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ABSTINENCE EDUCATION

Assessing the Accuracy and Effectiveness of Federally Funded Programs

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Highlights of [GAO-08-664T](#), a testimony before the Committee on Oversight and Government Reform, House of Representatives

Why GAO Did This Study

Among the efforts of the Department of Health and Human Services (HHS) to reduce the incidence of sexually transmitted diseases and unintended pregnancies, the agency provides funding to states and organizations that offer abstinence-until-marriage education.

GAO was asked to testify on the oversight of federally funded abstinence-until-marriage education programs. This testimony is primarily based on *Abstinence Education: Efforts to Assess the Accuracy and Effectiveness of Federally Funded Programs*, [GAO-07-87](#) (Oct. 3, 2006). In this testimony, GAO discusses efforts by (1) HHS and states to assess the scientific accuracy of materials used in abstinence-until-marriage education programs and (2) HHS, states, and researchers to assess the effectiveness of abstinence-until-marriage education programs. GAO also discusses a Public Health Service Act requirement regarding medically accurate information about condom effectiveness.

GAO focused on the three main federally funded abstinence-until-marriage programs and reviewed documents and interviewed HHS officials in the Administration for Children and Families (ACF) and the Office of Population Affairs (OPA). To update certain information, GAO contacted officials from ACF and OPA.

To view the full product, including the scope and methodology, click on [GAO-08-664T](#). For more information, contact Marcia Crosse at (202) 512-7114 or crossem@gao.gov.

ABSTINENCE EDUCATION

Assessing the Accuracy and Effectiveness of Federally Funded Programs

What GAO Found

Efforts by HHS and states to assess the scientific accuracy of materials used in abstinence-until-marriage education programs have been limited. As of October 2006, HHS's ACF—which awards grants under two programs that account for the largest portion of federal spending on abstinence education—did not review its grantees' education materials for scientific accuracy, nor did it require grantees of either program to do so. Not all states that receive funding from ACF had chosen to review their program materials for scientific accuracy. OPA reviewed the scientific accuracy of grantees' proposed education materials, and any inaccuracies found had to be corrected before those materials could be used. The extent to which federally funded abstinence-until-marriage education materials are inaccurate was not known, but OPA and some states reported finding inaccuracies. GAO recommended that the Secretary of HHS develop procedures to help assure the accuracy of abstinence-until-marriage education materials. An ACF official reported that ACF is currently implementing a process to review the accuracy of Community-based grantees' curricula and has required those grantees to sign assurances that the materials they propose using are accurate. The official also reported that, in the future, state grantees will have to provide ACF with descriptions of their strategies for reviewing the accuracy of their programs.

As of August 2006, HHS, states, and researchers had made a variety of efforts to assess the effectiveness of abstinence-until-marriage education programs, but a number of factors limit the conclusions that can be drawn about the programs' effectiveness. ACF and OPA have required their grantees to report on various outcomes used to measure program effectiveness. To assess the effectiveness of its grantees' programs, ACF has analyzed national data on adolescent birth rates and the proportion of adolescents who report having had sexual intercourse. Additionally, 6 of the 10 states in GAO's review worked with third-party evaluators to assess the effectiveness of abstinence-until-marriage programs in their states. However, the conclusions that can be drawn are limited because most of the efforts to evaluate program effectiveness have not met certain minimum criteria that experts have concluded are necessary for such assessments to be scientifically valid. Additionally, the results of some efforts that do meet such criteria have varied.

While conducting work for its October 2006 report, GAO identified a legal matter that required the attention of HHS. Section 317P(c)(2) of the Public Health Service Act requires certain educational materials to contain medically accurate information about condom effectiveness. GAO concluded that this requirement would apply to abstinence education materials prepared and used by federal grant recipients, depending on their substantive content, and recommended that HHS adopt measures to ensure that, where applicable, abstinence education materials comply with this requirement. The fiscal year 2007 program announcement for the Community-based Program provides information about the applicability of this requirement, and future State and Community-based Program announcements are to include this information.

Mr. Chairman and Members of the Committee

I am pleased to be here today as you examine federally funded abstinence-until-marriage education programs. Reducing the incidence of sexually transmitted diseases (STD) and unintended pregnancies among adolescents has been an important objective of the Department of Health and Human Services (HHS). Among its efforts to do so, HHS funds abstinence-until-marriage education programs. These programs are delivered by a variety of entities, including schools, human service agencies, and faith-based organizations. Studies have raised concerns about the accuracy of the educational materials that are incorporated into these programs, as well as the effectiveness of the programs themselves. My remarks today are primarily based on our October 2006 report on the oversight of federally funded abstinence-until-marriage programs, *Abstinence Education: Efforts to Assess the Accuracy and Effectiveness of Federally Funded Programs* (GAO-07-87).¹ In that report, we recommended that the Secretary of Health and Human Services develop procedures to help assure the accuracy of such materials. Today, I will discuss findings from our report on (1) efforts by HHS and states to assess the scientific accuracy of materials used in abstinence-until-marriage programs, and (2) efforts by HHS, states, and researchers to assess the effectiveness of abstinence-until-marriage education programs as well as updates on selected information. I will also discuss a legal matter that came to our attention during the course of our work regarding the applicability of section 317P(c)(2) of the Public Health Service Act to Abstinence Education programs. We recommended in a letter dated October 18, 2006, that HHS adopt measures to ensure that, where applicable, abstinence-until-marriage education materials comply with the requirement that educational materials specifically designed to address STDs contain medically accurate information about condom effectiveness in preventing the STDs the materials were designed to address.²

¹GAO, *Abstinence Education: Efforts to Assess the Accuracy and Effectiveness of Federally Funded Programs*, GAO-07-87 (Washington, D.C.: Oct. 3, 2006). This report is available online at <http://www.gao.gov>.

²42 U.S.C. § 247b-17(c)(2) (2000); see GAO, *Abstinence Education: Applicability of Section 317P of the Public Health Service Act*, B-308128 (Washington, D.C.: Oct. 18, 2006). This letter is available online at <http://www.gao.gov>.

For our assessment of the accuracy and effectiveness of abstinence-until-marriage education programs, we focused our review on the three main federally funded abstinence-until-marriage programs: the Abstinence Education Program (State Program), the Community-Based Abstinence Education Program (Community-Based Program), and the Adolescent Family Life (AFL) Program. The State Program and the Community-Based Program are both administered by HHS's Administration for Children and Families (ACF); AFL is administered by HHS's Office of Population Affairs (OPA). According to HHS, funding for the three abstinence-until-marriage programs was about \$165 million in fiscal year 2007.

In order to describe the efforts to assess the scientific accuracy of program materials, we reviewed published reports, program announcements, *Federal Register* notices, agency Web sites, and other documents related to abstinence-until-marriage education. We did not assess the criteria used to determine the scientific accuracy of education materials or the quality of the reviews. We interviewed officials from ACF and OPA. We also interviewed officials from the 10 states that received the largest share of federal funding (together accounting for 51 percent of the total funding in fiscal year 2005) through the State Program for abstinence-until-marriage education.³

To describe efforts by HHS, states, and researchers to assess the effectiveness of abstinence-until-marriage education programs, we focused on efforts that examined the extent to which these programs achieved their program goals. In general, these goals include teaching adolescents to abstain from sexual activity until marriage in order to avoid unintended pregnancies, STDs, and related health problems. As part of our review, we compared these efforts to the design characteristics that experts have identified as important for a scientifically valid study of

³The 10 states that received the largest share of funding in fiscal year 2005 through the State Program were Arizona, Florida, Georgia, Illinois, Louisiana, Michigan, New York, North Carolina, Ohio, and Texas.

program effectiveness.⁴ We reviewed journal articles and other published reports, agency budget submissions, program announcements, agency and grantee performance reports, *Federal Register* notices, agency Web sites, and other documents related to abstinence-until-marriage education.⁵ We also interviewed officials from ACF, OPA, the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), the Office of the Assistant Secretary for Planning and Evaluation (ASPE), and 10 states that received the largest share of federal funding for abstinence-only education through the State Program in fiscal year 2005. We focused our review on efforts to assess the scientific accuracy of materials and the effectiveness of the programs during fiscal year 2006. We conducted this work from October 2005 through September 2006 and during April 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

To assess the applicability of section 317P(c)(2) of the Public Health Service Act to abstinence-until-marriage education programs, we reviewed the statute, pertinent legislative history, and relevant program guidance. In addition, we solicited the views of HHS officials on this issue.

In summary, we found that efforts by HHS and states to assess the scientific accuracy of materials used in abstinence-until-marriage education programs had been limited. ACF did not review its grantees' education materials for scientific accuracy and did not require that

⁴See Douglas Kirby, *Emerging Answers: Research Findings on Programs to Reduce Teen Pregnancy* (Washington, D.C.: National Campaign to Prevent Teen Pregnancy, 2001). The experts identifying the design characteristics of a scientifically valid study for the National Campaign to Prevent Teen Pregnancy were drawn from institutions that include the National Institutes of Health, the Medical Institute for Sexual Health, the Alan Guttmacher Institute, the Institute for Research and Evaluation, and various universities. See David Satcher, *The National Consensus Process on Sexual Health and Responsible Sexual Behavior: Interim Report* (Atlanta: Morehouse School of Medicine, 2006). The panel convened by former Surgeon General David Satcher included experts from a variety of organizations, including the Medical Institute for Sexual Health, the Alan Guttmacher Institute, and the American Academy of Pediatrics. In addition, characteristics of a scientifically valid study have been identified by other experts in the field of evaluation research. For example, see Carol H. Weiss, *Evaluation* (Upper Saddle River: Prentice Hall, 1998).

⁵For a more detailed description of our literature review methodology, see [GAO-07-87](#).

grantees of either the State Program or the Community-Based Program do so. In addition, not all states that received funding through ACF's State Program chose to review their program materials for scientific accuracy. Five of the 10 states in our review conducted such reviews. In contrast to ACF, OPA did review the scientific accuracy of AFL grantees' proposed educational materials and any inaccuracies found had to be corrected before the materials could be used. While we reported that the extent to which federally funded abstinence-until-marriage education materials are inaccurate was not known, in the course of their reviews OPA and some states reported that they had found some inaccuracies in abstinence-until-marriage education materials. For example, one state official described an instance in which abstinence-until-marriage materials incorrectly suggested that HIV can pass through condoms because the latex used in condoms is porous. To address concerns about the scientific accuracy of materials used in abstinence-until-marriage programs, we recommended that the Secretary of HHS develop procedures to help assure the accuracy of such materials, and HHS agreed to consider this recommendation. In April 2008, an ACF official reported that, in response to our recommendation, ACF began requiring in fiscal year 2007 that community-based grantees sign written assurances that the materials they propose using are accurate. This official also reported that, starting in fiscal year 2008, grantees of the State Program will also be required to sign these written assurances. In addition, this official reported that ACF is implementing a process to review the accuracy of the proposed curricula of fiscal year 2007 Community-based grantees. The ACF official reported that the curricula will be reviewed by a research analyst to ensure that all statements are referenced to source documents, and then by a healthcare professional who will compare the information in the curricula to information in the source documents. The official also reported that, in the future, ACF will require states to provide the agency with descriptions of their strategies for reviewing the accuracy of their abstinence-until-marriage education programs.

HHS, states, and researchers have made a variety of efforts to assess the effectiveness of abstinence-until-marriage education programs; however, a number of factors limit the conclusions that can be drawn about the effectiveness of abstinence-until-marriage education programs. To assess the effectiveness of their abstinence-until-marriage education programs, ACF and OPA have required their grantees to report on various outcomes. For example, as of fiscal year 2006, states that received funding through the State Program were required to report annually on four measures of the prevalence of adolescent sexual behavior in their state, such as the rate of pregnancy among adolescents aged 15 to 17 years. To assess the

effectiveness of both its State and Community-Based Programs, ACF also analyzed trends in adolescent behavior, as reflected in national data on birth rates among teens and the proportion of surveyed high school students reporting that they have had sexual intercourse. OPA required grantees of the AFL Program to develop and report on outcome measures that demonstrated the extent to which grantees' programs are having an effect on program participants. Further, 6 of the 10 states in our review that received funding through the State Program worked with third-party evaluators to assess the effectiveness of abstinence-until-marriage education programs in their states. Several factors, however, limit the conclusions that can be drawn about the effectiveness of abstinence-until-marriage education programs. Most of the efforts to evaluate the effectiveness of abstinence-until-marriage education programs that we described in our report did not meet certain minimum criteria—such as random assignment of participants and sufficient follow-up periods and sample sizes—that experts have concluded are necessary in order for assessments of program effectiveness to be scientifically valid.

During the course of our work on abstinence-until-marriage education, we identified a legal matter that required the attention of HHS. Section 317P(c)(2) of the Public Health Service Act requires educational materials specifically designed to address STDs to contain medically accurate information about condom effectiveness in preventing the diseases the educational materials are designed to address. We concluded that this requirement would apply to abstinence-until-marriage education materials prepared by and used by federal grant recipients, depending upon the substantive content of those materials. In other words, in materials otherwise meeting the statutory criteria, HHS' grantees are required to include information on condom effectiveness, and that information must be medically accurate. At the time of our review, an ACF official reported that materials prepared by abstinence-until-marriage education grantees were not subject to section 317P(c)(2). Therefore, we recommended in a letter dated October 18, 2006, that HHS reexamine its position and adopt measures to ensure that, where applicable, abstinence-until-marriage education materials comply with this requirement. The fiscal year 2007 Community-Based Program announcement states that mass produced materials that as their primary purpose are specifically about STDs are required to contain medically accurate information regarding the effectiveness or lack of effectiveness of condoms in preventing the STDs the educational materials are designed to address. An ACF official also told us that future State and Community-Based Program announcements would include this language.

Background

Statistics reported by CDC show that many high school students engage in sexual behavior that places them at risk for unintended pregnancy and STDs. In 2005, 46.8 percent of high school students reported that they have had sexual intercourse, with 14.3 percent of students reporting that they had had sexual intercourse with four or more persons. CDC also has reported that the prevalence of certain STDs—including the rate of chlamydia infection, the most frequently reported STD in the United States—peaks in adolescence and young adulthood.

At the time of our 2006 report, HHS's strategic plan included the objectives to reduce the incidence of STDs and unintended pregnancies and to promote family formation and healthy marriages. These two objectives supported HHS's goals to reduce the major threats to the health and well-being of Americans and to improve the stability and healthy development of American children and youth. Abstinence-until-marriage education programs were one of several types of programs that supported these objectives. The State Program, the Community-Based Program, and the AFL Program provide grants to support the recipients' own efforts to provide abstinence-until-marriage education at the local level. These programs must comply with the statutory definition of abstinence education (see table 1).⁶

⁶42 U.S.C. § 710(b)(2). This definition is also referred to as the A-H definition. This statutory provision defines abstinence education for purposes of the State Program. Annual appropriations acts and program announcements have extended this definition to the Community-Based and AFL Programs. *See, e.g.*, Departments of Labor, Health and Human Services, and Education, and Related Agencies Appropriations Act, 2006, Pub. L. No. 109-149, 119 Stat. 2833, 2855-56.

Table 1: Definition of Abstinence Education

Abstinence education refers to an educational or motivational program that:
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.

Source: Social Security Act, § 510(b)(2) (codified at 42 U.S.C. § 710(b)(2)).

The State Program, administered by ACF, provides funding to its grantees—states—for the provision of abstinence-until-marriage education to those most likely to have children outside of marriage.⁷ States that receive grants through the State Program have discretion in how they use their funding to provide abstinence-until-marriage education. Funds are allotted to each state that submits the required annual application based on the ratio of the number of low-income children in the state to the total number of low-income children in all states. States are required to match every \$4 they receive in federal money with \$3 of nonfederal money and are required to report annually on the performance of the abstinence-until-marriage education programs that they support or administer. In fiscal year 2007, 40 states, the District of Columbia, and 3 insular areas were awarded funding.

⁷Funds are also provided through the State Program to the District of Columbia and insular areas, which include U.S. territories and commonwealths. In this statement, we refer to U.S. territories and commonwealths as “insular areas.” When we refer to “states,” we are referring to all grantees of the State Program—including states, insular areas, and the District of Columbia.

The Community-Based Program, which is also administered by ACF, is focused on funding public and private entities that provide abstinence-until-marriage education for adolescents from 12 to 18 years old. The Community-Based Program provides grants for school-based programs, adult and peer mentoring, and parent education groups. For fiscal year 2007, 59 grants were awarded to organizations and other entities. Grantees are required to report to ACF, on a semiannual basis, on the performance of their programs.

The AFL Program also supports programs that provide abstinence-until-marriage education.⁸ Under the AFL Program, OPA awards competitive grants to public or private nonprofit organizations or agencies, including community-based and faith-based organizations, to facilitate abstinence-until-marriage education in a variety of settings, including schools and community centers. In fiscal year 2007, OPA awarded funding to 36 grantees. Grantees are required to conduct evaluations of certain aspects of their programs and report annually on their performance.

Five organizational units located within HHS—ACF, OPA, CDC, ASPE, and NIH—have responsibilities related to abstinence-until-marriage education. ACF and OPA administer the three main federal abstinence-until-marriage education programs. CDC supports abstinence-until-marriage education at the national, state, and local levels. CDC, ASPE, and NIH are sponsoring research on the effectiveness of abstinence-until-marriage programs.

⁸See 42 U.S.C. § 300z et seq. In this statement, when we use the term AFL Program, we are referring only to the abstinence-until-marriage component of the AFL Program. The AFL Program also supports other projects for pregnant and parenting adolescents, their infants, male partners, and family members. The purpose of these projects is to improve the outcomes of early childbearing for teen parents, their infants, and their families.

Federal and State Efforts to Assess the Scientific Accuracy of Materials Used in Abstinence-until-Marriage Education Programs Have Been Limited

In October 2006 we reported that efforts by HHS and states to assess the scientific accuracy of materials used in abstinence-until-marriage education programs had been limited.⁹ ACF—whose grants to the State and Community-Based Programs accounted for the largest portion of federal spending on abstinence-until-marriage education—did not review its grantees’ education materials for scientific accuracy and did not require grantees of either program to review their own materials for scientific accuracy. In addition, not all states funded through the State Program chose to review their program materials for scientific accuracy. In contrast to ACF, OPA reviewed the scientific accuracy of grantees’ proposed educational materials and corrected inaccuracies in these materials.

ACF Neither Reviewed Nor Required Grantees to Review Program Materials for Scientific Accuracy, Although Some State Grantees Had Conducted Such Reviews

As of October 2006, there had been limited efforts to review the scientific accuracy of educational materials used in ACF’s State and Community-Based Programs—the two programs that accounted for the largest portion of federal spending on abstinence-until-marriage education. ACF did not review materials for scientific accuracy in either reviewing grant applications or in overseeing grantees’ performance. Prior to fiscal year 2006, State Program and Community-Based Program applicants were not required to submit copies of their proposed educational materials with their applications. While ACF required grantees of the Community-Based Program—but not the State Program—to submit their educational materials with their fiscal year 2006 applications, ACF officials told us that grantee applications and materials were only reviewed to ensure that they addressed all aspects of the scope of the Community-Based Program, such as the A-H definition of abstinence education.¹⁰ Further, documents provided to us by ACF indicated that the agency did not review grantees’ educational materials for scientific accuracy as a routine part of its oversight activities. In addition, ACF also did not require its grantees to review their own materials for scientific accuracy.

While not all grantees of the State Program had chosen to review the scientific accuracy of their educational materials, officials from 5 of the 10 states in our review reported that their states chose to do so. These five states used a variety of approaches in their reviews. For example, some

⁹See [GAO-07-87](#).

¹⁰HHS officials told us that if ACF finds inaccurate statements during this more general review process or if inaccuracies are brought to their attention at any time during the grant period, ACF officials work with the grantees to take corrective action.

states contracted with medical professionals—such as nurses, gynecologists, and pediatricians—to serve as medical advisors who review program materials and use their expertise to determine what is and is not scientifically accurate. One of the states required that all statistics or scientific statements cited in a program’s materials be sourced to CDC or a peer-reviewed medical journal. Officials from this state told us that if statements in these materials could not be attributed to these sources, the statements were required to be removed until citations were provided and materials were approved.

As a result of their reviews, officials from two of the five states reported that they had found inaccuracies. One state official cited an instance where materials incorrectly suggested that HIV can pass through condoms because the latex used in condoms is porous. State officials who have identified inaccuracies told us that they informed their grantees of inaccuracies so that they could make corrections in their individual programs. Some of the educational materials that states reviewed were materials that were commonly used in the Community-Based Program.

While there had been limited review of materials used in the State and Community-Based Programs, grantees of these programs had received some technical assistance designed to improve the scientific accuracy of their materials. For example, ACF officials reported that the agency provided a conference for grantees of the Community-Based Program in February 2006 that included a presentation focused on medical accuracy.

OPA Reviewed Materials Used by AFL Program Grantees for Scientific Accuracy

As of 2006, in contrast to ACF, OPA reviewed for scientific accuracy the educational materials used by AFL Program grantees, and it did so before those materials were used. OPA officials said that after grants were awarded, a medical education specialist (in consultation with several part-time medical experts) reviewed the grantees’ printed materials and other educational media, such as videos. OPA officials explained that the medical education specialist must approve all proposed materials before they are used. On many occasions, OPA grantees had proposed using—and therefore OPA has reviewed—materials commonly used in the Community-Based Program. For example, an OPA official told us that the agency had reviewed three of the Community-Based Program’s commonly used curricula and was also currently reviewing another curriculum commonly used by Community-Based Program grantees.

OPA officials stated that the medical education specialist had occasionally found and addressed inaccuracies in grantees' proposed educational materials. OPA officials stated that these inaccuracies were often the result of information being out of date because, for example, medical and statistical information on STDs changes frequently. OPA addressed these inaccuracies by either not approving the materials in which they appeared or correcting the materials through discussions with the grantees and, in some cases, the authors of the materials. In fiscal year 2005, OPA disapproved of a grantee using a specific pamphlet about STDs because the pamphlet contained statements about STD prevention and HIV transmission that were considered incomplete or inaccurate. For example, the pamphlet stated that there was no cure for hepatitis B, but the medical education specialist required the grantee to add that there was a preventive vaccine for hepatitis B. In addition, OPA required that a grantee correct several statements in a true/false quiz—including statements about STDs and condom use—in order for the quiz to be approved for use. For example, the medical education specialist changed a sentence from "The only 100% effective way of avoiding STDs or unwanted pregnancies is to not have sexual intercourse." to "The only 100% effective way of avoiding STDs or unwanted pregnancies is to not have sexual intercourse and engage in other risky behaviors."

While OPA and some states had reviewed their grantees' abstinence-until-marriage education materials for scientific accuracy, these types of reviews have the potential to affect abstinence-until-marriage education providers more broadly, perhaps creating an incentive for the authors of such materials to ensure they are accurate. As of October 2006, the company that produced one of the most widely used curricula used by grantees of the Community-Based Program had updated its curriculum. A representative from that company stated that this had been done, in part, in response to a congressional review that found inaccuracies in its abstinence-until-marriage materials.

To address concerns about the scientific accuracy of materials used in abstinence-until-marriage education programs, we recommended that the Secretary of HHS develop procedures to help assure the accuracy of such materials used in the State and Community-Based Programs.¹¹ We recommended that in order to provide such assurance, the Secretary could consider alternatives such as (1) extending the approach currently used by

¹¹See [GAO-07-87](#).

OPA to review the scientific accuracy of the factual statements included in abstinence-until-marriage education to materials used by grantees of ACF's Community-Based Program and requiring grantees of ACF's State Program to conduct such reviews or (2) requiring grantees of both programs to sign written assurances in their grant applications that the materials they propose using are accurate. In its written comments on a draft of our report, HHS stated that it would consider requiring grantees of both ACF programs to sign such written assurances to the accuracy of their materials. In April 2008, an ACF official reported that, in response to our recommendation, ACF began requiring in fiscal year 2007 that community-based grantees sign written assurances that the materials they propose using are accurate. This official also reported that, starting in fiscal year 2008, grantees of the State Program will also be required to sign these written assurances. In addition, this official reported that ACF is implementing a process to review the accuracy of the proposed curricula of fiscal year 2007 Community-based grantees. The ACF official reported that the curricula will be reviewed by a research analyst to ensure that all statements are referenced to source documents, and then by a healthcare professional who will compare the information in the curricula to information in the source documents. The official also reported that, in the future, ACF will require states to provide the agency with descriptions of their strategies for reviewing the accuracy of their abstinence-until-marriage education programs.

A Variety of Efforts Were Made to Assess the Effectiveness of Abstinence-until-Marriage Education Programs, but a Number of Factors Limit the Conclusions That Can Be Drawn

HHS, states, and researchers have made a variety of efforts to assess the effectiveness of abstinence-until-marriage education programs; however, a number of factors limit the conclusions that can be drawn. ACF and OPA have required their grantees to report on various outcomes used to measure the effectiveness of grantees' abstinence-until-marriage education programs. To assess the effectiveness of the State and Community-Based Programs, ACF has analyzed national data on adolescent birth rates and the proportion of adolescents who report having had sexual intercourse. As of October 2006, other organizational units within HHS were funding studies designed to assess the effectiveness of abstinence-until-marriage education programs in delaying sexual initiation, reducing pregnancy and STD rates, and reducing the frequency of sexual activity. Despite these efforts, several factors limit the conclusions that can be drawn about the effectiveness of abstinence-until-marriage education programs. Most of the efforts to evaluate the effectiveness of abstinence-until-marriage education programs that we reviewed have not met certain minimum criteria that experts have concluded are necessary in order for assessments of program effectiveness to be scientifically valid, in part because such designs can be

expensive and time-consuming to carry out. In addition, the results of some efforts that meet the criteria of a scientifically valid assessment have varied.

HHS, States, and Researchers Have Made a Variety of Efforts to Assess the Effectiveness of Abstinence-until-Marriage Education Programs

ACF has made efforts to assess the effectiveness of abstinence-until-marriage education programs funded by the State Program and the Community-Based Program. One of ACF's efforts has been to require grantees of both programs to report data on outcomes, though the two programs have different requirements for the outcomes grantees must report.¹² As of fiscal year 2006, State Program grantees were required to report annually on four measures of the prevalence of adolescent sexual behavior in their states, such as the rate of pregnancy among adolescents aged 15 to 17 years, and compare these data to program targets over 5 years. States also were required to develop and report on two additional performance measures that were related to the goals of their programs.¹³ Also as of fiscal year 2006, ACF required Community-Based Program grantees to develop and report on outcome measures designed to demonstrate the extent to which grantees' community-based abstinence-until-marriage education programs were accomplishing their program goals.¹⁴ In addition to outcome reporting, ACF required grantees of the Community-Based Program to report on program "outputs," which measure the quantity of program activities and other deliverables, such as the number of participants who are served by the abstinence-until-marriage education programs.

¹²This reporting is a part of ACF's efforts to collect evaluative information about these programs. These efforts include both performance measurement—the ongoing monitoring and reporting of program accomplishments toward pre-established goals—and program evaluation—individual systematic studies to assess how well a program is working.

¹³For example, in fiscal year 2002, state grantees developed such measures as the percentage of teens surveyed who show an increase in participating in structured activities after school hours; the percentage of live births to women younger than 18, fathered by men age 20 and older; the percentage of program participants proficient in refusal skills; the percentage of high school students who reported using drugs or alcohol before intercourse; and the percentage of high school students who had sexual intercourse for the first time before age 13.

¹⁴The fiscal year 2006 program announcement for the Community-Based Program provided examples of outcome measures that grantees could use, including increased knowledge of the benefits of abstinence, the number of youths who commit to abstaining from premarital sexual activity, and increased knowledge of how to avoid high-risk situations and risk behaviors.

As of October 2006, OPA also had made efforts to assess the effectiveness of the AFL Program. Specifically, OPA required grantees of the AFL Program to develop and report on outcome measures, such as participants' knowledge of the benefits of abstinence and their reported intentions to abstain from sexual activity, that were used to help demonstrate the extent to which grantees' programs were having an effect on program participants. To collect data on outcome measures, OPA required grantees to administer, at a minimum, a standardized questionnaire to their program participants, both when participants begin an abstinence-only education program and after the program's completion. OPA officials told us that they were planning to aggregate information from certain questions in the standardized set of questionnaires in order to report on certain performance measures as part of the agency's annual performance reports; the agency expected to begin receiving data from grantees that were using these questionnaires in January 2007.

To help grantees measure the effectiveness of their programs, both ACF and OPA required that grantees use independent evaluators and have provided assistance to grantees in support of their program evaluation efforts. ACF and OPA required their grantees to contract with third-party evaluators, such as university researchers or private research firms, who were responsible for helping grantees develop the outcome measures they were required to report on and monitoring grantee performance against those measures. Unlike ACF, OPA required that these third-party evaluations incorporate specific methodological characteristics, such as control groups of individuals that did not receive the program and sufficient sample sizes to ensure that any observed differences between the groups were statistically valid. Both ACF and OPA have provided technical assistance and training to their grantees in order to support grantees' own program evaluation efforts.

ACF also analyzed trends in adolescent behavior, as reflected in national data on birth rates among teens and the proportion of surveyed high school students reporting that they have had sexual intercourse.¹⁵ ACF used these national data as a measure of the overall effectiveness of its State and Community-Based Programs, comparing the national data to

¹⁵Data on teen birth rates and adolescents' reported sexual behavior are contained in the National Vital Statistics System and the Youth Risk Behavior Surveillance System, respectively. The former is a national data set of public health statistics reported by states to CDC, and the latter is a national data set based on nationwide surveys administered to high school students by CDC.

program targets. In its annual performance reports, the agency has summarized the progress being made toward lowering the rate of births to unmarried teenage girls and the proportion of students (grades 9-12) who report having ever had sexual intercourse.

Some states have made additional efforts to assess the effectiveness of abstinence-until-marriage education programs. Specifically, we found that 6 of the 10 states in our review that received funding through ACF's State Program had made efforts to conduct evaluations of selected abstinence-until-marriage programs in their state. All 6 of the states worked with third-party evaluators, such as university researchers or private research firms, to perform the evaluations, which in general measured self-reported changes in program participants' behavior and attitudes related to sex and abstinence as indicators of program effectiveness. Four of these states had completed third-party evaluations as of February 2006, and the results of these studies varied.¹⁶ Among those 4 states, 3 states required the abstinence programs in their state to measure reported changes in participants' behavior as an indicator of program effectiveness—both at the start of the program and after its completion. The 3 states required their programs to track participants' reported incidence of sexual intercourse. Additionally, 2 of the 4 states required their programs to track biological outcomes, such as pregnancies, births, or STDs. In addition, 6 of the 10 states in our review required their programs to track participants' attitudes about abstinence and sex, such as the number of participants who make pledges to remain abstinent.

Besides ACF and OPA, other organizational units within HHS have made efforts to assess the effectiveness of abstinence-until-marriage education programs. As of 2006, ASPE was sponsoring a study of the Community-Based Program and a study of the State Program. The study of the State Program was conducted by Mathematica Policy Research, Inc. (Mathematica) and completed in 2007. It examined the impact of five programs funded through the State Program on participants' attitudes and

¹⁶See, for example, LeCroy & Milligan Associates, Inc., *Abstinence Only Education Program: Fifth Year Evaluation Report*, a report prepared for the Arizona Department of Health Services (2003); Patricia Goodson et al., *Abstinence Education Evaluation: Phase 6*, a report prepared for the Texas Department of State Health Services (2005); MGT of America, *Evaluation of Georgia Abstinence Education Programs Funded Under Title V, Section 510*, a report prepared for the Georgia Department of Human Resources (2005); Thomas E. Smith, *It's Great to Wait: An Interim Evaluation*, a report prepared for the Florida Department of Health (2001).

behaviors related to abstinence and sex.¹⁷ Like ASPE, CDC has made its own effort to assess the effectiveness of abstinence-until-marriage education by sponsoring a study to evaluate the effectiveness of two middle school curricula—one that complies with abstinence-until-marriage education program requirements and one that teaches a combination of abstinence and contraceptive information and skills. The agency expects to complete the study in 2009. Likewise, NIH has funded studies comparing the effectiveness of education programs that focus only on abstinence with the effectiveness of sex education programs that teach both abstinence and information about contraception. As of October 2006, NIH was funding five studies, which in general were comparing the effects of these two types of programs on the sexual behavior and related attitudes among groups of either middle school or high school students.

In addition to the efforts of researchers working on behalf of HHS and states, other researchers—such as those affiliated with universities and various advocacy groups—have made efforts to study the effectiveness of abstinence-until-marriage education programs. This work includes studies of the outcomes of individual programs and reviews of other studies on the effectiveness of individual abstinence-until-marriage education programs. In general, research studies on the effectiveness of individual programs have examined the extent to which they changed participants' demonstrated knowledge of concepts taught in the programs, declared intentions to abstain from sex until marriage, and reported behavior related to sexual activity and abstinence. As of October 2006, the efforts to study and build a body of research on the effectiveness of most abstinence-until-marriage education programs had been under way for only a few years, in part because grants under the two programs that account for the largest portion of federal spending on abstinence-until-marriage education—the State Program and the Community-Based Program—were not awarded until 1998 and 2001, respectively.

¹⁷The five abstinence-until-marriage education programs studied were *My Choice, My Future!* in Powhatan, Virginia; *ReCapturing the Vision* in Miami, Florida; *Teens in Control* in Clarksdale, Mississippi; *Families United to Prevent Teen Pregnancy* in Milwaukee, Wisconsin; and *Heritage Keepers* in Edgefield, South Carolina.

Several Factors Limit the Conclusions That Can Be Drawn about the Effectiveness of Abstinence-until-Marriage Education Programs

Most of the efforts of HHS, states, and other researchers to evaluate the effectiveness of abstinence-until-marriage education programs included in our review have not met certain minimum criteria that experts have concluded are necessary in order for assessments of program effectiveness to be scientifically valid. In an effort to better assess the merits of the studies that have been conducted on the effectiveness of sexual health programs—including abstinence-until-marriage education programs—scientific experts have developed criteria that can be used to gauge the scientific rigor of these evaluations. The reports of two panels of experts,^{18,19} as well as the experts we interviewed in the course of our previous work, generally agreed that scientifically valid studies of a program’s effectiveness should include the following characteristics:

- *An experimental design that randomly assigns individuals or schools to either an intervention group or control group, or a quasi-experimental design that uses nonrandomly assigned but well-matched comparison groups.* According to the panel of scientific experts convened by the National Campaign to Prevent Teen Pregnancy, experimental designs or quasi-experimental designs with well-matched comparison groups have at least three important strengths that are typically not found in other studies, such as those that use aggregated data: they evaluate specific programs with known characteristics, they can clearly distinguish between participants who did and did not receive an intervention, and they control for other factors that may affect study outcomes. According to scientific experts, studies that include experimental or quasi-experimental designs should also collect follow-up data for a minimum number of months after subjects receive an intervention. In addition, experts have reported that studies should have a sample size of at least 100 individuals for study results to be considered scientifically valid.
- *Studies should assess or measure changes in biological outcomes or reported behaviors instead of attitudes or intentions.* According to scientific experts, biological outcomes—such as pregnancy rates, birth rates, and STD rates—and reported behaviors—such as reported initiation and frequency of sexual activity—are better measures of the effectiveness

¹⁸See Kirby. This panel included experts from NIH, the Medical Institute for Sexual Health, the Alan Guttmacher Institute, the Institute for Research and Evaluation, and various universities.

¹⁹See Satcher. This panel included experts from a variety of organizations, including the Medical Institute for Sexual Health, the Alan Guttmacher Institute, and the American Academy of Pediatrics.

of abstinence-until-marriage programs, because adolescent attitudes and intentions may or may not be indicative of actual behavior.

Many of the efforts by HHS, states, and other researchers that we identified in our review lack at least one of the characteristics of a scientifically valid study of program effectiveness. Most of the efforts to assess the effectiveness of these programs have not used experimental or quasi-experimental designs with sufficient follow-up periods and sample sizes. For example, ACF used, according to ACF officials, grantee reporting on outcomes in order to monitor grantees' performance, target training and technical assistance, and help grantees improve service delivery. However, because the outcomes reported by grantees have not been produced through experimentally or quasi-experimentally designed studies, such information cannot be causally attributed to any particular abstinence-until-marriage education program. Further, none of the state evaluations we reviewed that had been completed included randomly assigned control groups. Similarly, some of the journal articles that we reviewed described studies to assess the effectiveness of abstinence-until-marriage programs that also lacked at least one of the characteristics of a scientifically valid study of program effectiveness. In these studies, researchers administered questionnaires to study participants before and after they completed an abstinence-until-marriage education program and assessed the extent to which the responses of participants changed.²⁰ These studies did not compare the responses of study participants with a group that did not participate in an abstinence-until-marriage education program.

Like the lack of an experimental or quasi-experimental design, not measuring changes in behavioral or biological outcomes among participants limits the conclusions that can be drawn about the effectiveness of abstinence-until-marriage education programs. Most of the efforts we identified in our review used reported intentions and attitudes in order to assess the effectiveness of abstinence-until-marriage programs. For example, as of 2006, neither ACF's community-based grantees nor OPA's AFL grantees were required to report on behavioral or biological outcomes, such as rates of intercourse or pregnancy. Similarly, the journal articles we reviewed were more likely to use reported attitudes and

²⁰See, for example, S. M. Fitzgerald et al., "Effectiveness of the Responsible Social Values Program for 6th Grade Students in One Rural School District," *Psychological Reports*, vol. 91 (2002), and J. E. Barnett and C. S. Hurst, "Abstinence Education for Rural Youth: An Evaluation of the Life's Walk Program," *The Journal of School Health*, vol. 73, no. 7 (2003).

intentions—such as study participants’ reported attitudes about premarital sexual activity or their reported intentions to remain abstinent until marriage—rather than their reported behaviors or biological outcomes to assess the effectiveness of abstinence-until-marriage programs.

According to scientific experts, HHS, states, and other researchers face a number of challenges in applying either of these criteria. According to these experts, experimental or quasi-experimental studies can be expensive and time-consuming to carry out, and many grantees of abstinence-until-marriage education programs have insufficient time and funding to support these types of studies. Moreover, it can be difficult for researchers assessing abstinence-until-marriage education programs to convince school districts to participate in randomized intervention and control groups, in part because of sensitivities to surveying attitudes, intentions, and behaviors related to abstinence and sex. Similarly, experts, as well as state and HHS officials, have reported that it can be difficult to obtain scientifically valid information on biological outcomes and sexual behaviors. For example, experts have reported that when measuring a program’s effect on biological outcomes—such as reducing pregnancy rates or birth rates—it is necessary to have large sample sizes in order to determine whether a small change in such outcomes is the result of an abstinence-until-marriage education program.

Among the assessment efforts we identified are some studies that meet the criteria of a scientifically valid effectiveness study. However, results of these studies varied, and this limits the conclusions that can be drawn about the effectiveness of abstinence-until-marriage education programs. Some researchers have reported that abstinence-until-marriage education programs have resulted in adolescents reporting having less frequent sexual intercourse or fewer sexual partners.²¹ For example, in one study of middle school students, participants in an abstinence-until-marriage education program who had sexual intercourse during the follow-up period were 50 percent less likely to report having two or more sexual partners when compared with their nonparticipant peers.²² In contrast,

²¹See E. A. Borawski et al., “Effectiveness of Abstinence-only Intervention in Middle School Teens,” *American Journal of Health Behavior*, vol. 29, no. 5 (2005). See also T. L. St. Pierre et al., “A 27-Month Evaluation of a Sexual Activity Prevention Program in Boys & Girls Clubs Across the Nation,” *Family Relations*, vol. 44, no. 1 (1995).

²²See Borawski et al., “Effectiveness of Abstinence-only Intervention in Middle School Teens,”

other studies have reported that abstinence-until-marriage education programs did not affect the reported frequency of sexual intercourse or number of sexual partners.²³ For example, one study of middle school students found that participants of an abstinence-until-marriage program were not less likely than nonparticipants at the 1 year follow-up to report less frequent sexual intercourse or fewer sexual partners.²⁴ Experts with whom we spoke emphasized that there were still too few scientifically valid studies completed as of 2006 that could be used to determine conclusively which, if any, abstinence-until-marriage programs are effective.

We identified two key studies that experts anticipated would meet the criteria of a scientifically valid effectiveness study. Experts and federal officials we interviewed stated that they expected the results of these two federally funded studies to add substantively to the body of research on the effectiveness of abstinence-until-marriage education programs. One of these key studies—the final Mathematica report, contracted by ASPE, on the State Program—has been completed.²⁵ In this report, the researchers found that youth who participated in the abstinence-until-marriage education programs were no more likely than control group youth to have abstained from sex, and among those who reported having had sex, they had similar numbers of sexual partners and had initiated sex at the same average age. The youth in abstinence-until-marriage education programs also were no more likely to have engaged in unprotected sex than control group youth. The second key study we identified is CDC’s research on middle school programs, which is still ongoing. In addition, since October 2006, a third key report was released, presenting the 2007 analysis of the

²³See N. G. Harrington et al., “Evaluation of the All Stars Character Education and Problem Behavior Prevention Program: Effects on Mediator and Outcome Variables for Middle School Students,” *Health Education & Behavior*, vol. 28, no. 5 (2001). See also J. B. Jemmott III, L. S. Jemmott, and G. T. Fong, “Abstinence and Safer Sex HIV Risk-Reduction Interventions for African American Adolescents: A Randomized Controlled Trial,” *Journal of the American Medical Association*, vol. 279, no. 19 (1998).

²⁴See Harrington et al., “Evaluation of the All Stars Character Education and Problem Behavior Prevention Program: Effects on Mediator and Outcome Variables for Middle School Students.”

²⁵See Trenholm et al., *Impacts of Four Title V, Section 510 Abstinence Education Programs: Final Report*, a report prepared for ASPE, 2007. According to several scientific experts, Mathematica’s study is an important one, in part because of its sound design: the study randomly assigns and compares control groups with groups receiving abstinence-until-marriage education and uses surveys to follow up with program participants for several months after their completion of a program.

National Campaign to Prevent Teen and Unplanned Pregnancy of the available research on abstinence-until-marriage education programs. This report stated that studies of abstinence programs have not produced sufficient evidence of effectiveness, and that efforts should be directed toward further evaluation of these programs.²⁶

Statutory Requirement to Include Information on Condom Effectiveness Would Apply to Certain Abstinence-until-Marriage Education Materials

During the course of our work on abstinence-until-marriage education, we identified a federal statutory provision—section 317P(c)(2) of the Public Health Service Act—relevant to the grants provided by HHS’s State Program, Community-Based Program, and AFL Program.²⁷ This provision requires that educational materials prepared by HHS’s grantees, among others, that are specifically designed to address STDs, contain medically accurate information regarding the effectiveness or lack of effectiveness of condoms in preventing the diseases the materials are designed to address.

At the time of our review, an ACF official reported that materials prepared by abstinence-until-marriage education grantees were not subject to section 317P(c)(2). However, we concluded that this requirement would apply to abstinence-until-marriage education materials prepared by and used by federal grant recipients, depending upon the substantive content of those materials. In other words, in materials specifically designed to address STDs, HHS’s grantees are required to include information on condom effectiveness, and that information must be medically accurate. Therefore, we recommended in a letter dated October 18, 2006, that HHS reexamine its position and adopt measures to ensure that, where applicable, abstinence education materials comply with this requirement.²⁸

²⁶See Douglas Kirby, *Emerging Answers 2007: Research Findings on Programs to Reduce Teen Pregnancy and Sexually Transmitted Diseases* (Washington D.C.: National Campaign to Prevent Teen and Unplanned Pregnancy, 2007).

²⁷42 U.S.C. § 247b-17(c)(2). Section 317P(c)(2) states that “. . . educational and prevention materials prepared and printed . . . for the public and health care providers by the Secretary (including materials prepared through the Food and Drug Administration, the Centers for Disease Control and Prevention, and the Health Resources and Services Administration) or by contractors, grantees, or subgrantees thereof, that are specifically designed to address STDs . . . shall contain medically accurate information regarding the effectiveness or lack of effectiveness of condoms in preventing the STD the materials are designed to address. Such requirement only applies to materials mass produced for the public and health care providers, and not to routine communications.”

²⁸See GAO, B-308128, Oct. 18, 2006.

In a letter to us dated January 16, 2007, ACF responded that it would take steps to “make it clear to grantees that when they mass produce materials that as a primary purpose are specifically about STDs those materials are required by section 317P(c)(2) of the Public Health Service Act to contain medically accurate information regarding the effectiveness or lack of effectiveness of condoms in preventing the sexually transmitted disease the materials are designed to address.” The fiscal year 2007 Community-Based Program announcement states that mass produced materials that as their primary purpose are specifically about STDs are subject to this requirement. The announcement also states that mass produced materials are considered to be specifically designed to address STDs if more than 50 percent of the content is related to STDs. An ACF official also told us that future State and Community-Based Program announcements would include this language.²⁹

Mr. Chairman, this completes my prepared remarks. I will be happy to answer questions you or other Committee Members may have.

Contact and Acknowledgments

For further information regarding this testimony, please contact Marcia Crosse at (202) 512-7114 or crossem@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Major contributors to this report were Kristi Peterson, Assistant Director; Kelly DeMots; Cathleen Hamann; Helen Desaulniers; and Julian Klazkin.

²⁹OPA reported that, as a matter of policy, it has required since 1993 that AFL Program materials that include information regarding STDs contain medically accurate information regarding the effectiveness or lack of effectiveness of condoms in preventing the STDs addressed in the materials. Further, OPA reported that, since November 2006, OPA has taken additional steps to inform grantees about OPA’s policy and the need to be compliant with the requirements of Section 317P(c)(2) of the Public Health Service Act.

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