

NEW VOICES IN PUBLIC POLICY

Volume II
Fall 2007

*Evaluating the Impact of Federal Abstinence-Only Education:
A Research Synthesis*

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Introduction by Professor David Armor

Rebecca Warden wrote this as a term paper in PUPB 713 (Policy and Program Evaluation). This is an excellent example of a research synthesis on a major federal policy initiative. Warden did a thorough search to find the best evaluations of sexual abstinence programs, and she gave special attention to the methodological quality of each study-- which she takes into account in weighing the findings and arriving at her policy conclusions. Her novel use of Exhibits is very helpful for giving the reader a brief summary of the major points and findings of her analysis.



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INTRODUCTION

While the teen pregnancy rate in the U.S. has declined by one-third since 1991, it is still the highest of any developed country – twice the rate of our closest neighbor, Canada. Teen childbearing costs taxpayers more than \$9 billion every year.¹ (See Exhibit A, “The Facts About Teen Pregnancy in the U.S.”) Established under the welfare reform package of 1996, Section 510 of Title V of the Social Security Act was designed to reduce teen pregnancy by contributing \$50 million annually to state abstinence education programs (AEPs). This paper synthesizes existing research to evaluate the impact of federally-funded AEPs on outcomes of sexual behavior, STD infection, and pregnancy.

EXHIBIT A

The Facts About Teen Pregnancy in the U.S.

- The teen pregnancy rate in the U.S. has declined by one-third since 1991, from 62 to 41 births per 1,000 15-19 year old girls. However, the U.S. still has the highest teen pregnancy rate in the developed world, twice as high as Canada’s and six times as high as the rate in some parts of Western Europe.
- The teen birth rate has fallen for all racial and ethnic groups, with the steepest decline among African-Americans and the least decline among Hispanics.
- The drop in teen pregnancy is attributable in roughly equal proportion to decreasing sexual experience and increasing contraceptive use.
- Teen childbearing costs U.S. taxpayers at least \$9.1 billion each year in health care, foster care, incarceration, tax revenue losses, and public assistance.
- Three in 10 girls have at least one pregnancy before age 20.
- 831,000 girls age 15-19 became pregnant in 2005.
- Eighty percent of teen pregnancies are unintended.
- More than 60 percent of teen mothers live in poverty at the time they give birth, and more than 80 percent will eventually live in poverty.

Sources: The National Campaign to Prevent Teen Pregnancy, Advocates for Youth, Kaiser Family Foundation, Mathematica Policy Research

BACKGROUND

Three programs provide the federal funding authorities for abstinence-only education. On August 22, 1996, President Clinton signed the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), which reformed the U.S. welfare system. The legislation included teen pregnancy provisions in a related effort to reduce expenditures to the demographic group most likely to need welfare – out-of-wedlock mothers and their children. One portion of that legislation established Section 510 of Title V of the Social Security Act. Section 510 provides block grants to the States in the amount of \$50 million per annum for the purpose of creating or enhancing abstinence education programs (AEPs). States must match these grants at 75 percent, resulting in total annual funding of \$87.5 million. In Fiscal Year 2007, 43 states and U.S. territories received Section 510 grants to fund more than 700 AEPs.²

A second source of Federal funding for AEPs dates back to the Reagan administration and the Adolescent Family Life Act (AFLA) of 1981, which now contributes \$13 million annually to programs that teach adolescents “chastity” and “self-discipline.”³ Finally, the Bush administration increased federal funding of abstinence-only education in 2001 through Special Programs of Regional and National Significance (SPRANS) – Community-Based Abstinence Education grants. This funding is awarded directly to community organizations rather than passing through states. Under all three programs, federal funding for AEPs totaled \$204 million in Fiscal Year 2007.⁴

Regardless of the funding stream, the curricula of all AEPs supported by the federal government must comply with the Section 510 A-H definition of Abstinence Education (Exhibit B).⁵ These programs must teach that abstinence from sexual activity until marriage is the only sure way to prevent pregnancy and STDs. Discussion of contraceptives is permitted only to

highlight their failure rates. Consistent with the goal of reducing single-parent families, the curricula strongly emphasize marriage, teaching “that the expected standard for sexual activity is within the context of a mutually monogamous marriage relationship between a man and a

EXHIBIT B

Section 510(b) of Title V of the Social Security Act, Public Law 104-193

The term “abstinence education” means an educational or motivational program which:

- A. Has as its exclusive purpose, teaching the social, psychological, and health gains to be realized by abstaining from sexual activity;
- B. Teaches abstinence from sexual activity outside marriage as the expected standard for all school age children;
- C. Teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems;
- D. Teaches that a mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity;
- E. Teaches that sexual activity outside of the context of marriage is likely to have harmful psychological and physical effects.
- F. Teaches that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child’s parents, and society;
- G. Teaches young people how to reject sexual advances and how alcohol and drug use increases vulnerability to sexual advances; and
- H. Teaches the importance of attaining self-sufficiency before engaging in sexual activity.

Source: Administration for Children and Families. “Fact Sheet: Section 510 State Abstinence Program.”

<http://www.acf.hhs.gov/programs/fysb/content/abstinence/factsheet.htm>.

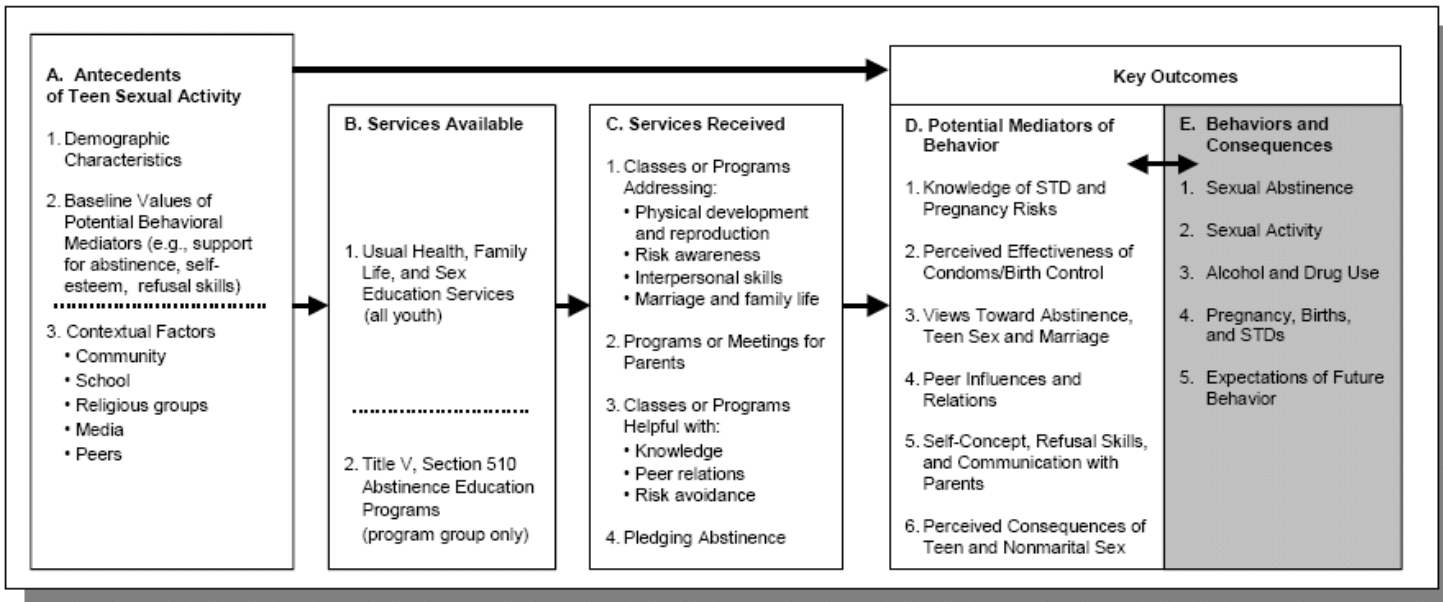
woman.”⁶ According to the AEP logic model, this approach is expected to positively influence mediating factors – such as knowledge of unprotected sex risks, views toward abstinence and marriage, and refusal skills – which are then expected to reduce sexual activity and its consequences (see Exhibit C).⁷

Critics have attacked federal AEP curricular requirements on several grounds. On a practical level, they conflict with the general public’s preference for comprehensive sexual education. A 2004 poll conducted on a random sample of 1,759 adults (with an intentional oversample of parents with children in grades 7-12) found that only 20

percent agreed that “the federal government should fund sex education programs that have ‘abstaining from sexual activity’ as their only purpose” whereas 67 percent believed “the money should be used to fund more comprehensive sex education programs that include information on how to obtain and use condoms and other contraceptives.”⁸ Ninety-four percent of respondents

considered it appropriate for sex education programs to teach about “birth control and methods of preventing pregnancy,” and 87 percent considered it appropriate to provide information on how to use and where to obtain contraceptives.⁹ Similarly, a 2007 poll found that 73 percent of adults think teens need messages about both abstinence and contraception, not one or the other.¹⁰

EXHIBIT C
Title V, Section 510 Abstinence Education Program Evaluation Logic Model



Source: Figure I. 1. Trenholm, Christopher, Barbara Devaney, Ken Fortson, Lisa Quay, Justin Wheeler, and Melissa Clark. “Impacts of Four Title V, Section 510 Abstinence Education Programs.” Princeton, NJ: Mathematica Policy Research, Inc., 2007. <http://www.mathematica-mpr.com/publications/PDFs/impactabstinence.pdf>.

It is important to stress that the American public strongly believes abstinence should be a goal for teens. Supporters of AEPs argue that encouraging abstinence while simultaneously providing information on contraceptives, sends a “mixed message” and that knowledge of contraceptives induces teens to become sexually active. Critics of AEPs do not oppose abstinence education per se, but consider it unrealistic to expect that any program can convince all youth to abstain from sex when, in fact, two-thirds of 12th graders are estimated to have had

intercourse.¹¹ Thus, the programs are problematic because they present abstinence as the *only* option, with no “backup” information on contraception for those who do not abstain.

In addition, advocates for a comprehensive approach contend that the moralistic standards imposed by these programs are troubling from a human rights perspective. For example, critics contend that teaching that heterosexual marriage is the only socially acceptable life choice alienates gay and lesbian youth who cannot legally marry. AEPs also ignore sexually active teens, denying them access to information about how to protect themselves and possibly even discouraging them from using protection by providing misleading or inaccurate information on contraceptive failure rates. Santelli et. al. argue that federal abstinence policy violates United Nations treaties on AIDS and human rights which require governments to ensure that adolescents have access to condoms.¹² They also refute the policy’s underlying assumption that protected sex before marriage is objectively harmful. For example, although scientific evidence suggests that pre-existing mental health problems may *predict* early sexual activity, there are no data supporting the government’s claim that psychological harm *results* from consensual sex between adolescents.¹³ The authors conclude:

Withholding information on contraception to induce [youth] to become abstinent is inherently coercive. It violates the principle of beneficence (i.e., do good and avoid harm) as it may cause an adolescent to use ineffective (or no) protection against pregnancy and STIs... [F]ederal funding language promotes a specific moral viewpoint, not a public health approach. Abstinence-only programs are inconsistent with commonly accepted notions of human rights.¹⁴

A 2004 content study of federally-funded AEPs ordered by U.S. Representative Henry Waxman found that 11 of the 13 most common curricula provide young people with information that is misleading, blatantly false, and based on religion masquerading as science. Some of the many examples include: reporting that HIV can spread through sweat and tears, claiming that touching someone’s genitals “can result in pregnancy,” alleging that abortion can cause sterility

and suicide, referring to a 43-day-old fetus as a “thinking person,” and presenting demeaning gender stereotypes (e.g. that girls care less about achievement than boys) as fact.¹⁵

METHODS AND DATA

This research synthesis draws on selected impact evaluations and related studies of federally-funded AEPs. Descriptions of the sources, research designs, and data are provided below.

Impact Evaluation of the “Not Me, Not Now” Abstinence Program¹⁶

This evaluation shows the impact of the locally-funded “Not Me, Not Now” program implemented in Monroe County, NY in 1994. Targeting nine- to 14-year-olds, “Not Me, Not Now” took a mass media approach to raise awareness of the problem of teen pregnancy, teach teens to deal with peer pressure, encourage parent-child communication about sex and relationships, and promote abstinence among teens. Materials included TV and radio ads, billboards, posters, and an educational series presented to 500-1,000 young people each year in school and community settings. “Not Me, Not Now” also sponsored community events and broadcast its message at local fairs and festivals.

The evaluators used a cross-sectional time series design, administering surveys in local middle schools in 1992, 1995, and 1997, and acquiring data on a random sample of high school students in the same years from the Monroe County Youth Risk Behavior Survey (YRBS). YRBS data from youth in other New York counties served as comparison. The researchers tracked changes in respondents’ attitudes and Monroe County’s teen pregnancy rate.

The Impact of Virginity Pledges on Sexual Behavior and STD Infection¹⁷

This study did not evaluate a particular program, but instead analyzed data to determine the impact of taking a formal pledge to maintain virginity until marriage – a common component of AEPs – on sexual behavior and STD infection rates among youth age 18-24.

Using a cross-sectional time series design, the researchers analyzed data from the National Longitudinal Study of Adolescent Health's 1995 survey of a representative sample of 20,745 American high school students with a follow-up survey of 15,170 of the students in 2001 or 2002. Test results for Human Papilloma Virus, Chlamydia, Gonorrhea, and Trichomoniasis were also obtained from 11,471 respondents at follow-up. (The authors determined that attrition did not bias the results because STD testing refusal rates did not differ between pledgers and nonpledgers.) The study measures the prevalence of STD infection as well as behavioral outcomes such as age at first intercourse, contraceptive use, number of sexual partners, and non-intercourse sexual activity.

Programs to Delay First Sex Among Teens¹⁸

This report synthesizes 15 separate impact assessments of programs intended to discourage teens from becoming sexually active.¹⁹ Among them is a combined evaluation of three school-based AEPs in Utah – *Sex Respect*, *Teen Aid*, and *Values and Choices* – released in 1992.²⁰ The programs received federal funding under the AFLA. The Utah study used a quasi-experimental design including pre- and post-tests with a comparison group composed of students at other

schools in the same district who did not receive the interventions. The evaluators administered a survey of sexual attitudes and behavior to 1,649 students in grades seven, eight, and 10 who participated in the three programs. About one half of the sample group completed a follow-up survey in 1988 or 1989, one year after completing the original programs. The only outcome measure reported in the research synthesis was the likelihood of having sex for the first time during that year.

Title V State Evaluations²¹

This paper draws together all the available impact evaluations of state AEPs funded under Section 510 of Title V of the Social Security Act. It covers a total of 11 studies, 10 of which received Section 510 funding and the other of which (California) was included because it was the first experimental assessment of a state AEP. Program curricula differed both within and between states, but all involved an educational series delivered by schools or community agencies. Other components included peer education, health fairs, parent outreach, *Baby Think it Over* simulators, and media campaigns.

These evaluations, completed between 1994 and 2003, used various methodological approaches. The California study is the only one of the 11 that used an experimental design (pre- and post-tests with a randomized control group). Four others were quasi-experimental, including pre- and post-tests and a comparison group, all but one (Washington) included a follow-up survey as well. The remaining six administered pre- and post-tests, but did not have a

comparison group. Two of these latter six also lacked a follow-up survey. The weakness of this design makes it difficult to isolate program effects. Sample sizes ranged from 125 in Nebraska to 10,600 in California. All the studies measured attitudes toward abstinence, all but one (Missouri) measured intent to abstain, and eight measured sexual behavior. Only California included pregnancy and STD infection as outcome measures.

Impact Evaluation of Four Title V, Section 510 AEPs²²

Ordered by Congress in 1997, this study evaluates the impact of four AEPs which were

EXHIBIT D

Common Curriculum Topics of Abstinence Programs Participating in the Impact Evaluation

Physical development and reproduction:

- understanding human development and anatomy
- understanding STDs

Risk awareness

- formulating personal goals
- making good decisions
- building self-esteem
- risks of drugs and alcohol

Marriage and relationship skills

- building healthy relationships
- appreciating the benefits of marriage
- understanding parenthood

Interpersonal skills

- improving communication skills
- avoiding risk
- managing social and peer pressure
- developing values and character traits

Source: Maynard, Rebecca A., Christopher Trenholm, Barbara Devaney, Amy Johnson, Melissa A. Clark, John Homrighausen, and Ece Kalay. "First-Year Impacts of Four Title V, Section 510 Abstinence Education Programs." Princeton, NJ: Mathematica Policy Research, Inc., 2005. <http://www.mathematica-mpr.com/publications/PDFs/firstyearabstinence.pdf>.

selected because they were judged to be well-established, well-implemented, and “typical,” though not necessarily representative, of Section 510 AEPs nationwide. The programs were “My Choice, My Future!” in Powhatan, Virginia; “ReCapturing the Vision” in Miami, Florida; “Teens in Control” in Clarksdale, Mississippi; and “Families United to Prevent Teen Pregnancy” (FUPTP) in Milwaukee, Wisconsin. All the programs’ services were intensive and long-term (three lasted

for two or more years), incorporating at least 50 contact hours. Two were located in urban areas and two in rural settings. Three served youth primarily from poor, minority, and/or single-parent backgrounds and one served primarily white, middle-class youth from two-parent families. Two targeted fifth and sixth graders and two seventh and eighth graders. While specific curricula varied, Exhibit D provides a list of common topics. The researchers note that all contained a “very heavy emphasis on the institution of marriage.”²³ “ReCapturing the Vision” for example, only served female students and culminated in a fake wedding.

Explicitly developed for the purpose of providing definitive evidence to assess the impact of AEPs, this study used a rigorous experimental design with pre- and post-tests, random assignment to program and control groups at each site, and follow-up surveys administered one year after enrollment and again four to six years after enrollment. The sample size was 2,310 at short-term (one-year) follow-up and 2,057 at long-term (four-to-six-year) follow-up. Sixty percent (1,209) of the sample was assigned to the program group and 40 percent (848) to the control. At the time of final data collection, the average age of the sample was 16.5 years. For the full sample, this experiment has high statistical value power and is able to detect effects with standard deviations as small as 0.08.

The 13 short-term outcome measures fell under five categories: views on abstinence, teen sex, and marriage; peer influence and relations; self-concept, refusal skills, and communication with parents; perceived consequences of teen and non-marital sex; and expectations to abstain from intercourse. The short-term outcomes were measured again when the long-term follow-up surveys were administered. The long-term follow-up surveys included additional knowledge and behavioral outcomes: knowledge of STDs and pregnancy, abstinence from sexual intercourse, age at first intercourse, number of sexual partners, contraceptive use, and drug and alcohol use. Rates of pregnancy, STD infection, and testing for STDs were also measured.

RESULTS AND FINDINGS

Impacts of the “Not Me, Not Now” Abstinence Program

Among the programs included in this research synthesis, the “Not Me, Not Now” program demonstrated by far the most positive results toward achieving the AEP goals. Statistically significant, favorable effects were detected for the following outcomes: understanding of the consequences of teen pregnancy, resistance to peer pressure, belief that people should wait to have sex until they can support a baby, likelihood of having first sex by age 15, and the county’s teen

EXHIBIT E
**Results of the “Not Me, Not Now” Abstinence Program
Impact Evaluation**

Outcome Measures Significantly Affected

- Percent saying they could handle the consequences of teen pregnancy declined from 34 to 22.
- Percent saying they would give in to peer pressure to have sex declined from 21 to 16.
- Percent saying they would break up with someone pressuring them for sex increased from 27 to 31.
- Percent saying people should wait to have sex until they can support a baby increased from 22 to 28.
- Percent who had first sex by age 15 declined from 47 to 32.
- Teen pregnancy rate in Monroe County declined from 63 to 50 percent.

Outcome Measures Not Significantly Affected

- Percent saying they were extremely, very, or somewhat likely to discuss sex with their parents increased from 58 to 60.
- Percent saying people should wait to have sex until they are married declined from 40 to 37.
- Percent who had first sex by age 17 declined from 54 to 51.

Source: Doniger, Andrew S., Edgar Adams, Cheryl A. Utter, and John S. Riley. “Impact Evaluation of the ‘Not Me, Not Now’ Abstinence-Oriented, Adolescent Pregnancy Prevention Communications Program, Monroe County, New York.” Journal of Health Communication 6, no. 1 (January 2001): 45-60.

pregnancy rate. No significant impacts were found for parent-child communication, belief that people should wait to have sex until they are married, or likelihood of having first sex by age 17. Exhibit E summarizes the results.

A major limitation of this study was that its design did not permit causal inference. Teen pregnancy (and, presumably, its behavioral antecedents) decreased throughout New York State – indeed, throughout the U.S. – during these years, so it is possible that these changes are due to a secular trend bias

and not due to the media intervention. However, teen pregnancy did decrease more in Monroe County than in surrounding counties (though it was higher in Monroe County to begin with). In addition, the authors note that other new sexual education programs were implemented in Monroe County at the same time, complicating the ability to attribute favorable effects specifically to “Not Me, Not Now,” but they dismiss these possible external influences because the other programs targeted an older age group. They conclude that “the hypothesis that the Not Me, Not Now program had an independent effect on the outcomes is supported and the Findings in this study suggest that well designed and competently implemented abstinence-oriented adolescent pregnancy prevention communications programs can have a measurable community impact.”²⁴

The Impact of Virginity Pledges on Sexual Behavior and STD Infection

While this study did not evaluate a specific program, its results are relevant to this research synthesis because virginity pledges are a component of many AEP curricula. (For example, three of the four Section 510 AEPs evaluated by Mathematica included virginity pledges.) Bruckner and Bearman found that virginity pledges had both favorable and unfavorable impacts. Compared to nonpledgers, pledgers initiated sex later, married at a younger age (females only), had fewer sexual partners, and were less likely to have intercourse before marriage. On the other hand, they were less likely to use condoms or undergo testing or treatment for STDs, and more likely to engage in oral and anal sex instead of vaginal sex. On the ultimate outcome measure of STD infection, pledgers were not statistically less likely than nonpledgers to contract an STD. Exhibit F summarizes these results. The authors conclude that despite its positive behavioral impacts, “[a]s a social policy, pledging does not appear effective in stemming STD acquisition among young adults.”²⁵

It is important to note that the respondents were not assigned, randomly or otherwise, to a “pledging condition,” but self-selected as pledgers or nonpledgers. Accordingly, the mechanism under study may not be pledging per se, but rather the pre-existing desire to abstain that prompts

EXHIBIT F
Findings on the Impact of Virginity Pledges

Favorable Outcomes

- The median age at first intercourse was 19 for pledgers and 17 for nonpledgers.
- 52 percent of female pledgers and 34 percent of female nonpledgers married before age 25.
- 88 percent of pledgers and 99 percent of nonpledgers had intercourse before marriage.
- For males, the average number of sexual partners was 1.5 for pledgers and 2.4 for nonpledgers; for females, the average number of sexual partners was 1.9 for pledgers and 2.7 for nonpledgers.

Unfavorable Outcomes

- 55 percent of pledgers and 60 percent of nonpledgers used a condom at first intercourse.
- 13 percent of pledgers and 2 percent of nonpledgers had oral sex without vaginal sex.
- 1.2 percent of pledgers and 0.7 percent of nonpledgers had anal sex without vaginal sex.
- 14 percent of pledgers and 23 percent of nonpledgers had been tested or treated for an STD.
- STD infection rates did not differ significantly between pledgers and nonpledgers: 4.6 percent of pledgers and 6.9 percent of nonpledgers tested positive for Chlamydia, Gonorrhea, or Trichomoniasis; 26.7 percent of sexually active pledgers and 26.5 percent of sexually active nonpledgers tested positive for Human Papilloma Virus.

*Source: Bruckner, Hannah, and Peter Bearman. “After the Promise: The STD Consequences of Adolescent Virginity Pledges.” *Journal of Adolescent Health* 36, no. 4 (April 2005): 271-278.*

teens to take virginity pledges.²⁶ That said, a similar study conducted by the same authors in 2001 found that pledging had a strong independent effect on timing of sexual debut, thereby decreasing adolescents’ risk of having sex by 34 percent.²⁷ Since the model controlled for protective influences such as socioeconomic status and religiosity, the evaluators concluded that this difference was not a function of selection effects.²⁸ However, as an identity movement, pledging was only effective to the extent that pledgers belonged to a minority “moral community”; if more than 40 percent of a school’s population had taken a virginity pledge, sexual debut did not

differ between pledgers and nonpledgers.²⁹ Another important caveat is that pledgers were one-third less likely than nonpledgers to use contraception at first sex. Thus, the authors argue that “pledgers, like other adolescents, may benefit from knowledge about contraception and

pregnancy risk, even if it appears at the time that they do not need such knowledge”³⁰ and that “critics [of pledging]...are wrong when they think it does not work. But they are right when they think it cannot work as a universal strategy.”³¹

Impacts of Programs to Delay First Sex Among Teens

The Utah study of three AEPs included in the research synthesis found no significant overall differences between the program and comparison groups with regard to initiating first sex. It did, however, find effects for two subgroups. First, among high school students with “low-to-medium sexual values” at baseline, 22 percent in the program group and 37 percent in the comparison group initiated sex within a year. Second, among high school students with “low future orientation” (i.e. low aspirations for education and employment), 17 percent in the program group and 26 percent in the comparison group initiated sex within a year. No corresponding effects were found among middle school students. By contrast, the research synthesis identified seven comprehensive (abstinence plus contraception) sex education programs that effectively delayed first sex for the sample as a whole.³²

Results of Title V State Evaluations

Short-Term³³ Impacts: Of the 10 evaluations that measured short-term changes in attitudes endorsing abstinence, three found no impacts, four found favorable impacts, and three found mixed results (meaning the impact varied by indicator or program site). Of the nine that measured short-term changes in intentions to abstain, four found no impacts, three found favorable impacts, and two found mixed results. Of the six that measured short-term changes in sexual behavior, three found no impacts, two found unfavorable impacts (most likely as a result of maturation since they did not include a comparison group), and one found mixed results.

Long-Term³⁴ Impacts: Of the five evaluations that measured long-term changes in attitudes endorsing abstinence, four found no impacts and one found mixed results. Of the four that measured long-term changes in intentions to abstain, three found no impacts and one found favorable impacts. Of the five that measured long-term impacts on sexual behavior, none found significant results. California, the only state that measured the likelihood of becoming pregnant or contracting an STD, found no program effects on these outcomes. Exhibit G summarizes these results. In addition, Arizona’s study found that the program significantly reduced favorable attitudes toward contraceptives (though it did not include a comparison group). The author concludes that “*none* of these programs demonstrates evidence of long-term success among youth exposed to the programs or any evidence of success in reducing other sexual risk-taking behaviors among participants.”³⁵

EXHIBIT G
Findings on the Impacts of State Abstinence-Only Education Programs

State	Short-Term Impacts			Long-Term Impacts				
	Attitudes Endorsing Abstinence	Intent to Abstain	Sexual Behavior	Attitudes Endorsing Abstinence	Intent to Abstain	Sexual Behavior	Likelihood of STD Infection	Likelihood of Pregnancy
AZ	Favorable	Favorable	NA	Unfavorable	Unfavorable	Unfavorable	NA	NA
CA*	Mixed	None	None	None	None	None	None	None
FL	Favorable	Favorable	Unfavorable	NA	NA	NA	NA	NA
IA	Mixed	Mixed	Unfavorable	NA	NA	NA	NA	NA
MD	None	None	None	NA	NA	NA	NA	NA
MN	NA	NA	NA	Mixed	Unfavorable	Unfavorable	NA	NA
MO*	None	NA	None	None	NA	None	NA	NA
NE*	None	None	NA	NA	NA	NA	NA	NA
OR	Favorable	None	NA	NA	NA	NA	NA	NA
PA*	Mixed	Mixed	Mixed	None	Favorable	None	NA	NA
WA*	Favorable	Favorable	NA	NA	NA	NA	NA	NA

* Study used an experimental or quasi-experimental design (pre- and post-tests with control or comparison group)

Results of the Impact Evaluation of Four Title V, Section 510 AEPs

Short-Term Impacts: The short-term evaluation of these four programs found statistically significant, favorable impacts on the following outcomes: views supporting abstinence, dating, perceived consequences of teen and nonmarital sex, and expectations to abstain in the next year (asked of sexually active teens only). No significant impacts were found for: views supportive of marriage; friends' support for abstinence; peer pressure to have sex; self-efficacy, -esteem, and -control; refusal skills; communication with parents; and expectations to abstain as an unmarried teen (asked of virgins only). The impacts on dating and expectations to abstain in the next year were significant only for the pooled sample. The site-by-site analysis found that three programs influenced views supporting abstinence and two influenced perceived consequences of teen and nonmarital sex. Broken down into subgroups – by gender, baseline support for abstinence, religiosity, parents' marital status, and television viewing – the only finding was that at one site, effects were stronger for those with less supportive views of abstinence at baseline. Exhibit H summarizes the results for the pooled sample (means are regression-adjusted).

Long-Term Impacts: While the short-term outcomes described above were encouraging, follow-up results found that none persisted in the long-term, nor did they translate into behavioral effects. Four to six years after enrollment, program group and control group teens were equally likely to have abstained from sex, and those who had sex (51 percent) did so at the same mean age (14.9) and with the same number of partners. Teens in the two groups were also equally likely to use contraceptives, to become pregnant, to have a baby, to contract an STD, to drink, and to smoke marijuana. The only significant impact on behavior was that program group teens were less likely to smoke cigarettes than control group teens (16 versus 19 percent). No additional significant results were found for any site or subgroup.

EXHIBIT H
Short-Term Outcomes of Four Title V, Section 510 AEPs

Outcome Measure (scale range: lowest to highest value)	Control Group Mean	Program Group Mean	Program-Control Group Difference
Views on Abstinence, Teen Sex, and Marriage			
Views Supportive of Abstinence (Range: 0-3)	1.78	1.86	0.08***
Views Unsupportive of Teen Sex (Range: 0-3)	2.16	2.23	0.07***
Views Supportive of Marriage (Range: 0-3)	2.29	2.30	0.01
Peer Influences and Relations			
Friends' Support for Abstinence (Range: 0-5)	3.44	3.50	0.07
Dating (Range: 0-1)	0.33	0.28	-0.04**
Peer Pressure to Have Sex (Range: 0-3)	0.11	0.16	0.05
Self-Concept, Refusal Skills, and Communication with Parents			
Self-Efficacy, -Esteem, and -Control (Range: 0-3)	1.94	1.95	0.01
Refusal Skills (Range: 0-2)	1.52	1.53	0.01
Communication with Parents (Range: 0-2)	0.90	0.92	0.02
Perceived Consequences of Teen and Nonmarital Sex			
General Consequences (Range: 0-3)	1.89	1.99	0.10***
Personal Consequences (Range: 0-2)	1.00	1.09	0.09***
Expectations to Abstain			
Expect to Abstain Over Next Year ^a (Range: 0-2)	1.30	1.37	0.07*
Expect to Abstain as an Unmarried Teen ^b (Range: 0-2)	1.20	1.25	0.05
Sample Size	952	1,358	2,310

^aFor respondents who reported having had sex.

^bFor respondents who reported not having had sex.

***p-value (of difference in means) <0.01; **p-value <0.05; *p-value <0.10, two-tailed test.

Source: Table 6. Maynard, Rebecca A., Christopher Trenholm, Barbara Devaney, Amy Johnson, Melissa A. Clark, John Homrighausen, and Ece Kalay. "First-Year Impacts of Four Title V, Section 510 Abstinence Education Programs." Princeton, NJ: Mathematica Policy Research, Inc., 2005. <http://www.mathematica-mpr.com/publications/PDFs/firstyearabstinence.pdf>.

The study did find, however, that the programs influenced some knowledge-related outcomes. While the program and control groups had the same level of knowledge about the risks of unprotected sex and the consequences of STDs, program group teens scored higher than control group teens (69 versus 67 percent) when given a list of diseases and asked to identify which were STDs. The two groups did not differ on measures of knowledge about the risks of pregnancy. Program group teens were less likely than control group teens to report that condoms are effective at preventing STDs, but were also more likely to report correctly that birth control

pills do not prevent STDs. The groups were equally likely to believe that both contraceptives prevent pregnancy. Knowledge impacts did not differ by subgroup. The site-by-site breakdown showed that the effects on knowledge outcomes were significant for two programs (“Families United to Prevent Teen Pregnancy” and “My Choice, My Future”). However, “ReCapturing the Vision” significantly decreased knowledge of unprotected sex risks and “Teens in Control” significantly decreased knowledge of STD consequences. Exhibit I summarizes the results for the pooled sample (regression-adjusted).

The researchers identified two mediating factors from the short-term follow-up survey that predicted long-term abstinence – views supportive of abstinence and friends’ support of abstinence. A one-unit increase in these measures was associated with five and eight percentage point increases respectively in the likelihood of remaining abstinent. Accordingly, the evaluators recommend that AEPs focus most strongly on promoting support for abstinence among teens and their friends. Oddly, support for marriage was negatively related to abstinence, contradicting the program logic model (see Exhibit C). In contrast to Bruckner and Bearman’s results, taking a virginity pledge had no mediating effect on behavior. The authors conclude that the evaluation offers three major lessons: 1) teens generally lack knowledge about STDs; 2) the fact that short-term effects did not persist suggests the need to continue AEPs into the high school years; and 3) since friends’ support for abstinence is a behavioral mediator, the dispersal of peer networks in high school is problematic.

EXHIBIT I
Selected Long-Term Outcomes of Four Title V, Section 510 AEPs

Outcome Measure	Control Group Percent	Program Group Percent	Program-Control Group Difference
Condom Use (last 12 months)			
Had sex, always used condom	23	23	0
Had sex, never used condom	4	4	0
Number of Sexual Partners			
Remained abstinent	49	49	0
One partner	16	16	0
Four or more partners	16	17	1
Behavioral Consequences			
Ever been pregnant	10	10	0
Ever had a baby	5	5	0
Ever had an STD	4	5	1
Other Risky Behaviors			
Smoked cigarettes (past month)	19	16	-3*
Drank alcohol (past month)	24	23	-1
Smoked marijuana (ever)	30	30	0
Knowledge of Risks (mean test scores)			
Identification of STDs	67	69	2***
Knowledge of unprotected sex risks	88	88	0
Knowledge of STD consequences	51	52	1
Perceived Effectiveness of Condoms			
Usually prevent pregnancy	52	51	-1
Never prevent pregnancy	3	3	0
Usually prevent STDs ^a	35	30	-5**
Never prevent STDs ^a	15	21	6**
Perceived Effectiveness of Birth Control			
Usually prevent pregnancy	55	56	1
Never prevent pregnancy	3	3	0
Usually prevent STDs ^a	5	5	0
Never prevent STDs ^a	68	72	4**
Sample Size	848	1,209	2,057

^aResults averaged for HIV; Chlamydia and Gonorrhea; and Herpes and HPV.

***p-value (of difference in percents) <0.01; **p-value <0.05; *p-value <0.10, two-tailed test.

Source: Trenholm, Christopher, Barbara Devaney, Ken Fortson, Lisa Quay, Justin Wheeler, and Melissa Clark. "Impacts of Four Title V, Section 510 Abstinence Education Programs." Princeton, NJ: Mathematica Policy Research, Inc., 2007. <http://www.mathematica-mpr.com/publications/PDFs/impactabstinence.pdf>.

CONCLUSION AND POLICY RECOMMENDATIONS

Overall, these results – reflecting 14 evaluations of 19 AEPs (not including the virginity pledge studies) – indicate that federally funded AEPs may often affect adolescents’ knowledge and attitudes about sexual activity, but have little to no impact on actual sexual behavior or its consequences (i.e. pregnancy and STD infection). Considering the studies vary widely on

dimensions such as methodology, program curricula, target age group, and setting, these findings are fairly consistent. The two studies that did find behavioral effects (in Utah and Monroe County, NY) have two important drawbacks. First, they did not have strong designs – the time series design used to evaluate “Not Me, Not Now” was particularly susceptible to bias from external influences and secular trend. Second, these studies were not funded under Section 510 and did not necessarily conform to the same guidelines because they predated the legislation. The Congressionally-authorized experimental impact evaluation of four Section 510 AEPs receives the most weight in this analysis, both because the design was the most rigorous and because it was conducted by an independent research company rather than an organization promoting a specific viewpoint (if anything, the evaluators are biased in favor of AEPs because the study was federally sponsored). Its results are consistent with much of the existing non-experimental evidence that AEPs may have some effects on short-term attitudes and knowledge, but are generally unsuccessful at altering sexual behavior. Attitude change is a precursor to behavior change only when the perceived benefits of change outweigh those of not changing – a balance these interventions have apparently not achieved. That it is easier to influence attitudes than behavior is not an unfamiliar or surprising concept, but it does suggest the need to reassess federal policy.

Given the goal of federal abstinence education policy is to reduce teen pregnancy, one might conclude that continuing to fund AEPs in their current form is not a good use of taxpayer dollars. The government could consider three approaches to policy change. The first is simply to decide that programs to prevent teen pregnancy are not successful enough to justify the cost, and cut off federal funding. The second is to systematically redesign AEP curricular requirements based on the research. For example, the importance of identification with peer groups, cited as a

significant factor by both the federal government's study and Bearman and Bruckner's study of virginity pledges, along with the dispersal of peer networks after middle school, might suggest a need for more intensive interventions for high school students as well as younger adolescents. The finding that views supportive of abstinence do in fact predict abstinence further suggests that programs should emphasize this element most, and perhaps downplay the focus on marriage, which appears to have a paradoxically unfavorable impact on abstinence. This approach would ideally involve further empirical research – for instance, to determine whether various age groups actually do respond differently to AEPs, the current evidence for which is inconclusive – and the development of best practices. In addition to increasing costs, however, this method would not address the possible fundamental drawbacks of an abstinence-only model.

A third option is to review or conduct research on comprehensive sexual education programs to gauge their effectiveness at changing teens' sexual behavior. If the perceived benefits of abstinence, however well-presented, are simply inadequate to overcome those of sexual activity for many teens, then educating them about additional forms of prevention (i.e. birth control) may be an appropriate strategy. A discussion of the impacts of comprehensive sexual education programs is outside the scope of this paper, but for example, The National Campaign to Prevent Teen Pregnancy lists 23 North American programs with a demonstrated impact on teens' sexual behavior.³⁶ Advocates for Youth identifies 19 programs in the U.S. that reduce pregnancy and STD infection among teens,³⁷ and 10 in developing countries.³⁸ Rather than adopting a particular moral philosophy with regard to program curricula, the government could broaden its funding requirements to include programs of multiple types that can document favorable impacts on adolescent sexual behavior, pregnancy, and/or STD infection. Like the

second option, this approach would presumably require continuing research, development of standards and regulations, and increased funding.

The administration has so far been unwilling to shift its sexual education and public health preferences away from an abstinence-only approach, and even attempts to revise AEP guidelines based on empirical research may generate political controversy. A *Washington Post* article reporting on the release of Mathematica’s final impact evaluation contained the following quote from Harry Wilson, a top official at the U.S. Department of Health and Human Services: “This study isn’t rigorous enough to show whether or not [abstinence-only] education works.”³⁹ In reality, the study is the most rigorous evaluation ever conducted on the effectiveness of federally-funded AEPs, and its findings support a relatively large body of existing evidence. Wilson claims the department will not rethink its abstinence-only focus, instead suggesting program modifications such as targeting low-income neighborhoods (though three of the programs included in the evaluation did, in fact, serve low-income youth) and extending AEPs into the high school years. If policy change does occur, it seems far more likely to involve the second, incremental approach than either a full-scale rejection of federal sexual education funding or a moral paradigm shift.

As is often the case with federal programs, it seems evidence of effectiveness is not the only – or even the most important – criterion for continued funding of AEPs. As Sarah Brown, Director of the National Campaign to Prevent Teen Pregnancy, wrote in 2001:

Although we believe that having accurate, research-based information can only help communities make good decisions about preventing teen pregnancy, the National Campaign recognizes that communities choose to develop particular prevention programs for many reasons other than research – including, for example, compatibility with religious traditions, available resources, community standards, and the personal values and beliefs of the leaders in charge.⁴⁰

All of these normative considerations clearly apply at the national level in the case of AEPs. Title V, Section 510 federal abstinence education funds come up for Congressional renewal in July 2007; until then, it remain unclear whether empirical evidence will influence a policy that is currently designed and supported on ideological grounds.

Notes

- ¹. Saul D. Hoffman, "By the Numbers: The Public Costs of Teen Childbearing." (Washington, DC: The National Campaign to Prevent Teen Pregnancy, 2006.) http://www.teenpregnancy.org/costs/pdf/report/BTN_National_Report.pdf.
- ². Administration for Children and Families, "Fact Sheet: Section 510 State Abstinence Program," <http://www.acf.hhs.gov/programs/fysb/content/abstinence/factsheet.htm>.
- ³. No More Money, "A Brief History of Abstinence-Only-Until-Marriage Funding," <http://www.nonewmoney.org/history.html>.
- ⁴. Ibid.
- ⁵. AEPs funded under AFLA and Section 510 need only avoid inconsistency with any of these elements, while those funded under SPRANS must actively promote all eight.
- ⁶. Administration for Children and Families, "Guidance Regarding Curriculum Content," <http://www.acf.hhs.gov/programs/fysb/content/abstinence/cbaeguidance.htm>.
- ⁷. Christopher Trenholm, Barbara Devaney, Ken Fortson, Lisa Quay, Justin Wheeler, and Melissa Clark, "Impacts of Four Title V, Section 510 Abstinence Education Programs." (Princeton, NJ: Mathematica Policy Research, Inc, 2007.) <http://www.mathematica-mpr.com/publications/PDFs/impactabstinence.pdf>.
- ⁸. National Public Radio/Kaiser Family Foundation/Kennedy School of Government, "Sex Education in America: General Public/Parents Survey." (Washington, DC: Kaiser Family Foundation, 2004.) <http://www.kff.org/newsmedia/upload/Sex-Education-in-America-General-Public-Parents-Survey-Toplines.pdf>.
- ⁹. Ibid.
- ¹⁰. Bill Albert, "With One Voice 2007: America's Adults and Teens Sound Off About Teen Pregnancy." (Washington, DC: The National Campaign to Prevent Teen Pregnancy, 2007.) http://www.teenpregnancy.org/resources/data/pdf/WOV2007_fulltext.pdf.
- ¹¹. Kaiser Family Foundation, "U.S. Teen Sexual Activity," <http://www.kff.org/youthhivstds/upload/U-S-Teen-Sexual-Activity-Fact-Sheet.pdf>.
- ¹². John Santelli, Mary A. Ott, Maureen Lyon, Jennifer Rogers, Daniel Summers, and Rebecca Schleifer, "Abstinence and Abstinence-Only Education: A Review of U.S. Policies and Programs," *Journal of Adolescent Health* 38, no. 1 (January 2006): 72-81.
- ¹³. Ibid.
- ¹⁴. Ibid., 79.
- ¹⁵. United States House of Representatives Committee on Government Reform, Minority Staff Special Investigations Division, "The Content of Federally Funded Abstinence-Only Education Programs, Prepared for Representative Henry A. Waxman." (Washington, DC: States House of Representatives Committee on Government Reform, Minority Staff Special Investigations Division, 2004.) <http://oversight.house.gov/Documents/20041201102153-50247.pdf>.
- ¹⁶. Andrew S. Doniger, Edgar Adams, Cheryl A. Utter, and John S. Riley, "Impact Evaluation of the 'Not Me, Not Now' Abstinence-Oriented, Adolescent Pregnancy Prevention Communications Program, Monroe County, New York," *Journal of Health Communication* 6, no. 1 (January 2001): 45-60.
- ¹⁷. Hannah Bruckner and Peter Bearman, "After the Promise: The STD Consequences of Adolescent Virginity Pledges," *Journal of Adolescent Health* 36, no. 4 (April 2005): 271-278.
- ¹⁸. Jennifer Manlove, Angela Romano Papillio, and Erum Ikramullah, "Not Yet: Programs to Delay First Sex Among Teens." (Washington, DC: The National Campaign to Prevent Teen Pregnancy, 2004.) <http://www.teenpregnancy.org/works/pdf/NotYet.pdf>.
- ¹⁹. The National Campaign to Prevent Teen Pregnancy also released a research synthesis of findings on programs to reduce teen pregnancy in 2001. It is not included in this paper because only the executive summary is accessible online, and while the summary mentions that three impact evaluations of AEPs were included – all of which found no program effects – it does not provide information on the specific studies. Thus, it is possible these three evaluations overlap with others in this paper. Douglas Kirby, "Emerging Answers: Research Findings on Programs to Reduce Teen Pregnancy." (Washington, DC: The National Campaign to Prevent Teen Pregnancy, 2001.) <http://www.teenpregnancy.org/resources/data/pdf/emersumsum.pdf>.
- ²⁰. The report also includes an AEP impact evaluation from California, but it is not discussed here because it appears in another research synthesis, described next. The other studies in the National Campaign to Prevent Teen Pregnancy synthesis are not discussed because the programs were comprehensive rather than abstinence-only.
- ²¹. Debra Hauser, "Five Years of Abstinence-Only-Until-Marriage Education: Assessing the Impact." (Washington, DC: Advocates for Youth, 2004.) <http://www.advocatesforyouth.org/publications/stateevaluations.pdf>.
- ²². Trenholm et. al.
- ²³. Barbara Devaney, Amy Johnson, Rebecca Maynard, and Chris Trenholm, "The Evaluation of Abstinence Education Programs Funded Under Title V Section 510: Interim Report." (Princeton, NJ: Mathematica Policy Research, Inc., 2002.) <http://www.mathematica-mpr.com/PDFs/evalabstinence.pdf>.
- ²⁴. Doniger et. al., 59.
- ²⁵. Bruckner et. al.

²⁶. Of course, it is also possible that some teens who take virginity pledges, perhaps as part of an AEP, do not actually “mean it.” To this end, the researchers identified a group of “inconsistent pledgers,” who reported taking a virginity pledge in one wave of the survey, but not in subsequent waves. For simplicity’s sake, the summary of the study’s results excludes this group, whose outcomes reliably fell between those of consistent pledgers and nonpledgers.

²⁷. Peter S. Bearman and Hannah Bruckner, “Promising the Future: Virginity Pledges and First Intercourse,” *The American Journal of Sociology* 106, no. 4 (January 2001): 859-912.

²⁸. Ibid., 900.

²⁹. Ibid., 891.

³⁰. Ibid., 900.

³¹. Ibid., 902.

³². Manlove et. al.

³³. Measured immediately after completing the program.

³⁴. Measured three to 17 months after completing the program.

³⁵. Hauser, 4.

³⁶. National Campaign to Prevent Teen Pregnancy, “What works: Curriculum-Based Programs that Prevent Teen Pregnancy,” http://www.teenpregnancy.org/resources/reading/pdf/What_Works.pdf.

³⁷. Advocates for Youth, “Science and Success: Sex Education and Other Programs that Work to Prevent Teen Pregnancy, HIV & Sexually Transmitted Infections.” (Washington, DC: Advocates for Youth, 2003). <http://www.advocatesforyouth.org/programsthatwork/index.htm>.

³⁸. Advocates for Youth, “Science and Success in Developing Countries: Holistic Programs that Work to Prevent Teen Pregnancy, HIV & Sexually Transmitted Infections.” (Washington, DC: Advocates for Youth, 2005.) <http://www.advocatesforyouth.org/programsthatwork/index.htm>.

³⁹. Laura Sessions Stepp, “Study Casts Doubt on Abstinence-Only Programs,” *The Washington Post*, April 14, 2007, A2.

⁴⁰. Kirby, iii.

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