were significantly reduced ( $p < .05$ ).

**Evaluators' Comments:** *Sports teams can be effective vehicles to promote healthy lifestyles and to deter drug use and other harmful behaviors. The format uses influential instructors and existing, single-sex, nondeviant bonded peer groups*

to deliver immediately relevant content. Effects may be enhanced by continuity of coaching staff, role modeling by older athletes and reinforcement during the many hours of team activities.

**Evaluation Authors:** Elliot, Goldberg, Moe, DeFrancesco, Durham et al, 2004

## **5. STI Counseling & Treatment in Nigeria**

**Program Goals:** To promote STI prevention and treatment among sexually experienced Nigerian students

**Program Components:** Comprehensive intervention, including information about abstinence and condoms; youth-led reproductive health clubs distributing educational materials and sponsoring debates, essay contests, symposia and films related to STI prevention, testing and treatment; peer educators providing education about methods of preventing STIs; health professionals providing information on STI testing and treatment; referral for STI testing and treatment

**Peer Workers:** Members of reproductive health clubs, chosen by their peers

**For Use with:** Urban, sexually experienced Nigerian youth in high school, ages 14 through 18

**Evaluation Methods:** Quasi-experimental, randomized controlled design with eight secondary schools (four intervention and four comparisons; intervention students n=643; comparison students n=1,253); baseline survey and follow-up among randomly selected students in the eight schools

**Length of Follow-up:** Follow-up one year after baseline

### **Findings:**

- **Increased condom use**— Sexually experienced intervention students showed a statistically significant increase in condom use, compared to control youth (OR 1.41), primarily due to the reported increase among females (OR 1.80).
- **Increased partner notification (females)** – Among female intervention youth, there was a statistically significant increase in those who notified their partner that they had an STI (from five to 18 percent) as compared to baseline and also versus females at the control schools (OR 7.10).
- **Increased use of physicians** – Relative to control youth, intervention students significantly increased their use of private physicians for testing and treatment of STIs (OR 3.24) and significantly decreased their use of pharmacists and patent medicine dealers (OR 2.26).
- **Reduced incidence of STIs** – Finally, the intervention resulted in a statistically significant reduction in STI symptoms among intervention youth (OR 0.56) relative to control youth.

**Evaluators' Comments:** *Our findings provide strong, substantive evidence that an informal peer educational program that offers education and counseling on STIs to in-school adolescents can substantially improve the care-seeking behavior with regard to STIs among youths... Data indicate that the social circumstances of in-school adolescents are similar throughout the country. Thus, at very minimal costs, this intervention would probably yield similar beneficial results in other parts of the country. The basic principles of the intervention can easily be implemented in every school, without the need to establish substantial infrastructure.*

**Evaluation Authors:** Okonofua, Coplan, Collins, Oronsaye, Ogunsakin et al, 2003

## **6. Social Marketing Campaign in Botswana**

**Program Goals:** To raise adolescents' awareness of the availability of reproductive health services



**Program Components:** Mass media campaign; youth-friendly retail outlets; Ministry of Health clinics where workers were trained to counsel youth; peer education

**Peer Workers:** Male and female young older adolescents and young adults from the community

**For Use with:** Adolescents in Botswana

**Evaluation Methods:** Quasi-experimental evaluation, among youth in two small cities in Botswana, one intervention and one comparison city (youth n=2,396) with baseline and follow-up surveys

**Length of Follow-up:** One year after baseline

**Findings:**

- **Increased contraceptive use** – Follow-up showed that, versus comparisons, adolescent women in the intervention city significantly increased their use of contraception ( $p=.01$ ).

**Reduced numbers of sex partners** – Follow-up showed that, versus comparisons, adolescent men in the intervention city significantly decreased the number of their casual sex partners ( $p=.01$ ).

**Evaluator's Comments:** *In Botswana, 71 percent of young men and 68 percent of young women who responded to the post-intervention survey reported exposure to the intervention. Exposure was high because the program had a strong peer education component that was able to reach the intervention town's small population.*

**Evaluation Authors:** Agha, 2002

## **7. Entre Nous Jeunes in Cameroon**

**Program Goals:** To increase reproductive health knowledge and use of contraception, including condoms, and to reduce the incidence of STIs and pregnancy among city youth in Cameroon

**Program Components:** Comprehensive sexual health peer education program; peer educators working with youth in discussion groups, one-on-one meetings and at health and sports association gatherings; distribution of IEC materials, including comic strips and posters; referral of youth for reproductive and sexual health care

**Peer Workers:** Community youth, selected for motivation and commitment

**For Use with:** Urban adolescents and young adults, ages 12 to 25, in Cameroon

**Evaluation Methods:** Quasi-experimental evaluation design, with youth in an intervention (n=405) and a comparison (n=413) town, using baseline and follow-up

**Length of Follow-up:** 17-months after baseline

**Findings:**

- **Increased knowledge** – At follow-up, young men in the intervention town were significantly more likely to be aware of female symptoms of STIs versus young men in the comparison town ( $p<0.001$ ). Encounters with peer educators were also statistically significant for knowledge of female symptoms of STIs among intervention youth ( $p<0.05$ ) versus comparisons.
- **Increased use of contraception** – At follow-up, sexually experienced in-school youth in the intervention town were significantly more likely to report use of modern contraceptives than were comparison youth ( $p<0.01$ ). Encounters with peer educators were equally statistically significant for use of modern contraception among youth in the

intervention town ( $p < 0.01$ ), regardless of whether they were in- or out-of-school.

- **Increased use of condoms** – At follow-up, sexually experienced in-school intervention youth were significantly more likely than comparison youth to report use of condoms at most recent sex ( $p < 0.001$ ). Encounters with peer educators were equally statistically significant for use of condoms at most recent sex among youth in the intervention town ( $p < 0.001$ ), regardless of whether they were in- or out-of-school.

**Evaluators' Comments:** *The evaluation of the ENJ peer education strategy contributes ... by demonstrating behavioral impacts among all young people who had contact with peer educators, regardless of their school attendance status... The results of the multivariate analyses indicate that exposure to the peer educator interaction is statistically significantly associated with greater spontaneous knowledge of modern contraceptives and STI symptoms.*

**Evaluation Authors:** Speizer, Tambashe & Tegang, 2001

## **8. Substance Abuse Prevention Peer Booster Program**

**Program Goals:** To prevent use of substances, including alcohol, marijuana, and tobacco among middle school youth

**Program Components:** Multi-component, 20-session substance abuse prevention curriculum in seventh grade; 10-session booster curriculum in the eighth grade to reinforce seventh grade lessons

**Peer Workers:** Trained high school youth from 10th, 11th and 12th grades

**For Use with:** Seventh and eighth grade students

**Evaluation Methods:** Quasi-experimental trial with 10 schools (students,  $n = 998$ ) randomly assigned to one of four conditions: prevention program implemented by older peer leaders; prevention program implemented by teachers; prevention program plus booster sessions implemented by older peer leaders; prevention program plus booster sessions implemented by teachers; baseline and follow-up data

**Length of Follow-up:** Final follow-up at one-year post-intervention

### **Findings:**

- **Reduced incidence of smoking** – There was a significantly lower proportion of smokers in the peer-led condition when compared to controls for the monthly measure ( $p < .02$ ), the weekly measure ( $p < .005$ ), the daily measure ( $p < .005$ ), and the smoking index ( $p < .005$ ).
- **Reduced use of marijuana** – A significantly lower proportion of students in the peer-led condition reported marijuana use than the control condition in the monthly recall ( $p < .03$ ) or the teacher-led booster condition for the monthly recall measure ( $p < .003$ ), the weekly recall measure ( $p < .03$ ), and the marijuana index measure ( $p < .0007$ ).
- **Reduced use of alcohol** – For all three measures, the teacher-led booster condition produced the worst results. The peer booster condition had significantly fewer drinkers than the teacher-led condition using the monthly measure ( $p < .002$ ), the weekly measure ( $p < .002$ ), and the drinking frequency index ( $p < .003$ ). Even the control group had significantly fewer drinkers on the monthly measure ( $p < .0001$ ), the weekly measure ( $p < .001$ ), and the drinking frequency index ( $p < .0002$ ). Youth in the peer booster condition reported consuming less alcohol per occasion than the students in the control group ( $p < .05$ ), the teacher non-booster group ( $p < .03$ ), or (not significantly) the teacher booster group ( $p < .06$ ).

**Evaluators' Comments:** *It is clear from this data that the peer booster condition produced significantly better results in terms of tobacco, alcohol and marijuana use than the control condition, and in most cases was superior to the other three intervention conditions.... Moreover, where prevention effects were found, the booster condition was superior to the non-booster condition. In fact, the peer-led booster condition was not only more effective condition with respect to the*

*mediating variables but was the only condition to produce significant behavioral results. Furthermore, the magnitude of these effects were substantial.*

**Evaluation Authors:** Botvin, Baker, Filazzola & Botvin, 1990

## **9. Project ALERT**

**Program Goals:** To curb use of alcohol, tobacco and other drugs among junior high school students

**Program Components:** Curriculum of eight lessons taught once a week for eight weeks to seventh graders by teachers assisted by peer educators; three lessons in eighth grade to reinforce earlier learning; highly participatory curriculum with Q & A, small group exercises, role modeling and repeated skills practices

**Peer Workers:** High school youth, recruited and trained to deliver the curriculum in a participatory manner

**For Use with:** Seventh and eighth grade students, male and female, white, Hispanic and African American

**Evaluation Methods:** Quasi-experimental, longitudinal, multi-site test design with 30 schools (students, n=3,852) randomly assigned to one of three conditions: 1) 10 control schools did not receive the program but continued with any other drug prevention program they were already using; in 10 schools, health teachers taught Project ALERT; and in the last 10 schools, health teachers were assisted by teen peer leader; baseline data with follow-up at three points during the 15 months after the intervention

**Length of Follow-up:** 15 months

### **Findings:**

- **Reduced use of alcohol** – Among baseline non-drinkers, the curriculum reduced the number who initiated alcohol use in the subsequent three months by 28 percent ( $p=.04$ ) and cut current drinking (use in the past month) by almost one-half ( $p=.02$ ) versus comparison youth. These results were largely attributed by the evaluators to the teen leader delivered curriculum.
- **Reduced use of cigarettes** – The curriculum produced significant reductions across all subsequent smoking levels for baseline experimenters. Among experimenters, more frequent smoking decreased by over one-fourth in the teen leader-assisted schools ( $p=.03$ ). Project ALERT also reduced levels of cigarette use signaling serious use, especially for baseline experimenters in the teen leader-assisted schools. After delivery of the eighth grade booster lessons, weekly smoking declined by almost fifty percent in the teen leader-assisted schools ( $p=.006$ ). Daily smoking, which is highly likely to signify addiction among adolescents, dropped by over fifty percent among students in the teen leader-assisted program ( $p=.03$ ).
- **Reduced use of marijuana** – The most substantial reduction occurred for students who had never used marijuana or cigarettes. In both treatment groups, the initiation rate was reduced by about one-third even before they received the eighth grade lessons ( $p=.03$  for health educator schools and  $.07$  for teen leader-assisted schools). Moreover, the booster program appeared to maintain these gains, keeping the reduction in all treatment schools close to one-third ( $p=.02$  for both groups). For youth who had not tried marijuana but had tried cigarettes, the program produced a fifty percent reduction in monthly marijuana use at 12 months ( $p=.04$ ) For those who had tried marijuana at baseline, the pattern was most pronounced in the teen leader-assisted schools where the proportion of weekly marijuana users was about half that in control schools shortly after delivery of the seventh grade program ( $p=.05$ ), although this finding disappeared by the end of eighth grade.

**Evaluators' Comments:** *Neither method of curriculum delivery (teacher or peer leader taught) showed a dominant pattern across all three substances.... Nevertheless, the teen themselves report that participation in Project ALERT yielded important benefits, such as increased self-esteem and improved communication and leadership skills.*

**Evaluation Authors:** Ellickson, Bell & Harrison, 1993; Ellickson & Bell, 1990

## **10. Interpersonal Relations (IPR) Program**

**Program Goals:** To prevent school dropout and to prevent drug abuse among adolescents

**Program Components:** Mentor and peer social support intervention system; program designed to meet participants' need for inclusion (program peer group and teacher mentoring) and excitement (experiential activities) while teaching them to be winners (peer tutoring), make wise decisions and evaluate potential consequences of choices (decision making and life skills training); sessions held four days a week (55 minutes); one day a week of supervised study and tutoring, journal writing and goal setting; two half days a month visiting community agencies including vocational and GED programs, community colleges, etc. and participating in recreational activities such as boating, horseback riding, hikes, etc.

**Peer Workers:** The youth themselves

**For Use with:** White, urban high school youth in trouble for truancy, low grades, being behind in meeting graduation requirements, and/or known to teachers or counselors for drug use or drug treatment histories

**Evaluation Methods:** Quasi-experimental design with treatment and comparison conditions in one urban high school; high-risk students assigned on a first-come, first-serve basis to treatment (IPR; n=73) or comparison (n=73) condition; baseline data and follow-up three semesters later Length of

**Follow-up:** Baseline at the beginning of the school year and follow-up at the end of school year; school records

### **Findings:**

- **Improved school grades** – Although both IPR and comparison youth were on a downward trend (worsening grades) at baseline, during the program, IPR students significantly improved their grades ( $p=.0001$ ) and earned credits ( $p=.0001$ ) while comparison students continued to decline.
- **Decreased truancy** – Although IPR students had higher truancy rates at baseline than did comparisons, truancy decreased for IPR students while it grew worse for comparisons, creating a statistically significant interaction effect ( $p=.0001$ ).
- **Reduced drug use** – Versus comparisons, IPR students significantly decreased their drug use ( $p<.0001$ ) and adverse consequences of drug use ( $p=.0001$ ). This meant that program participants reported less drug use and also fewer problems with family and friends, and had fewer disciplinary actions in their school records.

**Evaluators' Comments:** *The major criteria for teacher selection were an expressed interest in high risk students and a history of acceptance and respect from dropouts and drug users. Effective teachers were also nominated by their supervisor(s) on the basis of skill with small group processes. Teachers then helped to set the criteria for student inclusion. Students [at risk] were invited to join the group – voluntary participation; they were allowed to select the mentor and class of their choice; they expressed willingness to commit to program goals – improving school performance and attendance and stopping drug use; they expressed willingness to provide positive peer support to classmates... Specifically, we have reason to believe that the teacher and group expressive support (acceptance, caring communication and group belonging) and **positive** reinforcement of improved school achievement contributed to program participants' successes.*

**Evaluation Authors:** Eggert, Seyl & Nicholas, 1990

## **11. Horizon Jeunes in Cameroon**

**Program Goals:** To raise awareness of risks for HIV and other STIs, reduce barriers to safer sex, and increase perceived

benefits of using preventive measures

**Program Components:** Comprehensive sexual health program, including messages to delay the initiation of sex and to reduce sexual risk-taking behaviors among sexually experienced youth; youth developed and youth-targeted campaign messages, disseminated at live events, on radio talk shows, in brochures and by peer educators; peer education; youth clubs; youth-targeted distribution of condoms and oral contraceptives; training health care providers in making services youth-friendly; involvement of community adults, including parents and local health and education officials; integration within a nationwide social marketing program; mass media advertising

**Peer Workers:** Male and female adolescents from within the community

**For Use with:** Cameroon's adolescents and young adults

**Evaluation Methods:** Quasi-experimental evaluation, using baseline and post-intervention surveys in two small cities in Cameroon – one intervention (n=811) and one comparison city (n=822)

**Length of Follow-up:** Follow-up at 14 months after baseline

**Findings:**

- **Improved attitudes & knowledge** – Versus comparisons, intervention males and females showed statistically significant increases in: ability to discuss contraception with a health worker ( $p=.001$  and  $.000$ , respectively); visiting a health center for information about contraception (women only,  $p=.002$ ); feeling responsible for using protection ( $p=.013$  and  $p=.001$ , respectively).
- **Delayed initiation of sexual intercourse** – The proportion of intervention site males who reported initiating sex prior to age 15 decreased significantly ( $p=.004$ ) while the comparison city showed little change among its males.
- **Increased abstinence among sexually experienced youth** – Sexually experienced youth in the intervention city reported a statistically significant positive change in the use of abstinence for pregnancy prevention (young women,  $p<.01$ ; young men,  $p<.01$ ).
- **Reduced number of sex partners** – The proportion of young men in the intervention site reporting two or more sexual partners in the past month declined from 30 to 15 percent ( $p<.016$ ) while the proportion rose among young men in the comparison city (29 to 35 percent).
- **Increased use of contraception** – The proportion of young men in the intervention city reporting use of modern methods of contraception increased significantly (OR=11.05;  $p<.01$ ).
- **Increased use of condoms** – The change in young women's ever use of condoms was statistically significant in the intervention city (OR=2.27;  $p<.01$ ). Intervention young women's use of condoms to prevent pregnancy also increased significantly (OR=3.82;  $p<.01$ ). Meanwhile, comparison site females' use of condoms dropped slightly.

**Evaluators' Comments:** *The Cameroon intervention, with its combination of mass media and peer education, reached most of the adolescent population of Edea (intervention city)... It produced a net increase in perceived benefits of protective behavior and self-efficacy among both males and females. It was also associated with a reduction in risky sexual behavior among young men and an increase in contraceptive use among young men and young women.*

**Evaluation Authors:** Agha, 2002; Van Rossem & Meekers, 2000

## **12. Poder Latino**

**Program Goals:** To increase awareness of HIV and AIDS and to reduce the risk of HIV infection by increasing the use of condoms among sexually active teens

**Program Components:** Intervention activities conducted by specially trained peer leaders, including workshops in schools, community organizations and health centers; group discussions in the homes of youth; presentations at large community events; door-to-door street corner canvassing; condom availability and condom distribution; radio and television public service announcements (PSAs), posters and a quarterly newsletter

**Peer Workers:** Bilingual Hispanic youth from the community

**For Use with:** Urban, Hispanic adolescents ages 14 through 19

**Evaluation Methods:** Quasi-experimental design including longitudinal comparison of probability samples of youth (n=403) in treatment and comparison cities; with surveys at baseline and follow-up after the intervention was completed

**Length of Follow-up:** 18 months

### **Findings:**

- **Delayed initiation of sex (males)** – At 18-month follow-up, males in the intervention city were significantly less likely than males in the comparison community to have initiated sexual intercourse (OR=0.08;  $p<.05$ ). The intervention had no discernible effect on the odds of females initiating sex.
- **Reduced number of sexual partners** – At 18-month follow-up versus females in the comparison city, female teens in the intervention city were significantly less likely to report multiple sexual partners in the last six months (OR=0.06;  $p<.01$ ).
- **Increased likelihood of possessing a condom** – Sexually active male and female youth in the intervention community were more than twice as likely to have a condom in their possession at 18-month follow-up versus youth in the comparison community (OR=2.3 and 2.0 for males and females, respectively).

**Evaluators' Comments:** *The lack of an increase in sexual activity as a result of promoting and distributing condoms is consistent with previous research..*

**Evaluation Authors:** Sellers, McGraw & McKinlay, 1994; Smith, McGraw, Crawford, Costa & McKinlay, 1993

## **13. Resisting Pressure to Smoke**

**Program Goals:** To prevent young adolescents from taking up smoking

**Program Components:** Five session videotape program on resisting pressure to smoke, conducted over three weeks; small group discussions; peer-led social resistance training

**Peer Workers:** Same age youth acting as popular role models

**For Use with:** Asian, black, Hispanic and white seventh grade students

**Evaluation Methods:** Experimental design with seventh grade students (n=540) enrolled in social studies classes (n=15) randomly assigned by classroom to the following conditions: a) videotape with peer leader involvement; b) videotape presentation only; c) survey only; d) non-treated measurement only control among students at another school; assessments at the beginning and end of the school year

**Length of Follow-up:** Eight months after baseline

**Findings:**

**Reduced onset of smoking** – Among youth who reported experimental smoking at baseline, follow-up revealed a significantly lower rate of onset among youth in the peer-led condition compared to the other three conditions ( $p < .05$ ). Among those who had never smoked at baseline, none of the youth exposed to the video program (with or without peer leaders) reported regular smoking (i.e., at least once a week) at posttest. Comparisons of the two intervention groups versus the controls were statistically significant ( $p < .05$ ). Finally, rates of regular smoking were significantly lower among youth in the peer-led group than the tape alone ( $p < .05$ ) group.

**Reduced rates of alcohol use** – The peer-led group was significantly less likely to report onset of alcohol use compared to the other conditions ( $p < .05$ ).

**Reduced rates of marijuana use** – The peer-led group was significantly less likely to report onset of marijuana use compared to other school control group ( $p < .05$ ).

**Evaluators' Comments:** Results of the present study lend support for the use of peer-led social pressures resistance training in suppressing the adoption of cigarette smoking among junior high school students. ...Prestest experimental smokers assigned to the peer-led prevention condition showed a five- to seven-fold reduction in the onset of regular smoking compared to the other three conditions... One possibility is that the use of peer leaders increases program credibility, which in turn enhances students' attention to the pressure resistance skills being taught. The use of peer leaders may also serve to facilitate normative changes concerning cigarette smoking.

**Evaluation Authors:** Telch, Miller, Killen, Cooke & Maccoby, 1990

**14. Heritage & Pride Breastfeeding Peer Counseling Program**

**Program Goals:** To increase the effectiveness of peer counseling for breastfeeding

**Program Components:** Peer counseling services, focused on breastfeeding, including one prenatal home visit, daily perinatal visits, three post-partum home visits and telephone contact, as needed

**Peer Workers:** Community women who have completed high school, breastfed at least one child for at least six months, and been trained in breastfeeding management; preferably bilingual and Puerto Rican

**For Use with:** Low-income urban Latina women of Puerto Rican descent

**Evaluation Methods:** Randomized, prospective controlled trial recruiting participants prenatally and randomly assigning them to receive routine breastfeeding education (RBE; control group  $n=75$ ) or RBE plus peer counseling (intervention group  $n=90$ ) with baseline at birth and three follow-up times

**Length of Follow-up:** Six months post-partum

**Findings:**

- **Increased initiation of breastfeeding** – The proportion not initiating breastfeeding was significantly lower in the intervention group (8/90; relative risk [RR] 0.39) than among controls (17/75).
- **Improved rates of continuing breastfeeding** – The probability of stopping breastfeeding was lower in the intervention than the control group at one-month follow-up (36 versus 49 percent; RR 0.72) and three months (56 versus 71 percent; RR 0.78); these differences were not statistically significant.

**Evaluators' Comments:** Culturally competent peer counselors can significantly improve breastfeeding initiation rates and positively impact postpartum breastfeeding rates in a low-income, predominantly Latina population... This program

supported any breastfeeding rather than focusing on exclusive breastfeeding. High rates of breastfeeding initiation among controls may have happened because the study included only women considering breastfeeding.

**Evaluation Authors:** Chapman, Damio, Young & Pérez-Escamilla, 2004

### **15. Sexual Risk Reduction for Gay and Bisexual Adolescent Males**

**Program Goals:** To improve HIV-related knowledge, attitudes and behaviors among gay and bisexual adolescent males

**Program Components:** Individualized HIV risk assessment and risk reduction counseling; referral to a peer education program for gay and bisexual youth; 1 ½ hour peer education session in cooperation with social support group meetings; peer educators providing a video, a demonstration of condom use, and two group exercises to illustrate the rapid spread of HIV through a social/sexual network, plus opportunities for Q & A and one-on-one conversations; referral to medical and psychosocial services, as needed

**Peer Workers:** Young gay and bisexual males (ages 18 to 22), nominated by their social support group and trained by program staff

**For Use with:** Urban gay and bisexual adolescent males (mean age 19.25), white and African American

**Evaluation Methods:** Quasi-experimental design with reflexive comparison among young men (n=139) from a large, Midwestern city; included baseline testing with follow-up after several months

**Length of Follow-up:** Three to six months after baseline

#### **Findings:**

- **Reduced severity of substance abuse** – The young men's mean substance abuse severity score was significantly lower at follow-up compared to baseline ( $p=.001$ ). Quarterly frequency of using methamphetamines also decreased significantly ( $p=.01$ )
- **Reduced incidence of anal intercourse** – At follow-up frequency of insertive and receptive anal intercourse with male partners occurred significantly less ( $p<.0001$  for both;  $p=.0003$  for insertive anal sex;  $p=.001$  for receptive anal sex). The incidence of anal sex with new partners also decreased significantly ( $p=.04$  for insertive and  $p=.05$  for receptive anal sex).
- **Reduced sexual activity with women** – The frequency of almost all sexual behaviors with women diminished significantly over time ( $p<.0001$  for dating, kissing, deep kissing and touching;  $p=.005$  for giving oral sex;  $p=.007$  for receiving oral sex;  $p=.007$  for vaginal intercourse).

**Evaluators' Comments:** *In this population, constructive change most often involved the practice of anal intercourse... Despite general improvement in risk reduction, one-quarter of the young men were found to be at high risk for HIV transmission... The isolation and stigma of homosexuality may lead them to test same-gender attractions ... Frank discussion of safer sex with partners requires uncommon courage and skill for the novice and negotiating the use of condoms can complicate already awkward sexual situations. For these and other reasons, gay youth often choose the simple approaches to HIV prevention such as avoidance of anal intercourse and substitution of less risky practices... HIV prevention initiatives should be coupled with opportunities for ... healthy socialization with peers in safe environments.*

**Evaluation Author:** Remafedi, 1994

### **16. Intensive, School-based Intervention for Teen Mothers**

**Program Goals:** To reduce rapid, repeat adolescent births



**Program Components:** Peer support groups; coordinated medical care; case management

**Peer Workers:** Participating young mothers, providing support and confidence in group sessions

**For Use with:** African American pregnant and parenting females in high school

**Evaluation Methods:** Quasi-experimental prospective cohort study, comparing subsequent births to teen mothers; final sample (n=63) with matched subjects from state database (n=252)

**Length of Follow-up:** At least 24 months or until the adolescent reaches age 20 (whichever was longer)

**Findings:**

- **Reduced incidence of repeat births** – Subsequent births were significantly more common in the comparison group than among intervention participants (33 versus 17 percent;  $p=.001$ ). Evaluation found no statistically significant association with participation in any of the one three components, although extensive participation in medical care and in case management neared statistical significance.

**Evaluators' Comments:** *It may well be that all three components are necessary for maximal effectiveness.*

**Evaluation Authors:** Key, Gebregziabher, Marsh & O'Rourke, 2008

### **17. Teen Health Leadership Council Project**

**Program Goals:** To reduce behavioral risks for HIV infection among adolescents living in low-income housing projects

**Program Components:** Gender and age-specific workshops – two three-hour workshops held one week apart in low-income housing developments; workshop activities to build skills in refusal, negotiation, communication, self management, and condom use; follow-up sessions for workshop participants; Teen Health Project Leadership Council and Council-sponsored activities, including media projects, social events, talent shows, musical performances and festivals; HIV/AIDS workshops for parents

**Peer Workers:** Opinion leaders, identified by their workshop peers as being liked and trusted, who were also representative of the community's adolescents in terms of age, gender and ethnicity

**For Use with:** Low-income, ethnic minority youth (mostly African American and Asian as well as immigrants from East Africa), average age 14.5, living in housing projects

**Evaluation Methods:** Randomized, controlled, multi-site, community level intervention trial with adolescents living in 15 low-income housing developments; three intervention conditions (five developments, each) including experimental (n=237); 'state-of-the-science' skills training workshops (n=274); and education-only delayed control condition (n=252); assessments at baseline and two follow-up times

**Length of Follow-up:** Short-term (three months after educational sessions for control group and three months after the workshops in the other two conditions); long-term (two months after the end of the experimental project and 12 months after workshops; 18 months after baseline for all conditions)

**Findings:**

- **Delayed initiation of sex**—By long-term follow-up, adolescents living in community intervention developments were more likely to have remained abstinent compared to peers living in the control developments ( $p<.05$ ). The rate of abstinence in the skills workshop developments was roughly equivalent to that in the control developments; differences in abstinence between the intervention and skills workshop developments approached statistical significance ( $p=.07$ ).

- **Increased use of condoms** – At short-term follow-up, condom use rates among youth in the control developments were lower than rates reported in the skills workshop or intervention developments ( $p=.003$ ). At long-term follow-up, rates continued lower among youth in the control developments than in either the intervention or skills workshop developments ( $p=.001$ ).

**Evaluators' Comments:** *This multi-component, community intervention implemented with adolescents living in low-income housing developments shows considerable promise and produced substantial effects, both in relation to age of sexual debut over time and also in condom use for sexually active adolescents... Important program components included the selection of influential peer leaders who developed and implemented community-wide activities. In fact, the robustness of the findings may have been due to the combination of skills building and community activities that supported adolescents' efforts toward abstinence and condom use.*

**Evaluation Authors:** Sikkema, Anderson, Kelly, Winett, Gore-Felton et al, 2005

### **18. Mpowerment Project**

**Program Goals:** To prevent sexual behaviors that put young gay men at risk of HIV infection

**Program Components:** Peer outreach, conducted by young men who spoke with their peers and encouraged them to engage in safer sexual behaviors; peer-led small group discussion meetings, lasting three hours and hosting eight to 10 young gay men; publicity campaign within the gay community, including articles and advertisements in gay newspaper, outreach materials distributed in settings frequented by young gay men and use of word-of-mouth advertising by the core group advisers within their social networks

**Peer Workers:** Young gay men, mostly white

**For Use with:** Young gay men in community-based settings

**Evaluation Methods:** Quasi-experimental wait-list control design in two small cities using experimental ( $n=103$ ) and wait-listed comparison ( $n=88$ ) conditions with baseline surveys of men, ages 18 through 29, recruited in settings where young gay men congregate, such as bars, university venues, and community settings

**Length of Follow-up:** Follow-up survey one year after baseline

#### **Findings:**

- **Reduced incidence of unprotected sex** – Compared to pre-intervention data, young gay men in the intervention community were significantly less likely to report any unprotected anal intercourse ( $p<.05$ ), unprotected anal intercourse with a non-primary partner ( $p<.05$ ), and unprotected anal intercourse with primary partner ( $p<.05$ ). There were no significant changes in any of these behaviors during the same time period in the control community.

**Evaluators' Comments:** *Using peers to support and encourage friends about safer sex appears to be an effective way to diffuse the HIV prevention message throughout young gay men's social networks... Our strategy differs in that we included as many young gay men as possible as sources of outreach. Every man who volunteered with the project in any capacity or who attended small group meetings was seen as a potential agent for change.*

**Evaluation Authors:** Kegeles, Hays & Coates, 1996

### **19. Woodrock Youth Development Project**

**Program Goals:** To reduce alcohol, tobacco and drug use among children and young adolescents

**Program Components:** Education on human relations and life skills, including role-playing and other interactive simulations; peer mentoring and structured alternative extracurricular activities; family and community supports, including counseling and outreach

**Peer Workers:** High school students similar in background to the target audience For Use with: Children and young adolescents (ages six through 14)

**Evaluation Methods:** Quasi-experimental randomized, control design, with four urban classrooms randomly assigned to either experimental (students, n=130) or control (students, n=237) condition with baseline and follow-up testing

**Length of Follow-up:** Nine months

**Findings:**

- **Reduced use of drugs** – Follow-up showed that the younger intervention group (ages 6-9) reported a significant drop in drug use in the last school year ( $p < .05$ ) and in the last month ( $p < .001$ ) when compared to control youth. Among older participants (ages 10-14), participants also reported significantly reduced levels of drug use in the last month ( $p = .003$ ).

**Evaluators' Comments:** *The primary function of the peer mentors is to provide tutoring or homework help to individual students after school, Monday through Thursday, throughout the school year. Peer mentors also actively engage youth in individualized projects that develop their unique talents and critical thinking skills. In turn, increased success in the school setting provides a positive foundation for increased self-esteem, which is one of the major resiliency factors targeted by the program.*

**Evaluation Authors:** LoSciuto, Freeman, Harrington, Altman & Lanphear, 1997

## **20. HIV Risk Behavior Change**

**Program Goals:** To reduce HIV risk behaviors among inner-city, mostly minority youth

**Program Components:** Information-Motivation-Behavioral Skills (IMB) model program, focused on HIV prevention, and delivered by regular classroom teachers during five successive class sessions during one week (Monday through Friday); peer intervention using popular students who interact with friends and acquaintances outside of class and address HIV prevention information, motivation, and behavioral skills deficits identified in the school population

**Peer Workers:** Peer natural opinion leaders (NOLs)

**For Use with:** Urban, minority youth (African American, Hispanic, Asian, and Native American), ages 13 to 19, attending city schools

**Evaluation Methods:** Quasi-experimental, nonequivalent control group design with four high schools in a major inner-city area, one high school each assigned to: classroom only intervention (youth n=310); peer (NOL) intervention (youth n=381); combined classroom and peer intervention (youth n=296); and control (youth n=589) condition

**Length of Follow-up:** One year

**Findings:**

- **Improved knowledge, attitudes and intentions** – Among combined intervention, sexually inexperienced participants, knowledge ( $p < .001$ ), attitudes ( $p < .01$ ), norms ( $p < .05$ ), and intentions ( $p < .05$ ) improved significantly versus comparison youth. Among combined intervention, sexually experienced participants, knowledge ( $p < .001$ ) and attitudes ( $p < .01$ ) improved significantly versus comparisons.

- **Improved behavioral skills** – Among combined intervention, sexually inexperienced participants, HIV related behavioral skills (such as negotiation skills) improved significantly ( $p < .01$ ) versus comparisons. Among combined intervention, sexually experienced participants, HIV related behavioral skills improved significantly ( $p < .05$ ) versus comparisons.
- **Increased condom use** – Combined intervention, sexually experienced youth showed statistically significant increases in condom use ( $p < .05$ ) versus comparison youth.

**Evaluators' Comments:** *The current results show that, at three months post-intervention, the combined classroom- and the peer-based intervention had significant positive effects on inner-city, minority high school students' HIV preventive behavior – their reported use of condoms during sexual intercourse. At one year follow-up, the effects of the combined intervention and the peer only intervention had dissipated, whereas the classroom intervention showed a significant and sustained effect...Peer influence over students' behavior may become negative rather than positive if peers are eventually seen or believed to be enacting risky behavior themselves or to tolerate it in their friends and acquaintances.*

**Evaluation Authors:** Fisher, Fisher, Bryan & Misovich, 2002

### **21. Parents Too Soon Project (Ounce of Prevention Fund)**

**Program Goals:** To delay subsequent pregnancy, foster economic self-sufficiency, develop parenting skills and ensure the child's healthy development

**Program Components:** Home visiting by paraprofessionals in order to reduce the isolation of adolescent mothers, link them and their families to community resources, provide information and support; parent groups, using a peer support model to provide education on child development and child health and to provide emotional support to young parents

**Peer Workers:** Young women who had already experienced adolescent pregnancy and parenthood

**For Use with:** Pregnant and parenting teens, white, black and Hispanic

**Evaluation Methods:** Quasi-experimental design with two conditions: Parents Too Soon participants (n=1,004) and matched comparisons from the National Longitudinal Survey of Youth (NLSY; n=790) with baseline and follow-up data

**Length of Follow-up:** 12 months from baseline

#### **Findings:**

- **Reduced incidence of rapid, repeat pregnancy** – Multivariate analyses revealed that NLSY females were 1.4 times more likely to experience a repeat pregnancy by one year follow-up than were intervention females.
- **Increased school enrollment** – Intervention females were 3.4 times more likely to be enrolled in school at 12-month follow-up than were NLSY comparisons.
- **Increased employment levels** – At multivariate analysis, intervention participants were 1.5 times more likely the NLSY comparisons to be employed. Moreover, young black women had the highest probability of employment at follow-up, as did those with some level of college education.

**Evaluators' Comments:** *Despite the limitations of the analysis, its results are encouraging. Even when differences in age at first birth, ethnicity, and baseline differences were controlled for, the [intervention] group was substantially more likely to remain in school, to become employed and to have avoided a subsequent pregnancy at 12 months post-baseline*  
**Evaluation Authors:** Ruch-Ross, Jones & Musick, 1992

### **22. RAPP (Rochester AIDS Prevention Project for Youth)**

**Program Goals:** To increase knowledge and skills aimed at safer behavior regarding HIV infection and sexuality; to promote continued abstinence among youth who had not experienced sexual activity; to encourage safer sex practices among sexually experienced youth

**Program Components:** Male and female educators and peer educators, trained to deliver RAPP

**Peer Workers:** Extensively trained high school youth

**For Use with:** Middle school students, especially males

**Evaluation Methods:** Nonrandomized controlled trial with one control and three intervention groups of middle school students: RAPP adult educator classes (n=523); RAPP peer educator classes (n=412); regular school teacher classes (n=393); control health education classes (n=467)

**Length of Follow-up:** Follow-up testing at six to 12 months after the intervention

**Findings:**

- Delayed initiation of sex (males) – While 43 percent of the abstinent control males at pretest had initiated sexual activity by the time of follow-up testing, 36 percent of RAPP adult educator-taught, 29 percent of the peer educator-taught, and 21 percent of the regular teacher-taught male students reported initiating sex ( $p=.01$ ).

**Evaluators' Comments:** *When we examined percentages of males and females who transitioned from abstinence at baseline to sexual intercourse experience at long-term follow-up, males (but not females) in all three intervention groups demonstrated a positive effect as compared to controls, especially the regular teacher-taught and RAPP peer educator-taught youth.*

### **23. Smoking Prevention in Australia**

**Program Goals:** To increase knowledge of the effects of smoking, awareness of non-smoking and resistance skills related to peer pressure to smoke

**Program Components:** Five session intervention with either peer or adult leaders; teacher-facilitated peer led programs

**Peer Workers:** Same age youth, selected by their class

**For Use with:** Students in the 7th year of formal education

**Evaluation Methods:** Experimental design with students in year seven of school randomly assigned to one of the conditions: control group (n=507); peer-led (n=467); and teacher-led (n=531) with baseline data and one- and two-year follow-up

**Length of Follow-up:** Two years after baseline

**Findings:**

- Reduced incidence of smoking – The proportion of girls who started to smoke increased in the second year of follow-up but remained significantly lower in both intervention groups than in the control group ( $p=.03$ ).

**Evaluators' Comments:** *The results of this analysis confirm our earlier report that both the teacher-led and peer-led programs reduced, to about the same degree, the uptake of smoking by girls while only the teacher-led program appeared to be effective in boys... In girls, both the teacher-led and peer-led programs maintained their effects over the two years of follow-up.*

**Evaluation Authors:** Armstrong, de Klerk, Shean, Dunn & Dolin, 1990

#### **24. ATLAS (Adolescents Training & Learning to Avoid Steroids)**

**Program Goals:** To reduce adolescent athletes' intent to use anabolic androgenic steroids (AAS)

**Program Components:** Seven classroom sessions delivered by coaches and team peer leaders to players over seven weeks of the football season; seven weight room sessions delivered during the same period; single, parent evening session

**Peer Workers:** Teammates selected as peer leaders by the coaches

**For Use with:** High school football teams

**Evaluation Methods:** Quasi-experimental randomized prospective trial with 31 high school football teams assigned to the experimental (n=702 football players) or control (n=804 football players) conditions; baseline test and two follow-up surveys

**Length of Follow-up:** 12 months

#### **Findings:**

- **Reduced intentions to use anabolic steroids** – Compared to controls, intervention youth were significantly more likely to declare no intention to use AAS ( $p=.02$ ).
- **Increased knowledge and awareness** – Compared to controls, intervention youth were significantly more likely to be knowledgeable about: the effects of AAS ( $p<.001$ ); the effects of alcohol ( $p=.003$ ); and the effects of nutrition supplements ( $p<.001$ ). They were also more likely to perceive the severity of AAS use ( $p<.001$ ) and of their vulnerability to AAS effects ( $p=.009$ ).
- **Improved attitudes** – Compared to controls intervention youth were significantly more likely to perceive self-efficacy in strength training ( $p=.004$ ); to perceive their own athletic competence ( $p=.03$ ); to perceive their ability to turn down drugs ( $p=.03$ ); to question media advertisements ( $p<.001$ ); to view the team as an information source ( $p=.001$ ); and to perceive their peers as an information source ( $p<.001$ ).
- **Improved diet and exercise** – Compared to controls intervention youth were significantly more likely to use good nutritional behaviors ( $p=.03$ ) and to use the school instead of a private gym ( $p<.001$ ).
- **Reduced use of anabolic steroids** – The intervention was designed to change AAS risk factors rather than decrease immediate use, yet twice as many student athletes in the control condition reported new lifetime AAS use compared with the experimental group (12 versus six new cases) by long-term follow-up. If this trend continued ... a significant reduction of future AAS use by adolescents will have been achieved.

**Evaluators' Comments:** *Athletes in the experimental group had greater belief in their team and peers as trusted information sources, both at short-term ( $p<.001$ ) and at long-term ( $p=.001$ ) follow-up...*

**Evaluation Authors:** Goldberg, Elliot, Clarke, MacKinnon, Moe et al, 1996

#### **25. Youth United through Health Education (YUTHE)**

**Program Goals:** To increase awareness of and improve use of non-invasive screening for STIs among urban, sexually active youth

**Program Components:** Peer-developed, street- and venue-based outreach, relying on a 15-minute standardized protocol

consisting of: 21-item STI/HIV risk assessment; STI/HIV prevention messages, including information on non-invasive STI screening; condom distribution, where desired; specific information on youth friendly health services

**Peer Workers:** African American youth ages 19 to 22 from the community

**For Use with:** Sexually active, urban, minority youth

**Evaluation Methods:** Quasi-experimental trial using a non-equivalent control group design comparing youth; final sample: (n=738) in the intervention community with youth (n=745) in another, comparable community; compensation for participating in the evaluation phase included two movie passes or food coupons for local eateries

**Length of Follow-up:** Evaluation began six months after the start of the YUTHE program's implementation and ended six months after the program ended, extending over a two-year time period

**Findings:**

- **Increased knowledge and attitudes** – Knowledge scores regarding STIs among youth in the outreach community were significantly higher (OR 1.36) than in the comparison community. Attitudes supportive of STI screening were also significantly stronger among respondents who reported contact with the YUTHE program (OR 2.36) versus youth in the comparison community.
- **Increased incidence of STI testing** – Youth who had contact with the peer outreach workers were significantly more likely than comparison youth to report having had an STI test in the prior year (OR 2.21).

**Evaluators' Comments:** *Development of the YUTHE program was in response to the disproportionately high rates of STIs among sexually experienced youth residing in a predominately African American community ... These results support the notion that health promotion activities for racial and ethnic minority adolescents should be based on an understanding of the culture, needs, and characteristics of the target group, and such efforts need to be sustained to accomplish lasting efforts.*

**Evaluation Authors:** Boyer, Sieverding, Siller, Gallaread & Chang, 2007

**26. School-Based Peer Sexual Health Program in Zambia**

**Program Goals:** To promote abstinence and condom use among male and female students in grades 10, 11 and 12 in Zambia [Note: Abstinence here seems to mean refraining from sexual intercourse within an intimate partner relationship and not delaying the initiation of sex. See evaluators' comments below.]

**Program Components:** One discussion-oriented HIV educational session lasting 1 hour and 45 minutes; demonstration of correct condom use; drama skits reflecting experiences common to Zambian youth; educational pamphlet encouraging abstinence and condom use

**Peer Workers:** Female and male Zambians ages 18 to 22

**For Use with:** Zambian school youth ages 14 through 19

**Evaluation Methods:** Quasi-experimental, longitudinal panel design with three schools randomly assigned to receive the intervention (students n=248) and two assigned to the control condition (students n=156) and with data collected at baseline and two follow-up points from students in the five schools

**Length of Follow-up:** First follow-up at two months after baseline and second follow-up at six months after the intervention

**Findings:**

- **Increased knowledge and improved attitudes** – At final follow-up, intervention youth were significantly more likely than control youth to: have ever heard of abstinence ( $p=.013$ ); believe it is normal for a woman or a man to propose abstinence ( $p=.007$  and  $.003$ , respectively); believe that a person can avoid HIV by abstaining from sex ( $p=.017$ ); report ever having received information on how to use a condom correctly ( $p=.03$ ); and approve of using condoms ( $p=.034$ ).
- **Reduced number of sex partners** – At final follow-up, intervention youth were significantly more likely than control youth to have reduced the number of their regular sexual partners ( $p=.04$ ).

**Evaluators' Comments:** *Changes in normative beliefs about abstinence were observed immediately after the intervention and were sustained over a six-month period. Improvements in normative beliefs about condoms developed over a longer period of time [and] were only observed at the six-month follow-up... One important change in sexual behavior was observed: the study found evidence of reductions in multiple regular sexual partnerships. No evidence was found of increased use of abstinence in these partnerships... however, these findings may reflect the difficulty of increasing abstinence when it is already at a high level (nearly 80 percent of adolescents reported that they had ever abstained from sex with their regular partner).*

**Evaluation Authors:** Agha and Van Rossem, 2004

## **27. West African Youth Initiative (WAYI)**

**Program Goals:** To improve knowledge of sexuality and reproductive health and to promote safer sexual behaviors and contraceptive use among adolescents in Ghana and Nigeria

**Program Components:** Youth involvement in all aspects of each community-based project; leadership on each local peer education project by local youth-serving organizations (YSOs); peer educators trained to reach local target populations with IEC (information, education and counseling) on reproductive health through one-on-one and group activities; referral of youth for reproductive health services, as needed

**Peer Workers:** Local youth in the same age range as target populations (14-19)

**For Use with:** Community youth in Nigeria and Ghana

**Evaluation Methods:** Quasi-experimental, operations research design with baseline and follow-up data collected in intervention (youth,  $n=908$ ) and control (youth,  $n=893$ ) communities

**Length of Follow-up:** Two years from project beginning (January 1995 – December 1996)

### **Findings:**

- **Increased reproductive health knowledge** – Although youth in both the intervention and also the control community showed knowledge gains across the two years, the gains among intervention youth were statistically significant ( $p=.0000001$ ).
- **Improved attitudes related to contraception** – Relative to comparison youth, intervention youth scored significantly higher on the following: perceived self-efficacy to use contraceptives ( $p=.000013$ ); willingness to buy condoms ( $p=.000005$ ); and willingness to purchase foaming tablets ( $p=.000007$ ).
- **Increased use contraception** – The proportion of intervention youth who reported increased use of modern contraception in the previous three months rose significantly from 47.2 percent at baseline to 55.6 percent at follow-up ( $p=.045$ ). Versus comparisons, intervention youth also reported much greater contraceptive use at final follow-up ( $p=.004$ )

**Evaluators' Comments:** *Overall, the project provides evidence that peer education is effective at improving knowledge*



and promoting attitudinal and behavior change among young people in school settings.

**Evaluation Authors:** Brieger, Delano, Lane, Oladepo & Oyediran, 2001

## **28. Peer Education Skills Training**

**Program Goals:** To reduce injection risk behaviors for HIV and hepatitis C virus (HCV) infection in young injection drug users

**Program Components:** Six two-hour sessions, conducted over three weeks, including interactive skills building and education on risks related to injection drug use, negotiation skills, and goal setting

**Peer Workers:** Injection drug users, ages 15 to 30, taught peer educator skills in order to encourage pro-social behaviors

**For Use with:** Male and female injection drug users, average age 22-24

**Evaluation Methods:** Randomized, controlled trial involving HIV and HCV negative injection drug users (ages 15-30 years) in six cities; final sample: participants (n=431) compared with a time-equivalent attention control group (n=423)

**Length of Follow-up:** Testing and counseling at three- and six-months post-intervention

### **Findings:**

- **Reduced injection drug risks** – Overall injection risk declined by 29 percent among intervention participants versus controls at six-months follow-up (odds ratio [OR] 0.71). Participants also had a 76 percent decrease in injection risks relative to their baseline data (OR .64). At the same time, overall HCV infection incidence did not differ significantly across trial arms. No one tested positive for HIV at three- and six-month follow-up.

**Evaluators' Comments:** *Interventions providing information, enhancing risk reduction skills and motivating behavior change through peer education training can reduce injection risk behaviors... Failure to detect significantly greater risk reductions among participants versus controls may [have been] caused ... by giving all participants identical pre-and posttest counseling before enrollment and making condoms, bleach kits, HIV and HCV related educational pamphlets and medical and drug treatment referrals available in both intervention [arms]. An overly powerful control condition has the effect of minimizing the relative efficacy of the intervention, which has been observed in previous behavioral intervention trials.*

**Evaluation Authors:** Garfein, Golub, Greenberg, Hagan, Hanson et al, 2007

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