

Effective HIV and STD Prevention Programs for Youth: A Summary of Scientific Evidence



Just as schools are critical settings for preparing students academically, they are also vital partners in helping young people take responsibility for their own health. School health programs can help youth adopt lifelong attitudes and behaviors that support overall health and well-being—including behaviors that can reduce their risk for HIV and other sexually transmitted diseases (STDs).

HIV/STD prevention programs implemented by schools include prevention education programs designed specifically to reduce sexual risk behaviors and youth asset-development programs, which provide adolescents with more general skills that help them engage in healthy behaviors and solve problems.

Effective HIV/STD Prevention Education Programs

Research shows that well-designed and well-implemented HIV/STD prevention programs can decrease sexual risk behaviors among students, including—

- Delaying first sexual intercourse.¹⁻⁴
- Reducing the number of sex partners.⁴⁻⁷
- Decreasing the number of times students have unprotected sex.⁸⁻⁹
- Increasing condom use.^{8,10-11}

A review of 48 research studies found that about two-thirds of the HIV/STD prevention programs studied had a significant impact on reducing sexual risk behaviors, including a delay in first sexual intercourse, a decline in the number of sex partners, and an increase in condom or contraceptive use. Notably, the HIV prevention programs were not shown to hasten initiation of sexual intercourse among adolescents, even when those curricula encouraged sexually active young people to use condoms.¹²⁻¹³

In addition to determining programs that are most effective in reducing sexual health risk behaviors among youth, scientists also have identified key common attributes among these programs. Effective HIV/STD prevention programs tend to be those that

- Are delivered by trained instructors.
- Are age-appropriate.
- Include components on skill-building, support of healthy behaviors in school environments, and involvement of parents, youth-serving organizations, and health organizations.¹²

These common traits should guide curriculum development and integration of program activities for HIV/STD prevention programs in schools and communities.

Youth Asset-Development Programs

A promising approach to HIV prevention seeks to increase the skills of children and adolescents to avoid health risks, including sexual risk behaviors.¹⁴⁻¹⁷ Youth asset-development programs, including those conducted in schools, teach youth how to solve problems, communicate with others, and plan for the future. They also help youth develop positive connections with their parents, schools, and communities.

Youth asset-development programs typically address multiple health risk behaviors and are commonly provided to children and adolescents over a number of years. Evidence indicates that these programs can be associated with long-term reductions in sexual risk behaviors.²²

CDC's Ongoing Efforts To Identify and Implement Effective HIV/STD Prevention Programs for Youth

CDC's Division of Adolescent and School Health (DASH) supports rigorous evaluation research and other projects to identify the types of programs and practices that can reduce sexual risk behaviors among youth:

- DASH has supported the development and evaluation of
 - *All About Youth*, a randomized, controlled trial testing two HIV/STD education programs for middle school students: one that emphasizes sexual abstinence until marriage, and one that emphasizes abstinence in conjunction with skill-building activities for condom and contraceptive use.
 - *Linking Lives*, a program designed to build parents' skills to help them reduce sexual health risks among their middle school children.
- DASH and CDC's Division of Reproductive Health collaborated with partners to publish a systematic review of the growing body of evidence on positive youth development approaches for reducing HIV, sexually transmitted infections, and unintended pregnancy.²²
- DASH scientists
 - Analyze research on program effectiveness.
 - Develop guidelines for best practices in school-based HIV prevention.
 - Create tools to help schools implement the guidelines, such as the *Health Education Curriculum Analysis Tool* (www.cdc.gov/HECAT), which integrates research findings and national health education standards to help school districts select or develop health education curricula that are most likely to reduce sexual risk behaviors among the youth they serve.

Reducing Risk Behaviors and Saving Money

Effective HIV/STD prevention programs are cost-effective. An economic analysis of one school-based sexual risk reduction program found that for every dollar invested in the program, \$2.65 was saved in medical costs and lost productivity.¹⁸ Other studies have found similar savings for HIV prevention programs focusing on youth who are at disproportionate risk for HIV, including young gay and bisexual men¹⁹⁻²⁰ and urban African American male adolescents.²¹

For More Information

For more information about DASH and its programs, surveillance, and research, please contact:

www.cdc.gov/HealthyYouth

1-800-CDC-INFO (1-800-232-4636)

nccddashinfo@cdc.gov

October 1, 2010

References

1. Tortolero S, Markham C, Peskin M, Shegog R, Addy R, Escobar-Chavez L, et al. It's your game: keep it real: delaying sexual behavior with an effective middle school program. *Journal of Adolescent Health* 2010;46(2):169-179.
2. Coyle K, Kirby D, Marín B, Gómez C, Gregorich S. Draw the line/respect the line: a randomized trial of a middle school intervention to reduce sexual risk behaviors. *American Journal of Public Health* 2004;94(5):843-851.
3. Sikkema K, Anderson E, Kelly J, Winett R, Gore-Felton C, Roffman R, et al. Outcomes of a randomized, controlled community-level HIV prevention intervention for adolescents in low-income housing developments. *AIDS* 2005;19(14):1509-1516.
4. Jemmott J, Jemmott L, Fong G. Efficacy of a theory-based abstinence-only intervention over 24 months: a randomized controlled trial with young adolescents. *Archives of Pediatrics & Adolescent Medicine* 2010;164(2):152-159.
5. Villarruel A, Jemmott J, Jemmott L. A randomized controlled trial testing an HIV prevention intervention for Latino youth. *Archives of Pediatrics & Adolescent Medicine* 2006;160(8):772-777.
6. Koniak-Griffin D, Lesser J, Nyamathi A, Uman G, Stein J, Cumberland W. Project CHARM: an HIV prevention program for adolescent mothers. *Family & Community Health* 2003; 26(2):94-107.
7. Shrier L, Anchet R, Goodman E, Chiou V, Lyden M, Emans J. Randomized controlled trial of a safer sex intervention for high-risk adolescent girls. *Archives of Pediatrics & Adolescent Medicine* 2001;155:73-79.
8. Coyle K, Kirby D, Robin L, Banspach S, Baumer E, Glassman J. All4You! A randomized trial of an HIV, other STDs, and pregnancy prevention intervention for alternative school students. *AIDS Education and Prevention* 2006;18(3):187-203.
9. Jemmott J, Jemmott L, Braverman P, Fong G. HIV/STD risk reduction interventions for African American and Latino adolescent girls at an adolescent medicine clinic: a randomized controlled trial. *Archives of Pediatrics & Adolescent Medicine* 2005;159:440-449.
10. DiClemente R, Wingood G, Rose E, Sales E, Lang D, Caliendo A, et al. Efficacy of sexually transmitted disease/human immunodeficiency virus sexual risk-reduction intervention for African American adolescent females seeking sexual health services: a randomized controlled trial. *Archives of Pediatrics & Adolescent Medicine* 2009;163(12):1112-1121.
11. DiClemente R, Wingood G, Harrington K, Lang D, Davies S, Hook E III, et al. Efficacy of an HIV prevention intervention for African American adolescent girls: a randomized controlled trial. *Journal of the American Medical Association* 2004;292:171-179.
12. Kirby D. *Emerging Answers 2007: Research Findings on Programs to Reduce Teen Pregnancy and Sexually Transmitted Diseases*. Washington, DC: National Campaign to Prevent Teen Pregnancy; 2007.
13. Kirby D. The impact of abstinence and comprehensive sex and STD/HIV education programs on adolescent sexual behavior. *Sexuality Research & Social Policy* 2008;5(3):18-27.
14. Philliber S, Kaye J, Herrling S, West E. Preventing pregnancy and improving health care access among teenagers: an evaluation of the Children's Aid Society-Carrera Program. *Perspectives on Sexual and Reproductive Health* 2002;34(5):244-251.
15. Lonczak H, Abbott R, Hawkins D, Kosterman R, Catalano R. Effects of the Seattle Social Development Project on sexual behavior, pregnancy, birth, and sexually transmitted disease outcomes by age 21 years. *Archives of Pediatrics & Adolescent Medicine* 2002;156:438-447.
16. Hawkins J, Catalano R, Kosterman R, Abbott R, Hill K. Preventing adolescent health-risk behaviors by strengthening protection during childhood. *Archives of Pediatrics & Adolescent Medicine* 1999;153:226-234.
17. Hawkins J, Kosterman R, Catalano R, Hill K, Abbott R. Effects of social development intervention in childhood 15 years later. *Archives of Pediatrics & Adolescent Medicine* 2008;162(12):1133-1141.
18. Wang L, Davis M, Robin L, Collins J, Coyle K. Economic evaluation of Safer Choices: a school-based HIV/STD and pregnancy prevention program. *Archives of Pediatrics & Adolescent Medicine* 2000;154(10):1017-1024.
19. Tao G, Remafedi G. Economic evaluation of an HIV prevention intervention for gay and bisexual male adolescents. *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* 1998;83-90.
20. Kahn J, Kegeles S, Hays R, Beltzer N. Cost-effectiveness of the Mpowerment project, a community-level intervention for young gay men. *Journal of Acquired Immune Deficiency Syndrome* 2001;27(5): 482-491.
21. Pinkerton S, Holtgrave D, Jemmott J. Economic evaluation of HIV risk reduction intervention in African-American male adolescents. *Journal of Acquired Immune Deficiency Syndrome* 2000;25(2):164-172.
22. Gavin L, Catalano R, David-Ferdon C, Gloppen K, Markham C. A review of positive youth development programs that promote adolescent sexual and reproductive health. *Journal of Adolescent Health* 2010;46:575-591.