



## **Misconceptions about Sex Education Effectiveness**

May 10, 2010

### **I. Misperceptions About the Research on Sex Education are Common**

Adolescents in the United States continue to experience high rates of teen pregnancy and sexually transmitted diseases (STDs). One in four adolescent females currently has an STD infection.<sup>1</sup> In order to improve the effectiveness of prevention efforts, federally funded sex education programs are now required to show evidence of effectiveness. In addition, some policymakers have proposed eliminating abstinence education, which does not advocate condom use, and requiring “comprehensive sex education,” which purports to advocate both abstinence and condom use, a dual prevention message. Such proposals to eliminate abstinence education are usually based on two common—but inaccurate—assumptions about the evidence of sex education effectiveness:

1. **They assume research proves that abstinence education has failed and comprehensive sex education (CSE) has been successful.**
2. **They assume research shows that abstinence education (AE) reduces condom use by sexually active teens, thus putting them at greater risk for STDs and pregnancy.**

### **II. Erroneous Assumptions are Often Due to Misunderstandings of the Evidence**

- A. Neither of the above assumptions is supported by the research evidence on sex education. However, these misperceptions persist because:
  - 1) **Media reports of the research about sex education have often been skewed.**
  - 2) **Lower measures of success have often been used in studies of CSE than in studies of AE.**
  - 3) **Comparisons often mix “apples & oranges,” i.e., clinic/community-based versus school-based programs.<sup>2</sup>**
- B. What does the evidence of effectiveness look like when...
  - 1) Research results are reported evenly for AE and CSE?
  - 2) Equivalent and reasonable<sup>3</sup> criteria of effectiveness are used?
    - a. Programs produce significant effects for the intended target population (not just for subgroups).
    - b. Programs improve the behaviors that are most protective for teens.
    - c. Behavioral results last at least 12 months after the program (e.g., from school year to school year).
  - 3) Reviews compare “apples to apples,” comparing AE to CSE programs delivered in school settings, the place most youth receive sex education, and what most people think of as “sex education”?

### **III. There is Limited Evidence of Success for CSE in School Settings**

Applying the above criteria to three national reviews of sex education research demonstrates a lack of evidence of success for CSE programs delivered in school classrooms to school-based populations of teens.

- A. *Emerging Answers 2007*,<sup>4</sup> a review of 115 studies covering 20 years of sex education research, provided little evidence of CSE effectiveness in school settings.

This review contained 32 studies of school-based CSE, measuring a variety of outcomes. It showed:

1. No school-based CSE program demonstrated a decrease in teen pregnancy or STDs.<sup>5</sup>
2. No school-based CSE programs were shown to increase the number of teens who used condoms *consistently* (i.e., every time) for even 6 months after the program ended. Note: *Consistent condom use* is necessary to achieve the partial protection from STDs that condoms can provide.<sup>6</sup>

3. Just 3 of these programs increased frequency of teen condom use (not consistent condom use) for up to 12 months for the target population.<sup>7</sup>
4. One of the programs (in 4 studies) delayed sexual initiation for at least 12 months for the teen population.<sup>8</sup>
5. No school-based CSE program demonstrated that it had increased *both* abstinence and condom use (by the sexually active) for the intended teen population for any time period.<sup>9</sup>

**B. A CDC meta-analysis of sex education studies found a lack of effects by CSE programs in schools.**

1. A member of the study team reported in the *Washington Post* on November 7, 2009, that:  
 “The analysis actually shows that **comprehensive sexual education programs in schools do not significantly increase teen condom use, or reduce teen pregnancy or STDs**.... This is an important finding because the school classroom is where most teens receive sex education.... Furthermore, the data indicated that many types of [comprehensive] programs do not work, even in non-school settings.”<sup>10</sup>
2. CSE programs in school settings produced a modest reduction in teen sexual activity. However, without also showing a significant increase in teen condom use, the purported dual benefit of CSE was not verified.<sup>11</sup>

**C. What Works 2010: Curriculum-based Programs That Help Prevent Teen Pregnancy<sup>12</sup> also showed little evidence of school-based CSE effectiveness.**

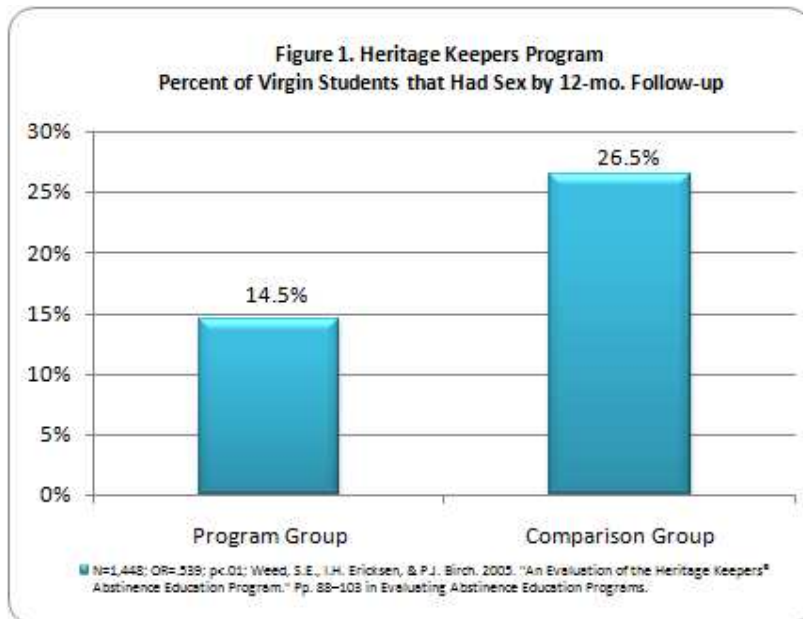
In this list of 30 “effective” programs published by the National Campaign to Prevent Teen and Unplanned Pregnancy, 9 of the programs were school-based CSE:

1. None of the 9 school-based CSE programs demonstrated a reduction in teen pregnancy or STDs.
2. None of these 9 programs showed an increase in *consistent* condom use by teens for even 6 months.
3. Two of these programs increased frequency of condom use for the target population for at least 12 months.
4. Two of these programs showed a delay in sexual initiation for the target population for at least 12 months.
5. None of the school-based CSE programs increased both teen abstinence and condom use (by the sexually active) for the target population.

#### **IV. Research Evidence Shows School-based AE Can Reduce Teen Sexual Activity**

**A. Four Peer-reviewed Published Studies Show School-based AE Reduced Teen Sex for 1 to 2 Years:**

1. A new rigorous experimental study (Jemmott, et al., 2010) found that an abstinence-only program (*Promoting Health Among Teens!*) reduced teen sexual initiation by 33% after 24 months. Note: The study also tested a CSE program and found it did not significantly reduce teen sexual initiation *or* increase teen condom use.<sup>13</sup>
2. The *Heritage Keepers*<sup>14</sup> AE curriculum reduced sexual initiation by about one-half for the teen population, 12 months after the program. The impact of *Heritage Keepers* is illustrated in Figure 1.



3. *Reasons of the Heart* produced similar results: it reduced teen sex by about one-half for 12 months.<sup>15</sup>
4. The *Sex Can Wait* middle school program delayed teen sexual initiation for 18 months after the program.<sup>16</sup>
5. The CDC meta-analysis of sex education research showed a significant reduction of teen sex by AE, but did not draw conclusions about AE effectiveness.<sup>5</sup>
6. Few AE studies have measured teen pregnancy or STDs, and no school-based programs have shown effects.

**B. Research shows that AE does *not* reduce teen condom use:**

1. To date, no studies have shown that an AE program *reduced* teen condom use.<sup>17</sup>
2. Three published studies have shown that AE *does not reduce* condom use by sexually active teens.<sup>17</sup>
3. One published study of an abstinence program found it *increased* the frequency of teen condom use (although not a measure of consistent use) 12 months after the program.<sup>18</sup>
4. The CDC meta-analysis of sex education studies showed no reduction of teen condom use by AE programs.<sup>5</sup>

**V. There is Little Evidence CSE Increases Both Abstinence & Condom Use (No Dual Effect)**

- A. Comprehensive sex education purports to promote both teen abstinence and condom use (by the sexually active), yet none of the 3 reviews of sex education summarized above showed evidence that school-based CSE programs have been effective at improving *both* of these outcomes *within the same program*. A few programs appear to have achieved *either one outcome or the other* but not both.<sup>11</sup>
- B. Without this “dual effect” there is not evidence that CSE offers an added benefit over AE in schools.

**VI. Summary of Research Evidence**

1. Four school-based AE programs (in 4 studies) have produced broad-based and sustained reductions in teen sexual initiation, compared to 2 CSE programs (in 5 studies).
2. Neither school-based CSE or AE programs have shown effectiveness at decreasing *teen pregnancy* or *STDs*, or increasing *consistent condom use* by teens. (One AE and 3 CSE programs have increased the frequency of teen condom use for 12 months after the program.)
3. There is not evidence that school-based CSE offers any advantage over effective AE programs. CSE programs have not shown effectiveness at increasing *both* abstinence *and* condom use within the same program, and research has shown AE does not reduce condom use.

**VII. Conclusions**

- 1. *Credible research evidence indicates AE can be a viable prevention strategy by producing significant and sustained reductions in teen sexual activity.***
- 2. *Research does not argue for combining abstinence and condom instruction/promotion in the same school-based program.***
- 3. *Research evidence does not support a policy of replacing AE in schools with a CSE strategy that has, thus far, produced little evidence of success in school populations.***

**Notes & References**

1. Centers for Disease Control and Prevention. (2008). *Nationally Representative CDC Study Finds 1 in 4 Teenage Girls Has a Sexually Transmitted Disease*. Available at [www.cdc.gov/stdconference/2008/media/release-11march2008.htm](http://www.cdc.gov/stdconference/2008/media/release-11march2008.htm).
2. “School-based” programs serve a school population, are held at a school in a classroom-type setting, including after school or Saturdays, use a sex ed curriculum, & can be used at most schools. Clinic or community-based programs often serve unique populations & use methods not workable in schools.
3. It is not known what level of improvement in sexual abstinence or condom use is necessary for a program to actually impact std/pregnancy rates. However, the criteria of a lasting effect that is on the intended population are common in the broader field of prevention research; the parameters proposed here have been used elsewhere and seem reasonable (e.g., a 12-month duration means that effects of school-based programs will last from school year to school year.) The more nearly a program comes to meeting such standards as these the more evidence there is of program effectiveness. Programs that have not produced this level of evidence may be promising, but we suggest they have not shown sufficient evidence of effectiveness. See

Flay B, et al. (2005). Standards of Evidence: Criteria for Efficacy, Effectiveness and Dissemination. *Prevention Science*, 6 (3):151-175; the "Blueprints Programs" at and <http://www.colorado.edu/cspv/blueprints/criteria.html>; and <http://www.ojp.usdoj.gov/BJA/evaluation/evidence-based.htm>.

4. Kirby D. (2007). *Emerging Answers 2007*. Washington DC: National Campaign to Prevent Teen and Unplanned Pregnancy. For details on the specific studies reviewed, listed by author, see Laris BA & Kirby D. (2007). *One Page Summaries of the Evaluations Referenced in Emerging Answers 2007*. Washington DC: National Campaign to Prevent Teen and Unplanned Pregnancy.

5. Seven non-school classroom-based prevention programs in *Emerging Answers 2007* reported reduction in pregnancy rates for the full program group at least 9 months after the program. One was an abstinence program (Doniger et al., 2001), two were service learning programs (Allen et al., 1997 & Philliber et al., 1992), one was the Seattle Social Development program (SSD) for elementary school children and their parents that included no sex education (Lonczak et al., 2002), one was a multi-component youth development program, including clinic services (Philliber et al., 2002), one was an in-home parent training program (Stanton et al., 2004) and the last was a clinic-based program (Winter et al., 1991). Only 3 prevention programs in *Emerging Answers 2007* reported reducing STD rates for more than 6 months after the program. Two were clinic-based programs for high-risk teens (DiClemente et al., 2004 & Jemmott et al., 2005, both 12-month effects) and the third was a time-intensive parent training program that had a 24-month effect on reducing teen STDs (Prado et al., 2007). A later study showed the SSD program also reduced STD rates (Hawkins, et al., 2008).

6. Only 10 CSE studies in *Emerging Answers 2007* measured this outcome and only 3 programs reported significant program impact on consistent condom use that lasted more than 3 months; all were 12-month effects. One was a community-based parent training program for fathers of teen boys (Dilorio et al., 2007), one was a clinic-based program for high-risk girls (DiClemente et al., 2004), and the third was a school-based program that did not increase consistent condom use for the participants, but achieved a significant effect because the control group declined somewhat more substantially on this outcome than the treatment group (Villarruel et al., 2006). Two school-based programs increased consistent condom use for 3 months (Jemmott et al., 1998 & Walter & Vaughn, 1993). **Consistent condom use, i.e., with every act of intercourse**, is necessary because STD transmission can occur in one sexual contact and some studies have found that non-consistent use provided inadequate STD protection or resulted in higher rates of STDs. According to the CDC, "inconsistent use, e.g., failure to use condoms with every act of intercourse, can lead to STD transmission because transmission can occur with a single act of intercourse" (CDC, 2003). A study in the journal *AIDS* found, "Irregular condom use was not protective against HIV or STD and was associated with increased gonorrhea/Chlamydia risk." (See: Ahmed S, Lutalo T, Wawer M et al. (2001). HIV incidence and sexually transmitted disease prevalence associated with condom use: a population study in Rakai, Uganda. *AIDS*; 15(16):2171-9.) A large Denver study reported that "when all condom users were compared with non-users, there was limited evidence of protection against specific STDs." But when consistent vs. inconsistent users were compared, the consistent users had significantly lower infection rates. (See: Shlay JC, McCung MW, Patnaik JL et al. (2004). Comparison of sexually transmitted disease prevalence by reported level of condom use among patients attending an urban sexually transmitted disease clinic. *Sex Transm Dis*; 31(3):154-60.)

7. See Coyle et al., 2004, Fisher et al., 2002, and Jemmott et al., 1998, in *Emerging Answers 2007*. Six other school-based programs are reported in that review which increased condom use (but not consistent use) for 3 or 6 months or for a subgroup of program participants.

8. Four different evaluations of *Reducing the Risk* (Hubbard et al., 1998, Kirby et al., 1991, Zimmerman et al., in press, and Zimmerman et al., in press) found reductions in teen sexual initiation after at least one year, as reported in *Emerging Answers 2007*. The Hubbard study also reported increased condom use, but only for the subgroup of students not sexually experienced at the pretest. Another school-based CSE program showed a delay in teen sex ((*Postponing Sexual Involvement*, see Howard M. & McCabe JB. (1990). Helping teenagers postpone sexual involvement. *Family Planning Perspectives*, 22: 21-26)). However, several subsequent variations of this program showed no effect. Four studies of non-school-based sex education programs in *Emerging Answers 2007* reported reduced rates of sexual initiation for the full program group for at least 12 months: a clinic-based CSE program, a CSE program at a drug treatment center (St. Lawrence, 1995 & 2002, respectively), a community-based CSE program within public housing (Sikkema et al., 2005), and a social skills program in schools that did not teach sex education (Lonczak et al., 2002).

9. This dual effect is the benefit CSE claims over AE. Two school-based CSE programs showed an increase in both abstinence and condom use but in each case one of the effects was for a subgroup of the target population: an evaluation of *Reducing the Risk* showed a delay in sexual initiation for the full target population and an increase at the same time point (18-month follow-up) in teen condom use for the subgroup that was not sexually initiated at the pretest; a study of *Safer Choices* found an increase in condom use by the target population and a delay in sexual initiation for a Hispanic subgroup (comprising 25% of the population) 18 months after the program. (See Hubbard et al., 1998 and See Coyle et al., 2001/2004, in *Emerging Answers 2007*.)

10. Emphasis added, see <http://www.washingtonpost.com/wp-dyn/content/article/2009/11/06/AR2009110601208.html?hpid=topnews>. The full report on this study, including the data supporting these conclusions is not yet published. However, the data have been shown in public meetings and the findings cited in the Washington Post refer to data shown by the researchers in these public presentations.

11. See a summary of findings at <http://www.thecommunityguide.org/hiv/index.html> and a critique of those findings at [instituteofresearch.com](http://instituteofresearch.com).

12. Suellentrop K. (2010). *What Works 2010: Curriculum-Based Programs That Help Prevent Teen Pregnancy*, National Campaign to Prevent Teen and Unplanned Pregnancy: Washington DC. See also, "Demonstrating Credible Evidence of Effectiveness for Abstinence Education" (Ericksen, Weed, Osario, 2010), a poster presentation at the 2010 Annual Conference of *The Center for Research & Evaluation of Abstinence Education*, sponsored by the Family & Youth Services Bureau of the U.S. Department of Health & Human Services, April 19-20, 2010, Arlington, VA.

13. Jemmott III JB, Jemmott LS, Fong GT. (2010). Efficacy of an abstinence-only intervention over 24 months: a randomized controlled trial with young adolescents. *Arch Pediatr Adolesc Med*. 2010;164(2):152-159.

14. Weed SE, Ericksen IH, Birch PJ. (2005). An evaluation of the *Heritage Keepers Abstinence Education* program. In Golden A (ed.) *Evaluating Abstinence Education Programs: Improving Implementation and Assessing Impact*. Washington DC: Office of Population Affairs and the Administration for Children and Families, Department of Health & Human Services 2005:88-103.

15. Weed SE, Ericksen IE, Lewis A et al. (2008). An Abstinence Program's Impact on Cognitive Mediators and Sexual Initiation. *Am J Hlth Behav*; 32:60-73.

16. Denny G & Young M. (2006). An evaluation of an abstinence-only sex education curriculum: An 18-month follow-up. *Jrnl of Sch Hlth*, 76(8): 414-422.

17. Three studies show AE teens are not less likely to use a condom if they become sexually active: Steven C. Martino, Ph.D., Marc N. Elliott, Ph.D., Rebecca L. Collins, Ph.D., David E. Kanouse, Ph.D., and Sandra H. Berry, M.A. (2008). Virginity Pledges Among the Willing: Delays in First Intercourse and Consistency of Condom Use. *Journal of Adolescent Health*, 43:341-348; Jemmott III JB, Jemmott LS, Fong GT. (2010). Efficacy of an abstinence-only intervention over 24 months: a randomized controlled trial with young adolescents. *Arch Pediatr Adolesc Med*. 2010;164(2):152-159; and Trenholm C, Devaney B, Fortson K, Quay L, Wheeler J, Clark M. (2007). *Impacts of Four Title V, Section 510 Abstinence Education Programs*. Princeton, NJ: Mathematica Policy Research, Inc. April 2007. One study reported that teens who took a virginity pledge were less likely to use condoms the first time they had intercourse. However, it was not known whether these teens had received an abstinence education program, and they were not less likely to use condoms at last intercourse or over a 12-month period than non-pledging teens. (Bruckner H & Bearman P. (2005). After the promise: The STD consequences of adolescent virginity pledges. *The Journal of Adolescent Health*, 36(4):271-278.)

18. Jemmott III JB, Jemmott LS, Fong GT. (1998). Abstinence and safer sex HIV risk reduction interventions for African American adolescents. *Journal of American Medical Association*, 279(19): p1529-1536.

**The Institute for Research and Evaluation (IRE)** is a nonprofit research organization that has gained national recognition over the past 20 years for its work evaluating sex education programs, including abstinence education interventions. IRE has conducted program evaluations for federal Title V, CBAE, and Title XX projects in 30 states, and has evaluated sex education program in three foreign countries. The Institute has collected data from more than 500,000 teens, and produced over one hundred studies of abstinence education. In addition to evaluations of abstinence education, IRE is currently evaluating comprehensive sex education programs in two states, has recently completed a nationwide evaluation of marriage enrichment (divorce prevention) programs, and has developed and/or evaluated prevention programs for Native Americans and character education programs for elementary school children. IRE staff members have published articles in professional journals and frequently speak at professional conferences and workshops. Dr. Stan Weed, Founder and Senior Fellow at IRE, has served as a national consultant for federal Title XX and CBAE projects, and was a charter member of the National Campaign to Prevent Teen Pregnancy. He has been invited to provide expert testimony about sex education to state legislative bodies, the U.S. Senate, the U.S. House of Representatives (April, 2008), and the White House (June, 2009). IRE is directed by Paul Birch, who has been with the Institute for nine years.

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