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THE CONTENT OF FEDERALLY FUNDED ABSTINENCE-ONLY EDUCATION PROGRAMS

PREPARED FOR

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

Under the Bush Administration, federal support for "abstinence-only" education programs has expanded rapidly. The federal government will spend approximately $170 million on abstinence-only education programs in fiscal year 2005, more than twice the amount spent in fiscal year 2001. As a result, abstinence-only education, which promotes abstinence from sexual activity without teaching basic facts about contraception, now reaches millions of children and adolescents each year.

At the request of Rep. Henry Waxman, this report evaluates the content of the most popular abstinence-only curricula used by grantees of the largest federal abstinence initiative, SPRANS (Special Programs of Regional and National Significance Community-Based Abstinence Education). Through SPRANS, the Department of Health and Human Services provides grants to community organizations that teach abstinence-only curricula to youth. The curricula used in SPRANS and other federally funded programs are not reviewed for accuracy by the federal government.

The report finds that over 80% of the abstinence-only curricula, used by over two-thirds of SPRANS grantees in 2003, contain false, misleading, or distorted information about reproductive health. Specifically, the report finds:

- **Abstinence-Only Curricula Contain False Information about the Effectiveness of Contraceptives.** Many of the curricula misrepresent the effectiveness of condoms in preventing sexually transmitted diseases and pregnancy. One curriculum says that "the popular claim that 'condoms help prevent the spread of STDs,' is not supported by the data"; another states that "[i]n heterosexual sex, condoms fail to prevent HIV approximately 31% of the time"; and another teaches that a pregnancy occurs one out of every seven times that couples use condoms. These erroneous statements are presented as proven scientific facts.

- **Abstinence-Only Curricula Contain False Information about the Risks of Abortion.** One curriculum states that 5% to 10% of women who have legal abortions will become sterile; that "[p]remature birth, a major cause of mental retardation, is increased following the abortion of a first pregnancy"; and that "[t]ubal and cervical pregnancies are increased following abortions." In fact, these risks do not rise after the procedure used in most abortions in the United States.

- **Abstinence-Only Curricula Blur Religion and Science.** Many of the curricula present as scientific fact the religious view that life begins at conception. For example, one lesson states: "Conception, also known as

fertilization, occurs when one sperm unites with one egg in the upper third of the fallopian tube. This is when life begins." Another curriculum calls a 43-day-old fetus a "thinking person."

- **Abstinence-Only Curricula Treat Stereotypes about Girls and Boys as Scientific Fact.** One curriculum teaches that women need "financial support," while men need "admiration." Another instructs: "Women gauge their happiness and judge their success on their relationships. Men's happiness and success hinge on their accomplishments."

- **Abstinence-Only Curricula Contain Scientific Errors.** In numerous instances, the abstinence-only curricula teach erroneous scientific information. One curriculum incorrectly lists exposure to sweat and tears as risk factors for HIV transmission. Another curriculum states that "twenty-four chromosomes from the mother and twenty-four chromosomes from the father join to create this new individual"; the correct number is 23.

The report finds numerous examples of these errors. Serious and pervasive problems with the accuracy of abstinence-only curricula may help explain why these programs have not been shown to protect adolescents from sexually transmitted diseases and why youth who pledge abstinence are significantly less likely to make informed choices about precautions when they do have sex.

I. BACKGROUND

Under the Bush Administration, there has been a dramatic increase in federal support for "abstinence-only" education programs. Also called "abstinence education" or "abstinence-until-marriage education," these programs promote abstinence from all sexual activity, usually until marriage, as the only way to reduce the risks of pregnancy, disease, and other potential consequences of sex. The programs define sexual activity broadly and do not teach basic facts about contraception.

In fiscal year 2001, under the last budget passed under the Clinton Administration, abstinence-only education programs received approximately $80 million in federal funding.[1] Since then, federal abstinence-only funding has more than doubled, with the final omnibus appropriations bill containing $167 million in funding for fiscal year 2005.[2] President Bush had proposed $270 million for abstinence-only programs in fiscal year 2005.[3]

There are three principal federal programs that support abstinence-only education:

- Special Programs of Regional and National Significance — Community-Based Abstinence Education (SPRANS). SPRANS, which is the largest and fastest growing source of abstinence-only education, provides federal grants to community-based organizations that teach abstinence until marriage to youth.[4] In its first year of funding in fiscal year 2001, 33 SPRANS recipients received $20 million in grants.[5] By fiscal year 2004,

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1 HHS Office of Budget, *2005 President's Budget All-Purpose Table* (received via e-mail Sept. 28, 2004); Administration for Children and Families, *All-Purpose Table — Fiscal 2003–2005* (online at www.acf.hhs.gov/programs/olab/fy2005cj/section04_all_purpose_table.pdf); Conference Report to Accompany H.R. 4818 — Consolidated Appropriations Act, 2005, Division F, Joint Explanatory Statement (online at www.congress.gov/omni2005/confreptindex.html); HHS Office of Budget, *Adolescent Family Life Act (AFL) Abstinence Education/Prevention* (Oct. 6, 2004).

2 Fiscal Year 2005 Consolidated Appropriations Act (Omnibus), Division F, Title II, Joint Explanatory Statement, H. Rept. 108-792, Cong. Rec. H10643–693 (Nov. 19, 2004).

3 Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2005; Department of Health and Human Services*, 140 (Feb. 2, 2004) (online at www.whitehouse.gov/omb/budget/fy2005/pdf/budget/hhs.pdf).

4 HHS, Health Resources and Services Administration [HRSA], Maternal and Child Health Bureau, *SPRANS Community-Based Abstinence Education Project Grant Program* (fact sheet) (undated) (online at ftp://ftp.hrsa.gov/mchb/abstinence/cbofs.pdf). Programs must be consistent with all eight components of the federal definition of abstinence programs. *See infra* note 8.

5 HHS, HRSA, Maternal and Child Health Bureau, *The Special Projects of Regional and National Significance Community-Based Abstinence Education Program, 2001 Grantees'*

the program had over 100 grantees and a budget of $75 million.[6] For fiscal year 2005, $104 million has been appropriated, an increase of more than 30%.[7]

- Section 510 of the 1996 Welfare Reform Act. This 1996 law provided $250 million for over five years for programs with the "exclusive purpose" of promoting abstinence, requiring a state match of $3 for every $4 from the federal government.[8] The law has since been extended, most recently in June 2004, at a level of $50 million per year.[9]

Annual Summary (Feb. 2004) (online at ftp://ftp.hrsa.gov/mchb/abstinence/SPRANS01annualrpt.pdf).

6 HHS, HRSA, Maternal and Child Health Bureau, *HRSA SPRANS Community Based Abstinence Education Program Grantee Address List FY 2003* (online at www.mchb.hrsa.gov/programs/adolescents/ 03granteedir.htm); HHS Office of Budget, *2005 President's Budget All-Purpose Table*, *supra* note 1; Administration for Children and Families, *supra* note 1. On June 9, 2004, the SPRANS program was transferred from HRSA to the Administration for Children and Families (*see* www.mchb.hrsa.gov/programs/adolescents/abstinence.htm).

7 Conference Report to Accompany H.R. 4818, *supra* note 1.

8 Personal Responsibility and Work Opportunity Reconciliation Act of 1996. Pub. L. No. 104-193 (1996) (hereinafter "PRWORA"). PRWORA §510(b) states that a qualifying program:

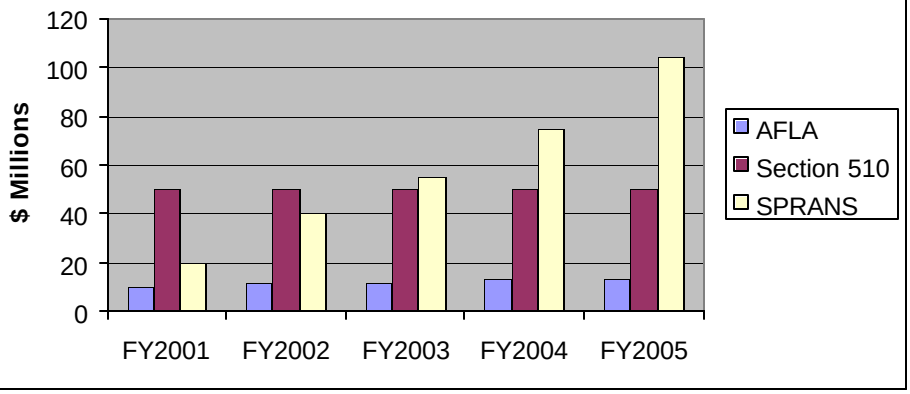
> (A) has as its exclusive purpose, teaching the social, psychological, and health gains to be realized by abstaining from sexual activity;
>
> (B) teaches abstinence from sexual activity outside marriage as the expected standard for all school age children;
>
> (C) teaches that abstinence from sexual 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 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.

9 TANF and Related Programs Continuation Act of 2004, P.L. 108-262.

- The Adolescent Family Life Act. This legislation was passed in 1981 to promote "prudent approaches" and self-discipline to adolescents.[10] It provided $13 million in fiscal year 2004 for abstinence-only education programs, and the same amount was appropriated again for fiscal year 2005.[11]

Figure 1 shows the federal funding provided to each of these three programs from fiscal year 2001 through fiscal year 2005, with SPRANS funding increasing the fastest.[12] Collectively, these three programs reach millions of children and adolescents in the United States each year.[13] In fact, given the scarcity of comprehensive sex education courses in schools across much of the United States, abstinence-only education programs may be the only formal reproductive health education that many children and adolescents receive.

Figure 1: Major Federal Funding Streams for Abstinence-Only Education, FY2001- FY2005



There have been several studies of the effectiveness of abstinence-only education. These studies have found that abstinence-only education does not appear to decrease teen pregnancy or the risk of sexually transmitted diseases. In the most comprehensive analysis of teen pregnancy prevention programs, researchers found that "the few rigorous studies of abstinence-only curricula that have been

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10 Adolescent Family Life Act, 42 U.S.C. § 300z (1982 & Supp. III 1985).

11 Conference Report to Accompany H.R. 4818, *supra* note 1; HHS Office of Budget, *Adolescent Family Life Act*, *supra* note 1.

12 *Id.*; HHS Office of Budget, *2005 President's Budget All-Purpose Table*, *supra* note 1; Administration for Children and Families, *supra* note 1.

13 HHS, HRSA, Maternal and Child Health Bureau, *supra* note 5; HHS, HRSA, Maternal and Child Health Bureau, *2000 Annual Summary for the Abstinence Education Provision of the 1996 Welfare Law P.L. 104-193* (July 2002) (online at http://mchb.hrsa.gov/programs/adolescents/abreport00/default.htm).

completed to date do not show any overall effect on sexual behavior or contraceptive use."[14]

One recent study of abstinence-only programs found that they may actually increase participants' risk. Columbia University researchers found that while virginity "pledge" programs helped some participants to delay sex, 88% still had premarital sex, and their rates of sexually transmitted diseases showed no statistically significant difference from those of nonpledgers.[15] Virginity pledgers were also less likely to use contraception when they did have sex and were less likely to seek STD testing despite comparable infection rates.[16]

In contrast, comprehensive sex education that both encourages abstinence and teaches about effective contraceptive use has been shown in many studies to delay sex, reduce the frequency of sex, and increase the use of condoms and other contraceptives.[17]

II. PURPOSE AND METHODOLOGY

While there have been evaluations of the effectiveness of abstinence-only education programs, the content of the curricula taught in these programs has received little attention. The federal government does not review or approve the accuracy of the information presented in abstinence-only programs. SPRANS

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[14] Douglas Kirby, The National Campaign to Prevent Teen Pregnancy, *Emerging Answers: Research Findings on Programs to Reduce Teen Pregnancy (Summary)*, 18 (May 2001) (online at www.teenpregnancy.org/resources/data/pdf/emeranswsum.pdf). An analysis of claims that certain abstinence-only programs had "worked" found numerous methodological flaws in those evaluations, concluding: "There do not currently exist any abstinence-only programs with strong evidence that they either delay sex or reduce teen pregnancy." Douglas Kirby, The National Campaign to Prevent Teen Pregnancy, *Do Abstinence-Only Programs Delay the Initiation of Sex among Young People and Reduce Teen Pregnancy?*, 6 (Oct. 2002) (online at www.teenpregnancy.org/resources/data/pdf/abstinence_eval.pdf). States that have conducted analyses of their abstinence-only programs have also not found positive results. A recent analysis of 11 states' evaluations of some or all of their abstinence-only programs found some increases in participants' favorable attitudes towards abstinence but no lasting positive impact on behavior. Advocates for Youth, *Five Years of Abstinence-Only-Until-Marriage Education: Assessing the Impact*, 2–3 (Sep. 2004) (online at www.advocatesforyouth.org).

[15] Kaiser Family Foundation, *Teenagers Who Take 'Virginity Pledges,' Other Teens Have Similar STD Rates, Study Says* (Mar. 10, 2004) (online at www.kaisernetwork.org/daily_reports/rep_index.cfm?DR_ID=22603), describing research by Peter Bearman and Hannah Bruckner, *After the Promise: The Long Term Consequences of Virginity Pledges* (paper presented at the National STD Conference, March 9, 2004, Philadelphia).

[16] *Id.*

[17] Douglas Kirby, *Do Abstinence-Only Programs Delay the Initiation of Sex among Young People and Reduce Teen Pregnancy?*, *supra* note 14, at 6.

applicants, for example, are required to submit only the table of contents or a brief summary of the curricula they plan to use.

At the request of Rep. Henry Waxman, this report is a comprehensive evaluation of the content of the curricula used in federally funded abstinence-only education programs.[18] It is based on a review of the most popular abstinence-only curricula used by grantees in the SPRANS program.

To conduct this evaluation, the Special Investigations Division obtained from the Health Resources and Services Administration the program summaries of the 100 organizations that received SPRANS abstinence funding during fiscal year 2003.[19] Each summary contains a proposal listing the curricula that the program intends to use. The Special Investigations Division then acquired each curriculum that was listed by at least five funding recipients.[20] Thirteen curricula met this criterion (Table 1).

The 13 curricula were reviewed for scientific accuracy. For several curricula with a separate teacher's guide, both the student and teacher manuals were included. The review was intended to provide an overall assessment of the accuracy of the curricula, not to identify all potential errors.

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[18] The Sexuality Information and Education Council of the United States (SIECUS) and NARAL Pro-Choice America have conducted reviews of some abstinence-only programs. *See* www.siecus.org; www.naral.org.

[19] HHS, HRSA, Maternal and Child Health Bureau, *HRSA SPRANS Community Based Abstinence Education Program Grantee Address List FY 2003* (online at www.mchb.hrsa.gov/programs/adolescents/03granteedir.htm); Curriculum summaries from applications of organizations receiving SPRANS abstinence funding (received May 7, 2004 from HRSA).

[20] One program, *The Art of Loving Well*, is a literary anthology used as a course supplement; it was not included in this review.

Table 1: Curricula used by five or more SPRANS recipients, FY 2003

Curriculum	Publisher and Year
Choosing the Best Life	Choosing the Best (2003)
Choosing the Best Path	Choosing the Best (2001)
A.C. Green's Game Plan	Project Reality (2001)
WAIT Training	Abstinence and Relationship Training Center
Choosing the Best Way	Choosing the Best (2001)
Sexual Health Today	Medical Institute for Sexual Health (1999)
Me, My World, My Future	Teen-Aid (1998)
Friends First/STARS	Friends First (2003)
Why kNOw	Why kNOw Abstinence Education (2004)
Navigator	Project Reality (2003)
FACTS	Northwest Family Services (2001)
Managing Pressures Before Marriage	Adolescent Reproductive Health Center, Grady Health System (1997, 2003)
Sex Can Wait	ETR Associates (1994, 1997)

III. FINDINGS

A. Eleven of Thirteen Abstinence-Only Curricula Contain Errors and Distortions

Eleven of the thirteen curricula most commonly used by SPRANS programs contain major errors and distortions of public health information (Table 2).[21]

Table 2: Curricula containing errors and distortions of public health information

Curriculum	Number of SPRANS recipients using the curriculum
Choosing the Best Life	32
Choosing the Best Path	28
A.C. Green's Game Plan	23
WAIT Training	19
Choosing the Best Way	11
Sexual Health Today	10
Me, My World, My Future	8
Friends First/STARS	8
Why kNOw	7
Navigator	7
FACTS	5

The eleven curricula are used in 25 states by 69 grantees, including state health departments, school districts, and hospitals, as well as religious organizations and pro-life organizations.[22] These 69 grantees received over $32 million in SPRANS abstinence-only funding in fiscal year 2003, the year examined in this report.[23] In total, the 69 grantees have received over $90 million in federal funding since fiscal year 2001.[24]

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21 The two curricula which do not contain major errors and distortions are *Sex Can Wait* and *Managing Pressures before Marriage*, each used by five grantees.

22 Curriculum Summaries, *supra* note 19.

23 HHS, Health Resources and Services Administration, Office of Federal Assistance Management, *2003 Abstinence Education Grants* (spreadsheet) (received Oct. 7, 2004).

24 *Id.*; HHS, Health Resources and Services Administration, Office of Federal Assistance Management, *2002 Abstinence Education Grants* (spreadsheet) (received Oct. 7, 2004); HHS, *Tracking Accountability in Government Grants Systems* (database) (online at http://taggs.hhs.gov/index.cfm).

B. Abstinence-Only Curricula Contain False and Misleading Information about the Effectiveness of Contraceptives

Under the SPRANS requirements, abstinence-only education programs are not allowed to teach their participants any methods to reduce the risk of pregnancy other than abstaining until marriage.[25] They are allowed to mention contraceptives only to describe their failure rates. Although the curricula purport to provide scientifically accurate information about contraceptive failure rates, many exaggerate these failure rates, providing affirmatively false or misleading information that misstates the effectiveness of various contraceptive methods in preventing disease transmission or pregnancy.

1. HIV Prevention

According to the Centers for Disease Control and Prevention (CDC), "Latex condoms, when used consistently and correctly, are highly effective in preventing the transmission of HIV, the virus that causes AIDS."[26] Contrary to this scientific consensus, multiple curricula provide false information about condoms and HIV transmission.

Several curricula cite an erroneous 1993 study of condom effectiveness that has been discredited by federal health officials. The 1993 study, by Dr. Susan Weller, looked at a variety of condom effectiveness studies and concluded that condoms reduce HIV transmission by 69%.[27] Dr. Weller's conclusions were rejected by the Department of Health and Human Services, which issued a statement in 1997 informing the public that "FDA and CDC believe this analysis was flawed."[28] The Department cited numerous methodological problems, including the mixing of data on consistent condom use with data on inconsistent condom use, and found that Dr. Weller's calculation of a 69% effectiveness rate was based on "serious error."[29] In fact, CDC noted that "[o]ther studies of discordant couples — more recent and larger than the ones Weller reviewed, and conducted over

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25 HHS, Health Resources and Services Administration, Maternal and Child Health Bureau, *Special Projects of Regional and National Significance (SPRANS) Community-Based Abstinence Education Project Grants, HRSA-04-077, Catalog of Federal Domestic Assistance (CFDA) No. 93.110, FY 2004 Program Guidance Competing Announcement,* 5 ("Projects must clearly and consistently focus on the Section 510 definition of 'abstinence education' and applicants must agree not to provide a participating adolescent any other education regarding sexual conduct in the same setting").

26 U.S. Centers for Disease Control and Prevention, *Male Latex Condoms and Sexually Transmitted Diseases* (Jan. 2003) (online at www.cdc.gov/std).

27 Susan Weller, *A Meta-Analysis of Condom Effectiveness in Reducing Sexually Transmitted HIV*, Social Science and Medicine, 1635–44 (June 1993).

28 HHS, *Background on the Weller Study* (Jan. 1, 1997).

29 *Id.*

several years — have demonstrated that consistent condom use is highly effective at preventing HIV infection."[30]

Despite these findings, several curricula refer approvingly to the Weller study. One curriculum teaches: "A meticulous review of condom effectiveness was reported by Dr. Susan Weller in 1993. She found that condoms were even less likely to protect people from HIV infection. Condoms appear to reduce the risk of heterosexual HIV infection by only 69%."[31] Another curriculum that cites Dr. Weller's data claims: "In heterosexual sex, condoms fail to prevent HIV approximately 31% of the time."[32]

Other abstinence-only curricula contest CDC's finding that "latex condoms provide an essentially impermeable barrier to particles the size of STD pathogens."[33] These curricula rely on the false idea that HIV and other pathogens can "pass through" condoms. One curriculum instructs students to:

> Think on a microscopic level. Sperm cells, STI organisms, and HIV cannot be seen with the naked eye — you need a microscope. Any imperfections in the contraceptive not visible to the eye, could allow sperm, STI, or HIV to pass through. . . . The size difference between a sperm cell and the HIV virus can be roughly related to the difference between the size of a football field and a football.[34]

The same curriculum states, "The actual ability of condoms to prevent the transmission of HIV/AIDS even if the product is intact, is not definitively known."[35] This distorts CDC's finding and scientific consensus.

One curriculum draws an analogy between the HIV virus and a penny and compares it to a sperm cell ("Speedy the Sperm"), which on the same scale would be almost 19 feet long. The curriculum asks, "If the condom has a failure rate of

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30 *Id.* CDC cites Isabelle DeVincenzi et al., *A Longitudinal Study of Human Immunodeficiency Virus Transmission by Heterosexual Partners*, New England Journal of Medicine, 341–46 (1994); and A. Saracco et al., *Man to Woman Sexual Transmission of HIV: Longitudinal Study of 343 Steady Partners of Infected Men*, Journal of Acquired Immune Deficiency Syndromes, 497–502 (1993).

31 Me, My World, My Future, 141.

32 Why kNOw, 91. Other programs rely on the Weller 69% figure, stating: "HIV is reduced by 69–90 percent" (Choosing the Best Path, 18) and "Studies that have investigated condom effectiveness against HIV/AIDS have shown a risk reduction of between 69-90 percent" (Choosing the Best Life, 25). The latter curriculum cites three sources, none of which indicates an effectiveness rate as low as 69%.

33 U.S. Centers for Disease Control and Prevention, *Male Latex Condoms and Sexually Transmitted Diseases*, 2 (Jan. 2003) (online at www.cdc.gov/std).

34 I'm in Charge of the FACTS (Middle School Curriculum), 111.

35 *Id.*

14% in preventing 'Speedy' from getting through to create a new life, what happens if this guy (penny) gets through? You have a death: your own."[36]

Another curriculum inaccurately attacks a study published in the *New England Journal of Medicine* that demonstrated that condoms are effective in preventing HIV transmission. In the study, there was not a single case of HIV transmission between HIV-positive individuals and their HIV-negative partners using condoms consistently, despite a total of 15,000 acts of intercourse.[37] The curriculum states: "This study has been criticized by three different university groups as being seriously flawed in at least six areas, and therefore the results are questionable and not statistically significant."[38] In fact, the "university groups" referred to in the curriculum appear to refer to individuals who sent letters to the editor to the journal in which the study appeared.[39] The central finding that consistent condom use resulted in zero HIV transmission was statistically significant and has not been challenged.

2. Prevention of Other STDs

Several curricula distort public health data on the effectiveness of condoms in preventing other sexually transmitted diseases. One curriculum claims: "If condoms were effective against STDs, it would be reasonable to expect that an increase in condom usage would correlate to a decrease in STDs overall — which is not the case. Rather, as condom usage has increased, so have rates of STDs."[40] Another states: "[T]he popular claim that 'condoms help prevent the spread of STDs,' is not supported by the data."[41]

These assertions are wrong. The curricula fail to note that rates of important sexually transmitted diseases, such as syphilis and gonorrhea, have been dropping over the past decade.[42] Contrary to the assertions in the curricula, the most recent data show that consistent condom use is associated with:

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36 Why kNOw, 97.

37 Isabelle De Vincenzi et al., *supra* note 30.

38 Me, My World, My Future, 142.

39 J. Ambati et al., *Heterosexual Transmission of HIV*, New England Journal of Medicine, 1717 (Dec. 22, 1994); E. Morrison, *Heterosexual Transmission of HIV*, New England Journal of Medicine, 1717 (Dec. 22, 1994); S. Brody, *Heterosexual Transmission of HIV*, New England Journal of Medicine, 1717 (Dec. 22, 1994).

40 Navigator Guide Book [Teacher's Manual], 47.

41 A.C. Green's Game Plan Coach's Clipboard [Teacher's Manual], 34.

42 Reported incidences of syphilis have declined from 54.3 cases per 100,000 in 1990 to 11.9 in 2003, a 78% decrease. Also since 1990, the rate of gonorrhea has declined 58%; and chancroid, an ulcer-forming bacterial infection, has dropped from 1.7 cases per 100,000 to practically zero. U.S. Centers for Disease Control and Prevention, *Sexually Transmitted Disease Surveillance 2003, Table 1: Cases of Sexually Transmitted Diseases Reported by State Health Departments and Rates per 100,000 Civilian*

- Reduced acquisition of syphilis by women and by men;
- Reduced acquisition of gonorrhea by women;
- Reduced acquisition of urethral infection by men; and
- Faster regression of HPV-related lesions on the cervix and penis, and faster clearance of genital HPV infection in women.[43]

The assertions in the curricula are presented next to a chart of "Increasing Condom Usage" alongside a chart showing increased rates of chlamydia over the same time period.[44] Yet in the case of chlamydia, CDC attributes the increase in reported infection rates to increased detection because of "increased screening, recognition of asymptomatic infection (mainly in women), and improved reporting, as well as the continuing high burden of disease."[45] Indeed, both CDC and independent experts have found that condoms can reduce the risk of chlamydia infection.[46]

3. Condoms and Pregnancy Prevention

None of the curricula provides information on how to select a birth control method and use it effectively. However, several curricula exaggerate condom failure rates in preventing pregnancy.

Failure rates for contraception are calculated as the probability of a couple experiencing pregnancy when relying primarily on the contraceptive method over the course of one year. "Typical use" failure rates are often higher than "perfect use" rates largely because the former include people who use the method incorrectly or only sometimes. Condoms have a typical use contraceptive failure rate of approximately 15% and a perfect use failure rate of 2% to 3%.[47]

Population: United States, 1941–2003 (online at www.cdc.gov/std/stats/tables/table1.htm).

43 K. Holmes et al., *Effectiveness of Condoms in Preventing Sexually Transmitted Infections*, Bulletin of the World Health Organization, 454 (June 2004) (online at www.who.int/mediacentre/factsheets/fs243/en/).

44 A.C. Green's Game Plan Coach's Clipboard [Teacher's Manual], 34; Navigator Guide Book [Teacher's Manual], 47. *See also* Sexual Health Today, slide 5, p. 9, Comments.

45 U.S. Centers for Disease Control and Prevention, *Sexually Transmitted Disease Surveillance 1998*, 5 (online at www.cdc.gov/nchstp/dstd/Stats_Trends/1998Surveillance/98PDF/Section2.pdf).

46 U.S. Centers for Disease Control and Prevention, *Male Latex Condoms and Sexually Transmitted Diseases, supra* note 33; K. Holmes et al., *supra* note 43.

47 J. Trussell, *Contraceptive Failure in the United States*, Contraception, 89–96 (Aug. 2004); World Health Organization, *Effectiveness of Male Latex Condoms in Protecting against Pregnancy and Sexually Transmitted Infections* (June 2000) (online at www.who.int/mediacentre/factsheets/fs243/en/).

According to the World Health Organization, the difference between typical and perfect use "is due primarily to inconsistent and incorrect use, not to condom failure. Condom failure — the device breaking or slipping off during intercourse — is uncommon."[48]

Several curricula misrepresent the data to exaggerate how often condoms fail to prevent pregnancy:

- The parent guide for one curriculum understates condom effectiveness by falsely describing "actual use" as "scrupulous." It states: "When used by real people in real-life situations, research confirms that 14 percent of the women who use condoms scrupulously for birth control become pregnant within a year."[49] In fact, for couples who use condoms "scrupulously," the 2% to 3% failure rate applies.

- Two other curricula understate condom effectiveness by neglecting to explain that failure rates represent the chance of pregnancy over the course of a year. One states: "Couples who use condoms to avoid a pregnancy have a failure rate of 15%."[50] The other claims: "The typical failure rate for the male condom is 14% in preventing pregnancy."[51] These statements inaccurately suggest that the chance of pregnancy is 14% to 15% after each act of protected intercourse. In addition, they do not make clear that most condom "failure" is due to incorrect or inconsistent use.

Another curriculum presents misleading information about the risk of pregnancy from sexual activity other than intercourse. The curriculum erroneously states that touching another person's genitals "can result in pregnancy."[52] In fact, the source cited for this contention specifically states that "remaining a virgin all but eliminates the possibility of becoming pregnant."[53]

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48 World Health Organization, *id*.

49 Choosing the Best, The Big Talk Book [Parent Book], 39.

50 Another curriculum similarly states, "Couples who use condoms to avoid a pregnancy have a failure rate of 15%." Choosing the Best Way Leader Guide, 33.

51 Why kNOw, 91.

52 Sexual Health Today, slide 52, p. 112, Comments.

53 M.A. Schuster et al., *The Sexual Practices of Adolescent Virgins: Genital Sexual Activity of High School Students Who Have Never Had Intercourse,* American Journal of Public Health, 1570 (Nov. 1996).

C. Abstinence-Only Curricula Contain False and Misleading Information about the Risks of Abortion

A high number of the programs receiving SPRANS funding are formally opposed to abortion access. Multiple SPRANS recipients are explicitly pro-life organizations such as "crisis pregnancy centers."[54] Several of the curricula used by these and other recipients give misleading information about the physical and psychological effects of legal abortions.

For example, one curriculum relies on numerous outdated sources to present a distorted and exaggerated view of the dangers of legal abortion. Much of the data cited is from the 1970s, yet according to the American Medical Association Council on Scientific Affairs, "[t]he risk of major complications from abortion-related procedures declined dramatically between 1970 and 1990."[55] The curriculum inaccurately describes the risks of sterility, premature birth and mental retardation, and ectopic pregnancies:

- The curriculum states, "Sterility: Studies show that five to ten percent of women will never again be pregnant after having a legal abortion."[56] In fact, obstetrics textbooks teach that "[f]ertility is not altered by an elective abortion."[57]

- The curriculum states, "Premature birth, a major cause of mental retardation, is increased following the abortion of the first pregnancy."[58] In fact, obstetrics textbooks teach that vacuum aspiration, the method used in most abortions in the United States, "results in no increased incidence

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54 The website of one "Crisis Pregnancy Center" receiving SPRANS funding states: "Our objective at the Crisis Pregnancy Center is to defend life. We desire to bring wholeness to lives traumatized by abortion; sharing the love of Jesus Christ and educate our community to adopt a Godly view of sexuality and the sanctity of human life." Crisis Pregnancy Center Anchorage (online at www.cpcanchorage.com/9073379292/aboutus.html). Another states: "The Pregnancy Center of Pinellas County is a Christian ministry whose mission is to defend life by supporting women in crisis pregnancies and bringing healing and wholeness to lives traumatized by abortion." Pregnancy Center of Pinellas County (online at www.pregctr.net/organization_mission.html).

55 American Medical Association (AMA), *Induced Termination of Pregnancy before and after Roe v. Wade, Trends in the Mortality and Morbidity of Women*, Journal of the American Medical Association, 3231–39, 3235 (Dec. 1992).

56 Me, My World, My Future, 157.

57 F. Gary Cunningham et al., *Williams Obstetrics 21st Edition*, 877 (2001). The textbook notes that "[a] possible exception is the small risk from pelvic infection." Another textbook states that "[c]oncerns about infertility as a result of induced abortion seem largely unfounded, except for the rare severe complication managed by hysterectomy." Steven Gabbe et al., *Obstetrics: Normal and Problem Pregnancies, 4th Edition* (2002).

58 Me, My World, My Future, 157.

> of midtrimester spontaneous abortions, preterm delivery, or low-birthweight infants in subsequent pregnancies."[59]

- The curriculum states, "Tubal and cervical pregnancies are increased following abortions."[60] In fact, obstetrics textbooks teach that "[s]ubsequent ectopic pregnancies are not increased if the first termination is done by vacuum aspiration."[61]

The curriculum also misrepresents the relationship between abortion and serious mental health issues. The curriculum states:

> The psychological effects of the abortion choice should also be considered. . . . [A] woman could experience anxiety, grief, regret, guilt, and/or depression. In many cases, follow-up counseling for women who have had abortions has been necessary and helpful. Following abortion, according to some studies, women are more prone to suicide and therefore need extra support from family and health professionals.[62]

In fact, an expert panel of the American Psychiatric Association found that "[f]or the vast majority of women, an abortion will be followed by a mixture of emotions, with a predominance of positive feelings."[63] A longitudinal study of young women aged 14 to 21 found that "[a]lthough women may experience some distress immediately after having an abortion, the experience has no independent effect on their psychological well-being over time."[64]

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59 F. Gary Cunningham et al., *supra* note 57, at 877. Another text states that "[a] single induced abortion appears safe as far as later reproduction is concerned" and found no association between multiple induced abortions and low birthweight, prematurity, or perinatal loss. Steven Gabbe et al., *supra* note 57. In 2000, 95.6% of abortions in the United States were performed by vacuum aspiration, compared to 74.9% in 1973. U.S. Centers for Disease Control and Prevention, *Abortion Surveillance — United States, 2000* (Table 1) (Nov. 2003) (online at www.cdc.gov/mmwr/preview/mmwrhtml/ss5212a1.htm).

60 Me, My World, My Future, 157.

61 F. Gary Cunningham et al., *supra* note 57, at 877.

62 Me, My World, My Future, 157.

63 N.E. Adler et al., *Psychological Factors in Abortion: A Review*, American Psychologist, 1194–1204, 1202 (Oct. 1992).

64 S. Edwards, *Abortion Study Finds No Long-Term Ill Effects on Emotional Well-Being*, Family Planning Perspectives, 193–94 (July–Aug. 1997). The study used data from the National Longitudinal Survey of Youth, with respondents aged 14 to 21 at the start of research. Data was from 1979 through 1987.

D. Abstinence-Only Curricula Blur Religion and Science

By their nature, abstinence-only curricula teach moral judgments alongside scientific facts.[65] The SPRANS program mandates, for example, that programs teach that having sex only within marriage "is the expected standard of human sexual activity."[66] In some of the curricula, the moral judgments are explicitly religious. For example, in a newsletter accompanying one popular curriculum, the author laments that as a result of societal change, "No longer were we valued as spiritual beings made by a loving Creator." The curriculum's author closes the section by signing, "In His Service."[67]

In other curricula, moral judgments are misleadingly offered as scientific fact.

Although religions and moral codes offer different answers to the question of when life begins, some abstinence-only curricula present specific religious views on this question as scientific fact. One curriculum teaches: "Conception, also known as fertilization, occurs when one sperm unites with one egg in the upper third of the fallopian tube. This is when life begins."[68] Another states: "Fertilization (or conception) occurs when one of the father's sperm unites with the mother's ovum (egg). At this instant a new human life is formed."[69]

A related question, also answered differently by people of differing beliefs, is whether a developing fetus is a person. Several curricula offer as scientific fact moral or religious definitions of early fetuses as babies or people, in the process supplying inaccurate descriptions of their developmental state.

One curriculum that describes fetuses as "babies" describes the blastocyst, technically a ball of 107 to 256 cells at the beginning of uterine implantation,[70] as "snuggling" into the uterus:

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65 Many SPRANS recipients are religious organizations; for example, $800,000 was awarded to the Catholic Diocese of Orlando on September 15, 2004. HHS, *HHS Awards $800,000 to Diocese for Abstinence Education; "Think Smart" Program to Help Youth Make Positive Choices in Life* (Sep. 15, 2004) (online at www.acf.hhs.gov/news/press/2004/orlando_think_smart.htm). *See also supra* note 54, on crisis pregnancy centers.

66 This requirement is part of the federal definition of abstinence programs, established in PWRORA, to which all SPRANS programs must adhere. *See supra* note 8.

67 Why kNOw, *In the kNOw* (2004).

68 Middle School FACTS, 23.

69 Me, My World, My Future, Teacher Manual, 85.

70 F. Cunningham et al., *supra* note 57, at 87.

> After conception, the tiny baby moves down the fallopian tube toward the mother's uterus. About the sixth to tenth day after conception, when the baby is no bigger than this dot (.), baby snuggles into the soft nest in the lining of the mother's uterus.[71]

Another teaches: "At 43 days, electrical brain wave patterns can be recorded, evidence that mental activity is taking place. This new life may be thought of as a thinking person."[72] The curriculum cites a source which does not in fact call a 43-day-old fetus a "thinking person."[73]

The same curriculum tells students: "Ten to Twelve Weeks After Conception: . . . He/she can hear and see."[74] The curriculum cites a source that actually states, "Can the fetus see inside the uterus? We do not know."[75] The source also states that fetuses begin to react to sounds between the fourth and fifth months, not at 10 to 12 weeks.[76]

E. Abstinence-Only Curricula Treat Stereotypes about Girls and Boys as Scientific Fact

Many abstinence-only curricula begin with a detailed discussion of differences between boys and girls. Some of the differences presented are simply biological. Several of the curricula, however, present stereotypes as scientific fact.

1. Stereotypes that Undermine Girls' Achievement

Several curricula teach that girls care less about achievement and their futures than do boys.

One curriculum instructs: "Women gauge their happiness and judge their success by their relationships. Men's happiness and success hinge on their accomplishments."[77] This curriculum also teaches:

> Men tend to be more tuned in to what is happening today and what needs to be done for a secure future. When women began to enter the work

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71 Middle School FACTS, 24; High School FACTS, 34.

72 Me, My World, My Future, Teacher Manual, 77.

73 John M. Goldenring, *Letter to the Editor: Development of the Fetal Brain*, New England Journal of Medicine, 564 (Aug. 26, 1982).

74 Me, My World, My Future, 53.

75 Lennart Nilsson, *A Child is Born*, 112 (1990).

76 *Id*. at 114.

77 Why kNOw, 122.

> force at an equal pace with men, companies noticed that women were not as concerned about preparing for retirement. This stems from the priority men and women place on the past, present, and future.[78]

Another curriculum lists "Financial Support" as one of the "5 Major Needs of Women," and "Domestic Support" as one of the "5 Major Needs of Men."[79] The curriculum states:

> Just as a woman needs to feel a man's devotion to her, a man has a primary need to feel a woman's admiration. To admire a man is to regard him with wonder, delight, and approval. A man feels admired when his unique characteristics and talents happily amaze her.[80]

A third curriculum depicts emotions as limiting girls' ability to focus. It states: "Generally, guys are able to focus better on one activity at a time and may not connect feelings with actions. Girls access both sides of the brain at once, so they often experience feelings and emotions as part of every situation."[81]

2. Stereotypes that Girls Are Weak and Need Protection

Some of the curricula describe girls as helpless or dependent upon men.

In a discussion of wedding traditions, one curriculum writes: "Tell the class that the Bride price is actually an honor to the bride. It says she is valuable to the groom and he is willing to give something valuable for her."[82]

The curriculum also teaches: "The father gives the bride to the groom because he is the one man who has had the responsibility of protecting her throughout her life. He is now giving his daughter to the only other man who will take over this protective role."[83]

One book in the "Choosing the Best" series presents a story about a knight who saves a princess from a dragon. The next time the dragon arrives, the princess advises the knight to kill the dragon with a noose, and the following time with poison, both of which work but leave the knight feeling "ashamed." The knight eventually decides to marry a village maiden, but did so "only after making sure she knew nothing about nooses or poison." The curriculum concludes:

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78 *Id.*

79 WAIT Training, 199.

80 *Id*. at 196.

81 Choosing The Best Life, Leader Guide, 7.

82 Why kNOw, 59.

83 *Id.* at 61.

> Moral of the story: Occasional suggestions and assistance may be alright, but too much of it will lessen a man's confidence or even turn him away from his princess.[84]

3. Stereotypes that Reinforce Male Sexual Aggressiveness

One curriculum teaches that men are sexually aggressive and lack deep emotions. In a chart of the top five women's and men's basic needs, the curriculum lists "sexual fulfillment" and "physical attractiveness" as two of the top five "needs" in the men's section. "Affection," "Conversation," "Honesty and Openness," and "Family Commitment" are listed only as women's needs.[85] The curriculum teaches: "A male is usually less discriminating about those to whom he is sexually attracted. . . . Women usually have greater intuitive awareness of how to develop a loving relationship."[86]

The same curriculum tells participants: "While a man needs little or no preparation for sex, a woman often needs hours of emotional and mental preparation."[87]

F. Abstinence-Only Curricula Contain False and Misleading Information about the Risks of Sexual Activity

Many of the curricula distort information about the risks of sexual activity. In the case of cervical cancer, the risk of disease is stressed, but simple prevention measures often go unmentioned. HIV exposure risks are discussed in confusing terms, and risks of substances and activities are exaggerated. Several curricula also present misleading information about the relationship between sexual activity and mental health, inaccurately suggesting that abstinence can solve all psychological problems.

1. Cervical Cancer Prevention

A critical fact for girls and women to know about cervical cancer is that routine Pap smears can prevent most occurrences of the disease. Women should have Pap smears annually once they are sexually active or, at the latest, starting at age

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84 Choosing the Best, Inc., *Choosing the Best Soulmate*, 51 (2003). This book is the latest in the "Choosing the Best" series and was published since the most recent round of SPRANS grants; it was reviewed because the other Choosing the Best books were all among the most popular programs.

85 WAIT Training, 199.

86 *Id.*

87 *Id.*

18.[88] Yet few of the curricula reviewed mention the importance of this intervention.[89]

Instead, some of the curricula provide distorted information on cervical cancer, suggesting that it is a common consequence of premarital sex. For example, the teaching manual of one curriculum explicitly states: "It is critical that students understand that if they choose to be sexually active, they are at risk" for cervical cancer.[90] Another curriculum asks, "What is the leading medical complication from HPV? *Cervical cancer*."[91] Neither of these curricula mentions that human papilloma virus (HPV), though associated with most cases of cervical cancer, rarely leads to the disease, nor that cervical cancer is highly preventable when women get regular Pap smears.

Other curricula advise that condoms have not been proven effective in blocking the transmission of HPV and that "no evidence" demonstrates condoms' effectiveness against HPV transmission.[92] According to the CDC, however, evidence indicates that condoms do reduce the risk of cervical cancer itself, a fact which both curricula omit.[93] These curricula also say nothing about the importance of Pap smears.

2. HIV Risk Behaviors

Curricula also distort information on HIV exposure risks.

One curriculum presents data on HIV exposure in a misleading and confusing way. The curriculum uses data from a CDC chart originally titled "HIV infection cases in adolescents and adults under age 25, by sex and exposure category."[94] The original CDC chart looks at all people with HIV under 25 and categorizes

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88 U.S. Centers for Disease Control and Prevention, *2004/2005 Fact Sheet: The National Breast and Cervical Cancer Early Detection Program: Saving Lives through Screening* (online at www.cdc.gov/cancer/nbccedp/about2004.htm).

89 Two which do provide this information are Sexual Health Today (Slide 31, p. 61, Comments; Slide 57, p. 123, Comments) and WAIT Training (212).

90 Navigator, 48.

91 Why kNOw, 52 (emphasis in original).

92 Friends First/STARS, 61; Choosing the Best Way, 33.

93 U.S. Centers for Disease Control and Prevention, *Report to Congress: Prevention of Genital Human Papillomavirus Infection*, 4 (Jan. 2004) ("[A]vailable studies suggest that condoms reduce the risk of the clinically important outcomes of genital warts and cervical cancer").

94 U.S. Centers for Disease Control and Prevention, *Table 14, HIV Infection Cases in Adolescents and Adults under Age 25, by Sex and Exposure Category, Reported through June 2000, from the 34 Areas with Confidential HIV Infection Reporting*, in *HIV/AIDS Surveillance Report Mid-Year 2000 Edition* (2000) (online at www.cdc.gov/hiv/stats/hasr1201/table14.htm).

them by reported route of exposure, such as heterosexual sex or intravenous drug use. But the curriculum misleadingly puts the CDC data in a new chart called "Percent HIV Infected" and scrambles the CDC data in a way that suggests greatly exaggerated HIV rates among teenagers. For example, where the CDC chart showed that 41% of female teens with HIV reportedly acquired it through heterosexual contact, the curriculum's chart suggests that 41% of heterosexual female teens have HIV.[95] It similarly implies that 50% of homosexual male teens have HIV.[96]

3. Chlamydia

One curriculum makes a spurious claim about chlamydia's health effects:

> The Institute of Medicine states, ". . . the full clinical spectrum of many STDs is still being described.". . . [An] example is that studies are finding chlamydia in the atherosclerotic plaque ('hardening of the arteries') that is often the cause of heart attack and strokes many Americans suffer. Some researchers are suggesting that chlamydia may actually cause this problem. Only time and good research will tell.[97]

In fact, the research cited in the curriculum found an association between heart disease and a type of chlamydia (called *Chlamydia pneumoniae*) that is not sexually transmitted.[98] This bacteria spreads from person to person through respiratory transmission and is a common cause of pneumonia among children and adolescents.[99] It is an entirely different bacteria from *Chlamydia trachomatis*, which is sexually transmitted.

4. Mental Health

Several of the curricula that mention mental health concerns depict them as simple problems that can be fixed by abstaining from sexual activity. There does not appear to be scientific support for these assertions, however.

For example, one curriculum tells youth that a long list of personal problems — including isolation, jealousy, poverty, heartbreak, substance abuse, unstable long-term commitments, sexual violence, embarrassment, depression, personal disappointment, feelings of being used, loss of honesty, loneliness, and suicide —

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95 Middle School FACTS, 112–113.

96 *Id.*

97 Sexual Health Today, Slide 12, p. 24, Comments.

98 J.D. Muhlestein, *The Link between Chlamydia pneumoniae and Atherosclerosis*, Infectious Medicine, 380 (1997).

99 *Stedman's Medical Dictionary* (2004).

"can be eliminated by being abstinent until marriage."[100] Other curricula teach that mental health problems are a consequence of sexual activity, without considering the evidence that these problems might themselves cause premature sexual activity, or that they might have a common origin.[101]

G. Abstinence-Only Curricula Contain Scientific Errors

In addition to the inaccurate and misleading information discussed above, a number of the abstinence-only curricula contain erroneous information about basic scientific facts. These errors cover a variety of issues:

- **Human Genetics.** One curriculum states: "Twenty-four chromosomes from the mother and twenty-four chromosomes from the father join to create this new individual."[102] In fact, human cells have 23 chromosomes from each parent, for a total of 46 in each body cell. The same curriculum also teaches: "Girls produce only female ovum, boys, however, have both male and female sperm."[103] This too is inaccurate. Females produce ova with X chromosomes, and males produce sperm with either X or Y chromosomes. These combine to make an XX combination (female) or an XY combination (male).

- **Infectious Disease.** One curriculum defines "sexually transmitted infections" as "bacterial infections that are acute and usually can be cured" and defines "sexually transmitted diseases" as "infections that are viral in nature, chronic, and usually can not be cured, but rather controlled through treatment."[104] In fact, these terms are used interchangeably in medicine, and the program's definitions are not widely accepted.[105]

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100 Choosing the Best Path, 19.

101 For example, one curriculum has the teacher ask: *"Why might sexually active teens experience depression?* (Investment in another results in pain when breakup occurs; feels like a failure; feels deeper pain because already sees events in emotional way) *What consequences can this depression have?* (May lead to attempted, or successful, suicide. One study showed that girls who had been sexually active were six times more likely to attempt suicide than those who were virgins.)" Choosing the Best Life Leader Guide, 9. The study cited for this figure in fact states that "We are not suggesting that premature sexual experience is a cause or leads to the other negative behaviors," and notes that other researchers have shown bi-directional associations. D.P. Orr et al., *Premature Sexual Activity as an Indicator of Psychosocial Risk*, Pediatrics, 141–47, 146 (Feb. 1991).

102 Why kNOw, 166.

103 *Id.*

104 WAIT Training, 209.

105 *See, e.g., Stedman's Medical Dictionary* (2004), defining "sexually transmitted disease" as "any contagious disease acquired during sexual contact *e.g.,* syphilis, gonorrhea, chancroid" (online at www.stedmans.com).

- **Puberty.** One curriculum tells instructors: "Reassure students that small lumps in breast tissue is common in both boys and girls during puberty. This condition is called gynecomastia and is a normal sign of hormonal changes."[106] This definition is incorrect. In adolescent medicine, gynecomastia refers to a general increase in breast tissue in boys.[107]

- **HIV.** Another curriculum erroneously includes "tears" and "sweat" in a column titled "At risk" for HIV transmission.[108] In fact, according to the CDC, "[c]ontact with saliva, tears, or sweat has never been shown to result in transmission of HIV."[109]

IV. CONCLUSION

Under the Bush Administration, federal support for abstinence-only education has risen dramatically. This report finds that over two-thirds of abstinence-only education programs funded by the largest federal abstinence initiative are using curricula with multiple scientific and medical inaccuracies. These curricula contain misinformation about condoms, abortion, and basic scientific facts. They also blur religion and science and present gender stereotypes as fact.

106 Me, My World, My Future, Teacher's Manual, 40.

107 *Stedman's Medical Dictionary* (2004).

108 WAIT Training, 219.

109 U.S. Centers for Disease Control and Prevention, *Which Body Fluids Transmit HIV?* (Dec. 15, 2003) (online at www.cdc.gov/hiv/pubs/faq/faq37.htm).