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# Teen Pregnancy Prevention Evidence Review: History, Overview of Findings, and Gaps in the Evidence

TPPER is the transparent, systematic process to help policymakers, practitioners, and researchers make sense of the continuously expanding body of evaluation studies and make evidence-informed decisions about teen pregnancy prevention programs.

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## KEY POINTS

- The HHS Teen Pregnancy Prevention Evidence Review (TPPER) began in 2009 and, since then, has assessed 192 studies as high- or moderate-quality, identifying 63 programs that have evidence of effectiveness.
- TPPER currently includes 48 *active* programs that have demonstrated impacts on at least one outcome measure domain, including 18 programs that show impact in more than one domain. An additional 15 programs are now considered *inactive*, either because their evidence is outdated, or the developer no longer supports the program model.
- A 2024 meta-analysis of TPPER-reviewed programs found that teen pregnancy prevention programs have a statistically significant positive average effect, which can be conceptualized as a reduction in prevalence of risky sexual behavior by 4.3 percentage points, from 50 percent to 45.7 percent.
- TPPER has identified key gaps in the research and taken steps to address those gaps. For example, recent efforts have explored the effectiveness of specific program components and outcome measures for younger adolescents that predict later sexual behavior and reproductive health.

## TPPER OVERVIEW

Over the last two decades, there has been growing interest in the use of systematic reviews to inform new policy initiatives, especially at the federal level. Systematic reviews offer many potential benefits, such as grounding new policy initiatives in scientific research evidence, directing scarce public resources to programs with the strongest available evidence of effectiveness, and stimulating future research and

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*TPPER helps  
policymakers and  
others make*

## evidence- informed decisions

program development by creating incentives for effective programs and rigorous research.<sup>1</sup> A systematic evidence review is important to evidence-based practice because it identifies and summarizes information on a particular topic that is necessary to inform decision-making.<sup>2</sup> It can help busy practitioners, policymakers, and others make sense of the continuously expanding body of evaluation studies and make evidence-informed decisions.

Since 2009, the U.S. Department of Health and Human Services has conducted a systematic, comprehensive review of evaluation studies for programs designed to prevent teen pregnancies, sexually transmitted infections (STIs), and associated sexual risk behaviors. [The Teen Pregnancy Prevention Evidence Review \(TPPER\)](#) has identified 48 active<sup>3</sup> teen pregnancy prevention (TPP) programs that meet the review criteria for evidence of effectiveness through May of 2023. In September 2024, TPPER released a [research brief](#)<sup>4</sup> and [fact sheet](#) summarizing the most recent findings on evidence of effectiveness.

TPPER identifies programs that demonstrate effectiveness in reducing teen pregnancy or impacting associated sexual risk behaviors and consequences (e.g., delaying sexual activity, increasing contraceptive use, or reducing multiple sexual partners, unprotected sex, and STIs). Although teen pregnancy represents a primary outcome of interest, it is also important to identify programs that attempt to impact the behaviors that can lead to pregnancy and infection. Therefore, the term “teen pregnancy prevention (TPP) programs” includes those that not only aim to reduce teen pregnancy, but that also aim to reduce the incidence of STIs or sexual risk behaviors.

TPPER is currently conducted through a contract with Mathematica, managed by the U.S. Department of Health and Human Services (HHS) Office of the Assistant Secretary for Planning and Evaluation (ASPE) in partnership with the teen pregnancy prevention program offices, the Office of Population Affairs (OPA) in the Office of the Assistant Secretary for Health (OASH) and the Family and Youth Services Bureau (FYSB) in the Administration for Children and Families (ACF). The program offices use the findings from TPPER to inform their grant announcements (e.g., filling gaps in the evidence and selecting which programs are eligible for funding). However, the program offices make their own decisions about how to use the findings.

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<sup>1</sup> Goesling, B. (2012). Using systematic reviews to inform policy initiatives: Lessons from the HHS Teen Pregnancy Prevention Evidence Review. Available [here](#).

<sup>2</sup> Brown, P., Harniss, M., Schomer, K., Feinberg, M., Cullen, N., & Johnson, K. (2012). Conducting systematic evidence reviews: Core concepts and lessons learned. Available [here](#).

<sup>3</sup> Active programs are those which are currently available for implementation and have evidence of favorable impacts based on data collected within the last 20 years.

<sup>4</sup> Forrester, E., Rooney, C.J., Musaddiq, T., Knab, J., Lugo-Gil J. Cole, R., Ouellette, L., Denk, E., Henke, J., Hollie, B., Hulse, L., & Manzer, J. (September 2024). Updated Findings from the HHS Teen Pregnancy Prevention Evidence Review—May 2023.

## TRENDS IN SEXUAL RISK BEHAVIOR, TEEN PREGNANCY AND BIRTHS, AND STIs

Rates of teenage sex, pregnancy, births, and abortions have generally declined since the 1990s, yet concerns persist about adolescent sexual activity and the associated rates of pregnancy and STIs among young people. Data from the Centers for Disease Control and Prevention's (CDC) Youth Risk Behavior Surveillance System indicate that 32 percent of all high school students in the United States reported ever having had sexual intercourse in 2023, the last year for which there is published data.<sup>5</sup> Six percent of high school students reported having sexual intercourse with four or more partners.<sup>6</sup>

Other CDC data indicate that the birth rate for females aged 15 to 19 hit another record low in 2023, the last year for which data are available.<sup>7</sup> The birth rate among teens aged 15 to 19 has declined more than 78 percent since 1991.<sup>8</sup> In 2023, the birth rate for 15 to 19 year old females was 13.1 per 1,000, down from 13.5 in 2022 and 13.9 in 2021. Birth rates declined between 2022 and 2023 for both younger teens (2 percent for those aged 15 to 17, from 5.6 to 5.5) and older teens (5 percent for those aged 18 to 19, from 25.8 to 24.6). The birth rate for females aged 10 to 14 years was 0.2 births per 1,000 in 2022 (the last year for which data are available), which has not changed since 2015.<sup>9</sup>

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*The birth rate for young women ages 15 to 19 hit*  
**another record low** *in 2023.*

Data from the last decade also indicate that fewer youth report that they are currently sexually active – 21 percent in 2023 compared to 34 percent in 2013.<sup>10</sup> Use of effective hormonal birth control by high school students has stayed stable over the past few years at 33 percent, but condom use has declined over time, from 59 percent in 2013 to 52 percent in 2023.<sup>11</sup>

Reductions in reported condom use are linked to increases in STI rates. In 2023, over 2.4 million cases of syphilis, gonorrhea, and chlamydia were diagnosed and reported – almost half (48.2 percent) of those among young people ages 15 to 24.<sup>12</sup> More than 200,000 cases of syphilis were diagnosed and reported in 2023, which is a 61 percent increase from 2019. STI trends suggest smaller decreases in rates of chlamydia (1.6 million cases, 9 percent decrease) and gonorrhea (more than 600,000 cases, 2 percent decrease) comparing 2023 to 2019.<sup>13</sup>

These overall trends mask differences among teenagers of different backgrounds. For example, low family income levels and low education may contribute to high teen birth rates,<sup>14</sup> and limited

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<sup>5</sup> Centers for Disease Control and Prevention (2024). Youth Risk Behavior Survey: Data Summary and Trends Report 2013-2023. Available [here](#).

<sup>6</sup> Ibid.

<sup>7</sup> Martin JA, Hamilton BE, Osterman MJ. Births in the United States, 2023. NCHS Data Brief, no 507. Hyattsville, MD: National Center for Health Statistics. 2024. DOI: <https://dx.doi.org/10.15620/cdc/158789>. Available [here](#).

<sup>8</sup> Osterman, M.J.K., Hamilton, B.E., Martin, J.A., Driscoll, A.K., Valenzuela, C.P. (2024). Births: Final data for 2022. National Vital Statistics Reports; vol 73 no 2. Hyattsville, MD: National Center for Health Statistics. DOI: <https://dx.doi.org/10.15620/cdc:145588>. Available [here](#).

<sup>9</sup> Ibid.

<sup>10</sup> Centers for Disease Control and Prevention (2024). Youth Risk Behavior Survey: Data Summary and Trends Report 2013-2023. Available [here](#).

<sup>11</sup> Ibid.

<sup>12</sup> Centers for Disease Control and Prevention (2024). National Overview of STIs in 2023. Available [here](#).

<sup>13</sup> Centers for Disease Control and Prevention (2024). The State of STIs in the United States in 2023. Available [here](#).

<sup>14</sup> Penman-Aguilar, A., Carter, M., Snead, M., Kourtis, A. (2013). Socioeconomic disadvantage as a social determinant of teen childbearing in the U.S. *Public Health Reports*, 128(suppl 1), 5-22.

employment opportunities in some communities may lead to early pregnancy and childbearing.<sup>15</sup> Young women living in foster care are more than twice as likely to become pregnant compared to those not in foster care.<sup>16</sup>

In 2022 (the most recent year of relevant data), American Indian and Alaska Native teens had the highest birth rates (22.5 per 1,000 women), followed by Hispanic teens (21.3), Native Hawaiian or Other Pacific Islander teens (20.5), non-Hispanic Black teens (20.3), non-Hispanic white teens (9.1), and Asian teens (1.9).<sup>17</sup> There are also racial disparities in the use of effective hormonal contraception: reported rates vary among American Indian and Alaska Native (49 percent) and White (41 percent) high school students compared to multiracial (27 percent), Black (26 percent), Hispanic (24 percent), Native Hawaiian or Pacific Islander (24 percent) and Asian (18 percent) teens.<sup>18</sup>

## TPPER HISTORY

TPPER was started in 2009 in response to the Consolidated Appropriations Act of 2010 (Public Law 111-117), which created the Teen Pregnancy Prevention (TPP) Program, as well as HHS's strong interest in supporting evidence-based programs and evaluation.

HHS needed an evidence review that would meet the goals of teen pregnancy prevention legislation, which included addressing key sexual behavioral and reproductive health outcomes (e.g., reductions in teen births, teen pregnancies, and associated sexual risk behaviors). Meeting this legislative goal required a transparent, systematic process for identifying evidence-based program models that would be eligible for federal TPP funding to replicate programs with evidence of effectiveness. It was also important that the evidence review be able to provide findings and updates in time to inform grant cycles.

### How are TPPER findings used by HHS and communities?

HHS program offices that administer teen pregnancy prevention and sexual risk avoidance grants use the findings from TPPER in multiple ways. Program offices provide guidance on whether all TPP programs that have evidence of effectiveness are eligible for funding or whether they should focus on a subset of these programs. The program offices can also use TPPER findings to help them prioritize funding evaluations of existing, newly developed, or newly adapted programs that address gaps in the evidence. In addition, program offices that fund evaluations direct their grantees and contractors to conduct evaluation studies that meet TPPER study quality standards.

TPPER is currently used by two key HHS program offices – the Office of Population Affairs (OPA) in the Office of the Assistant Secretary for Health (OASH) and the Family and Youth Services Bureau (FYSB) within the Administration for Children and Families (ACF). OPA manages the TPP Program created by the Consolidated Appropriations Act of 2010, which is a two-tiered initiative focused on 1) replicating evidence-based programs and 2) testing innovative approaches to teen pregnancy prevention.

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<sup>15</sup> Wilson, W. J. (1993). Wilson, W. J. (2003). Race, class and urban poverty: A rejoinder. *Ethnic and Racial Studies*, 26, 1096-1114.

<sup>16</sup> Boonstra, H. (2011). Teen pregnancy among women in foster care: A primer. *Guttmacher Policy Review*. 2011; 14(2).

<sup>17</sup> Osterman, M.J.K., Hamilton, B.E., Martin, J.A., Driscoll, A.K., Valenzuela, C.P. (2024). Births: Final data for 2022. *National Vital Statistics Reports*; vol 73 no 2. Hyattsville, MD: National Center for Health Statistics. DOI: <https://dx.doi.org/10.15620/cdc:145588>. Available [here](#).

<sup>18</sup> Centers for Disease Control and Prevention (2024). Youth Risk Behavior Survey: Data Summary and Trends Report 2013-2023. Available [here](#).

TPPER is also used by grantees in the Personal Responsibility Education Program (PREP) administered by FYSB. PREP includes grants to states for the replication of evidence-based programs, along with an innovative strategies program and an Indian Tribes and Tribal Organization grant program. Finally, FYSB also uses TPPER to inform grantee selection of evidence-based programs and effective strategies for its two Sexual Risk Avoidance Education (SRAE) programs: the Title V State Sexual Risk Avoidance Education (SRAE) program<sup>19</sup> and the Sexual Risk Avoidance General Departmental program.<sup>20</sup>

In addition to identifying the TPP program models with the strongest evidence of effectiveness, a key goal of TPPER is to ensure that communities have a range of program models from which to choose so that they can best meet the needs and goals of the youth in their particular community.

### How many programs has TPPER reviewed?

As shown in Figure 1, HHS initiated TPPER in 2009 and released findings from the first round in March 2010. In the first release, there were 28 program models identified that had evidence of credible impacts from a high- or moderate-quality study. Since the first release, there have been seven updates, with each update identifying between three and nine new programs as having evidence of effectiveness. TPPER has incorporated a 20-year window of eligibility, meaning a program must have research demonstrating evidence of effectiveness within the last 20 years. Therefore, due to age, some programs are no longer considered to be actively evidence-based. In addition, some programs are no longer distributed to be implemented and have also been moved to the inactive category over time. These two considerations mean the number of active programs is not additive for the last two updates.

- Initial Round of Review: March 2010 (28 program models identified)
- 1<sup>st</sup> Update: April 2012 (+3 new programs; total = 31 active programs)
- 2<sup>nd</sup> Update: August 2014 (+4 new programs; total = 35 active programs)
- 3<sup>rd</sup> Update: February 2015 (+2 new programs; total = 37 active programs)
- 4<sup>th</sup> Update: April 2016 (+7 new programs; total = 44 active programs)
- 5<sup>th</sup> Update: April 2018 (+4 new programs; total = 48 active programs)
- 6<sup>th</sup> Update: Spring 2023 (+9 new programs; total = 52 active programs and six inactive programs)
- 7<sup>th</sup> Update: Fall 2024 (+5 new programs; total = 48 active programs and nine inactive programs)

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<sup>19</sup> Title V State SRAE program is authorized and funded by Section 510 of the Social Security Act (42 U.S.C. § 710), as amended by Section 50502 of the Bipartisan Budget Act of 2018, Public Law (Pub. L.) No. 115-123, and extended by the CARES Act, 2020 (Pub. L. No. 116-136).

<sup>20</sup> The SRAE General Departmental program is funded generally under the authority of section 1110 of the Social Security Act, 42 U.S.C. § 1310, and specifically by the appropriation for General Departmental Management for the Office of the Secretary under Division A, Title II of the Further Consolidated Appropriations Act, 2020, Pub. L. No. 116-94 and extended by the CARES Act, 2020 (Pub. L. No. 116-136).

Figure 1. TPP Evidence Review Updates: 2009 – 2024



## Steps of the TPPER Review Process

TPPER review criteria require programs to show evidence of at least one favorable, statistically significant impact on at least one outcome of interest reflecting sexual behavior (for example, whether teens have ever had sex, number of sexual partners, or contraceptive use) or reproductive health (for example, STI or HIV infection, or pregnancy). In addition, the supporting research studies must meet established criteria for the quality and execution of their research designs. The review team follows pre-specified criteria, the current version of which can be found in the [Review Protocol 7.0](#).

TPPER has been informed by the evidence standards developed by other federal evidence assessment projects, including the U.S. Department of Education’s [What Works Clearinghouse](#), the U.S. Department of Labor’s [Clearinghouse for Labor Evaluation and Research \(CLEAR\)](#), and the HHS [Home Visiting Evidence of Effectiveness \(HomVEE\)](#).

HHS defined a set of rigorous standards an evaluation must meet in order for a program to be considered to demonstrate evidence of effectiveness. The four-step review process includes:

- **Step 1:** Identifying potentially relevant studies through a broad literature search and a public call for studies.
- **Step 2:** Screening studies to see if they meet the inclusion criteria (e.g., a quantitative study that measures behavioral outcome in samples in which the majority of participants are 19 years old or younger).
- **Step 3:** Assessing study quality for those that met the inclusion criteria. The studies are assessed for risk of bias in the program impact estimates. Trained reviewers assign each study a rating of high, moderate, or low study quality based on established criteria.
- **Step 4:** Assessing the evidence of effectiveness for those studies that met the standards for high or moderate study quality. To have evidence of effectiveness, studies must:
  - Demonstrate at least one favorable, statistically significant program impact on at least one of the five sexual behavior or reproductive health outcome domains of interest (sexual activity, number of sexual partners, contraceptive use, sexually transmitted infections, pregnancy or birth).
  - Demonstrate a positive impact in either the full sample or a subgroup based on gender or sexual experience at baseline.

For programs with evidence of effectiveness, TPPER also collects information on the magnitude of impacts, known as effect sizes, or the ingredients needed for TPPER to calculate effect sizes. Effect sizes are not used in determining evidence of effectiveness; they are presented descriptively in the program profiles for each measure (when it is available) to help practitioners, researchers, and policymakers understand the relative size of the impacts. The [TPPER Review Protocol 7.0](#) provides more specific details about the review process and HHS’s definition of rigorous standards for teen pregnancy prevention programs.

## Changing Standards Over Time

During each review cycle, TPPER determines whether to make changes to the evidence review standards for any of the four steps in the process: the study search process, criteria for study eligibility, study quality, and evidence of effectiveness. Many of the changes and additions are small and aimed at improving the transparency and clarity of the standards or better aligning TPPER’s approach with the approaches used by other federally funded evidence reviews. Changes are also made to increase the rigor of evaluation methods and analysis, such as enhancing standards for establishing baseline equivalence of the intervention and comparison groups. There have also been bigger changes such as the [revision in 2022](#) to the categories of evidence of effectiveness and the [2023 addition of program components](#) to the inclusion criteria, which is described in more detail in the next section.

Federal TPP program offices provide extensive evaluation technical assistance (TA) to their grantees who are conducting program evaluations. This TA helps ensure that grantees’ federally funded studies meet TPPER evidence standards. TPPER also releases briefs and guidance to improve evaluation methods and analysis. For example, in 2015, TPPER released a [research brief](#) that provided guidance on three ways to reduce the risk of selection bias and improve rigor in quasi-experimental evaluations.<sup>21</sup>

The combination of well-funded federal evaluation studies and evaluation technical assistance, along with the increased rigor of TPPER evidence criteria over time, has made valuable contributions to the strength of the evidence base for teen pregnancy prevention programs.

## New in 2023: Evaluating Evidence of Effectiveness for Program Components

An evidence-based program model approach is an important form of evidence-based decision-making in federal programs. However, there are some limitations to a program model approach. Branded programs may be expensive to implement, not fit well within the constraints of the setting (e.g., schools), be difficult to adapt to populations different from those with which they were evaluated and may not include the perspectives and expertise of individuals with lived experience. This reality, along with the Foundations for Evidence-Based Policymaking Act<sup>22</sup> becoming law in 2019, has led researchers, evaluators, and policymakers to consider innovative and complementary approaches to building evidence of effectiveness.

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<sup>21</sup> Goesling, B. and Lee, J. (May 2015). ASPE Research Brief: Improving the Rigor of Quasiexperimental Impact Evaluations: Lessons for Teen Pregnancy Prevention Researchers. Available [here](#).

<sup>22</sup> <https://www.congress.gov/bill/115th-congress/house-bill/4174>

A core components approach is one example of an innovative approach to using evidence. Core components<sup>23</sup> are defined as the parts, features, attributes, or characteristics of a program that data suggest influence its success when implemented effectively.<sup>24</sup> These core components then serve as the unit of analysis that researchers use to determine effectiveness and what can be replicated and tested. In December 2019, the National Academies of Science, Engineering, and Medicine released a report reviewing the OPA Teen Pregnancy Prevention Program. One major recommendation of the report was that OPA fund additional research aimed at identifying, measuring, and evaluating the effectiveness of core components of TPP programs and interventions that focus on promoting positive health behaviors and outcomes among adolescents.

For the 2023 review (released in 2024), TPPER expanded its eligibility criteria to include studies on the impact of well-defined components or combinations of components from programs intended to reduce unintended teen pregnancy, sexually transmitted infections, or associated sexual risk behaviors. The goal is that, over time, after TPPER compiles a strong evidence base for program components, TPPER users will be able to select the most effective components for a specific program goal or population as building blocks for a new program or to adapt an existing program. In this way, TPPER users can tailor their program implementation to the unique needs of their community, without necessarily having to implement an off-the-shelf branded program.

To be eligible for TPPER review, a component must be (1) a clearly defined practice, procedure, policy, support, or organizational structure, potentially with documented steps for implementation with fidelity to facilitate replication, and (2) (theoretically) capable of being implemented independently, in conjunction with, or integrated into a TPP intervention.

In 2023, two program components met the review criteria for evidence of effectiveness:

- Sexual health risk reduction counseling implemented as part of HORIZONS
- In-person delivery of a brief intervention by nurse practitioners

For more details on the evidence for program components, see the [research brief](#)<sup>25</sup> that summarizes the findings from the 2023 review period.

## SUMMARY OF FINDINGS OF TPPER

From TPPER's launch in 2009 through the most recent review of the research in 2023, 342 studies have been reviewed and rated as low, moderate, or high study quality (regardless of whether there is evidence of positive effects).

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<sup>23</sup> Ferber, T., Sileo, A., & Wiggins, M. (2019). Advancing the use of core components of effective programs. Washington, DC: Forum for Youth Investment. Available [here](#).

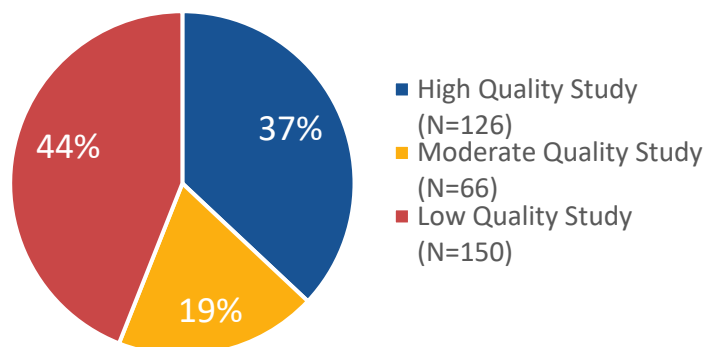
<sup>24</sup> Ibid.

<sup>25</sup> Forrester, E., Rooney, C.J., Musaddiq, T., Knab, J., Lugo-Gil J. Cole, R., Ouellette, L., Denk, E., Henke, J., Hollie, B., Hulsey, L., & Manzer, J. (September 2024). Updated Findings from the HHS Teen Pregnancy Prevention Evidence Review—May 2023.



By 2023, 56 percent of studies reviewed (192 studies) were rated as high- or moderate-quality vs. 44 percent as low-quality (150 studies). As Figure 2 shows, 37 percent (126 studies) were rated as high-quality, meaning the evaluation was a randomized controlled trial (RCT) with low sample attrition. An additional 19 percent (66 studies) were rated as moderate-quality, meaning the evaluation was an RCT with moderate attrition or a quasi-experimental design study. Moderate-quality studies had to meet standards indicating that the intervention and comparison groups were similar in key characteristics at baseline (known as baseline equivalence).

Figure 2. TPPER Rated Quality of Reviewed Studies (N=342), 2009-2023



Evaluation studies were assessed as low-quality most often because it was an RCT that had high sample attrition or a moderate-quality study that could not demonstrate baseline equivalence for the intervention and comparison groups.

An additional 463 studies were rated N/A, meaning the study was ineligible for review because it did not meet the inclusion criteria in the review protocol. For instance, a study would be ineligible if it did not examine impacts on sexual behaviors or their consequences and only looked at precursors such as knowledge or intentions. A study would also be ineligible if it was conducted outside the U.S. or with a sample whose average age was greater than 20 years old.

## Overview of Programs with Evidence of Effectiveness

In the first release of findings in 2010, TPPER identified 28 programs with evidence of effectiveness, meaning there was evidence of at least one favorable, statistically significant impact. By 2023, TPPER had identified 63 programs that had evidence of effectiveness: 48 active programs with evidence of effectiveness and an additional 15 programs that are inactive either because they aged out of the 20-year eligibility window or because they were no longer being distributed for implementation.

A [2024 meta-analysis](#)<sup>26</sup> of TPP programs examined the magnitude of program impacts, or effect size, of 99 high- or moderate-quality studies of 79 TPP programs that included over 85,000 youth. The meta-analysis indicated that these programs are effective, on average, at improving sexual behavior outcomes for adolescents. On average, the TPP programs reviewed by TPPER have an effect size of 0.09, which can be conceptualized as a reduction in prevalence of risky sexual behavior by 4.3 percentage points, from 50 percent to 45.7 percent. You can read more detail about this meta-analysis study in the [fact sheet](#), [research brief](#), and [technical appendices](#)<sup>27</sup> on the TPPER website.

<sup>26</sup> Cole, R. Lugo-Gil, J., Streke, A. The effectiveness of Teen Pregnancy Prevention programs – a meta-analysis. Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. December 2024.

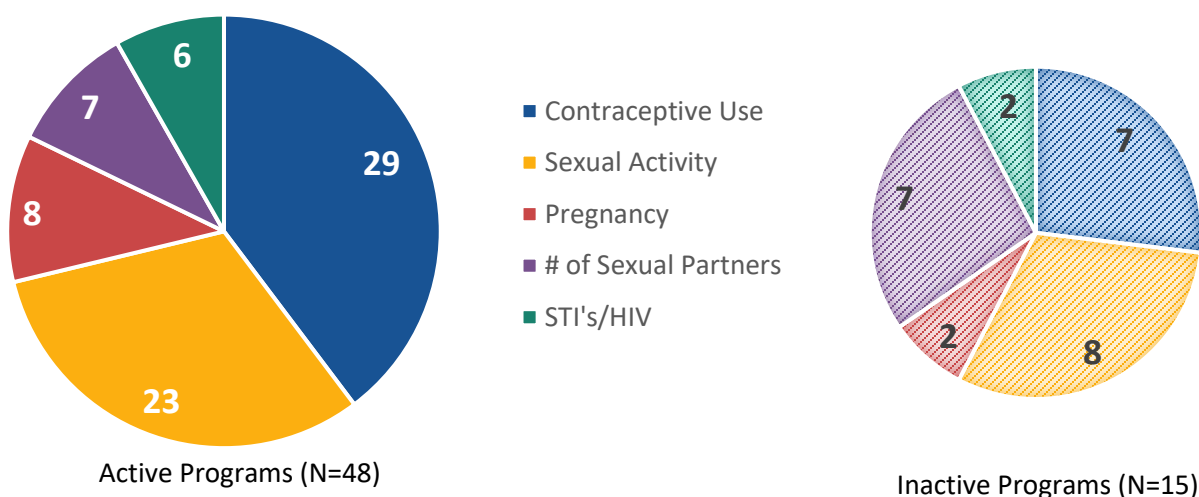
<sup>27</sup> Streke, A., Denk, E., Lugo-Gil, J., & Cole, R. Meta-analysis report of Teen Pregnancy Prevention Evidence Review (TPPER) studies: Technical appendices. Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. December 2024.

## Evidence of Effectiveness by Outcome Domain

TPPER is focused on identifying programs that are effective in reducing teen pregnancy or that impact associated sexual risk behaviors and consequences (e.g., delaying sexual activity, increasing contraceptive use, or reducing multiple sexual partners, unprotected sex, and STIs). As described in the TPPER Review Protocol,<sup>28</sup> eligible studies must measure program impacts on at least one measure of sexual risk behavior or its health consequences. Measures meeting this definition fall into the following five domains: 1) contraceptive use; 2) sexual activity; 3) pregnancy; 4) number of sexual partners; and 5) STIs, including HIV.<sup>29</sup>

The 48 active programs as of 2023 demonstrate evidence of impact across the five outcome domains. Some programs show evidence in two or more outcome domains, which is why the numbers in Figure 3 exceed the total number of programs. Figure 3 illustrates the number of active and inactive programs that show evidence in each of the five outcome domains. Contraceptive use has the highest number of active programs showing an impact, with 29 programs having at least one statistically significant positive effect on a measure of contraceptive use, followed by sexual activity (23 programs), pregnancy (8 programs), number of sexual partners (7 programs), and STI's, including HIV (6 programs).

**Figure 3. Number of Programs with Evidence in each Outcome Domain**



Note: Programs may demonstrate evidence of impact in more than one outcome domain, see Figure 4.

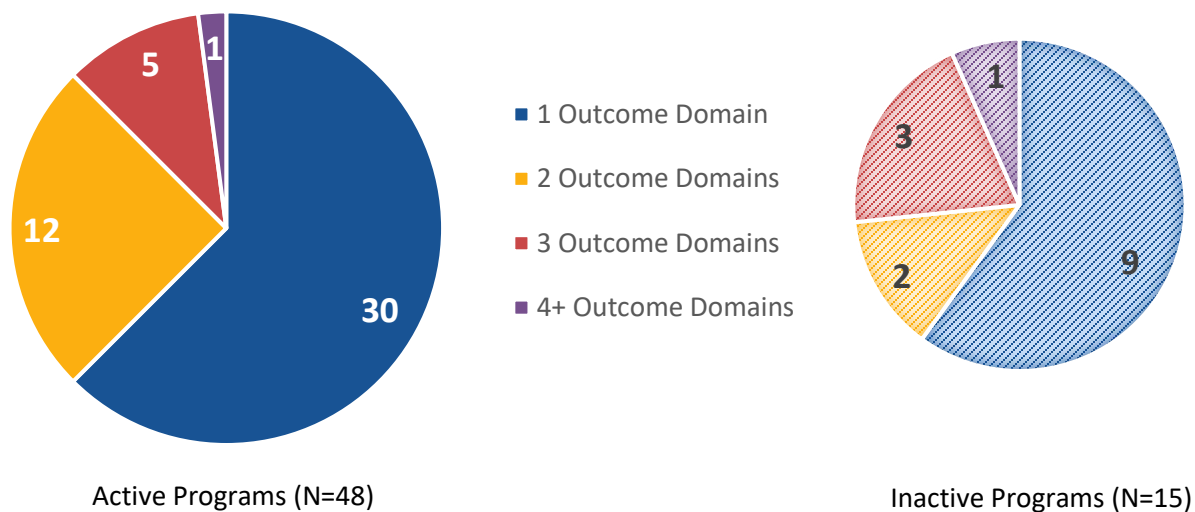
As of 2023, 30 of the 48 active programs demonstrated evidence in one domain, although the program may have had effects on more than one measure within that domain (e.g., within the sexual activity domain, both lower rates of sexual initiation and reduced frequency of sexual activity). Of the 48 active

<sup>28</sup> Mathematica. *Identifying Programs That Impact Teen Pregnancy, Sexually Transmitted Infections, and Associated Sexual Risk Behaviors: Review Protocol Version 7.0*. September 2024. Available [here](#).

<sup>29</sup> Most studies use self-reported measures, but biological measures of STIs and administrative data (for example, birth records) are also considered. Measures with limitations in terms of their quality or interpretation (for example, reports from males of their female partners' use of birth control pills or scales of behavioral risk and contraceptive use, which combine multiple measures into a single "black box" scale) are excluded from the review.

programs, 18 have evidence in two or more outcome domains. Combining the active and inactive programs, 39 of the 63 evidence-based programs have evidence of effectiveness in one outcome domain and 24 of the 63 programs had evidence in two or more outcome domains.

**Figure 4. TPPER Programs with Evidence in One or More Outcome Domains**



### Programs with Evidence from More than One Evaluation Study

In 2009, only one of the 28 evidence-based TPPER programs had evidence of effectiveness from more than one evaluation study. By 2023, seven of the 48 active programs had shown evidence of effectiveness in more than one evaluation study.

- Six of the seven active programs had evidence of effectiveness from two evaluation studies.
- One of the seven active programs had evidence of effectiveness from four evaluation studies.

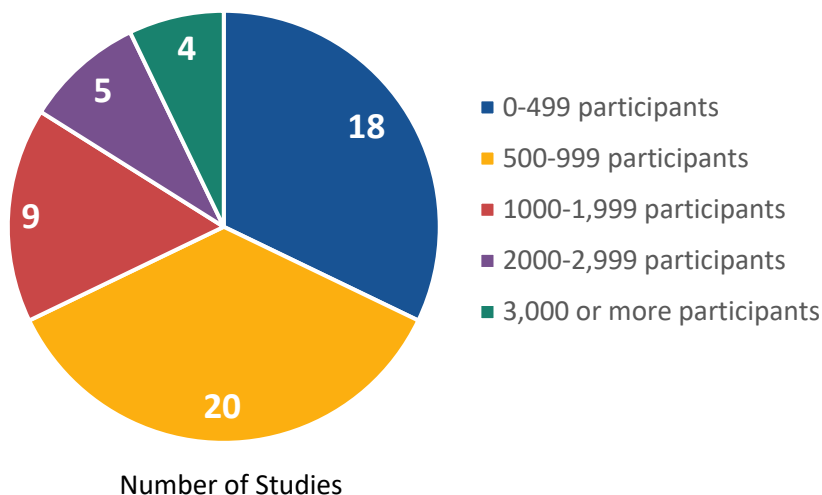
The impacts across studies of the same program may be within the same outcome domain or in different outcome domains.

- Six of the seven active programs supported by more than one evaluation study had evidence of a positive impact in the same outcome domain.
- One of the seven active programs had evidence of a positive impact in different outcome domains.

By 2023, one of the 15 inactive programs had shown evidence of effectiveness in more than one evaluation study; that one inactive program had evidence from three evaluation studies.

TPPER evaluation studies include a range of sample sizes as shown in Figure 5. The category with the most studies was the one in which the sample size was between 500 and 999 participants (20 studies), followed by the category with less than 500 participants (18 studies). There were 18 studies with sample sizes larger than 1,000 participants.

Figure 5. Number of Studies of Active TPP Programs by Evaluation Sample Size



Note: The study totals exceed the 48 active programs because some programs have more than one evaluation study and sample.

## KEY IMPLEMENTATION CHARACTERISTICS OF TPP PROGRAMS WITH EVIDENCE OF EFFECTIVENESS

In addition to details about the evaluation studies of TPP, TPPER collects implementation information about the programs that have demonstrated evidence of effectiveness, including information about the length of the program, the number of sessions, whether training is offered, and the components of the program. The HHS Office of Population Affairs [summarizes key implementation information for each program<sup>30</sup>](#) to help their grantees select evidence-based programs.

There is wide variability in the implementation characteristics of these programs. For example, the hours of content range from less than one hour to multiple years, with many programs falling in the range of 8-16 hours over multiple sessions. Most TPP programs are offered only in English, although 13 programs are offered in both English and Spanish.

In October 2024, TPPER released a [research brief<sup>31</sup>](#) and [fact sheet](#) providing detailed information about the components that are common across evidence-based TPP programs, the subset of components considered core for each program, and those components that serve as the key differentiators across different categories of TPP programs. Key findings from the core components research brief include:

- TPP programs frequently emphasize four kinds of content: social health, emotional health, sexuality, and sexual behavior.
- Program content varies, particularly across different program categories. For example, sexual health education programs consistently include sexuality and sexual behavior content, whereas

<sup>30</sup> Reproductive Health National Training Center. *Evidence-Based Teen Pregnancy Prevention Programs at a Glance*. May 2024.

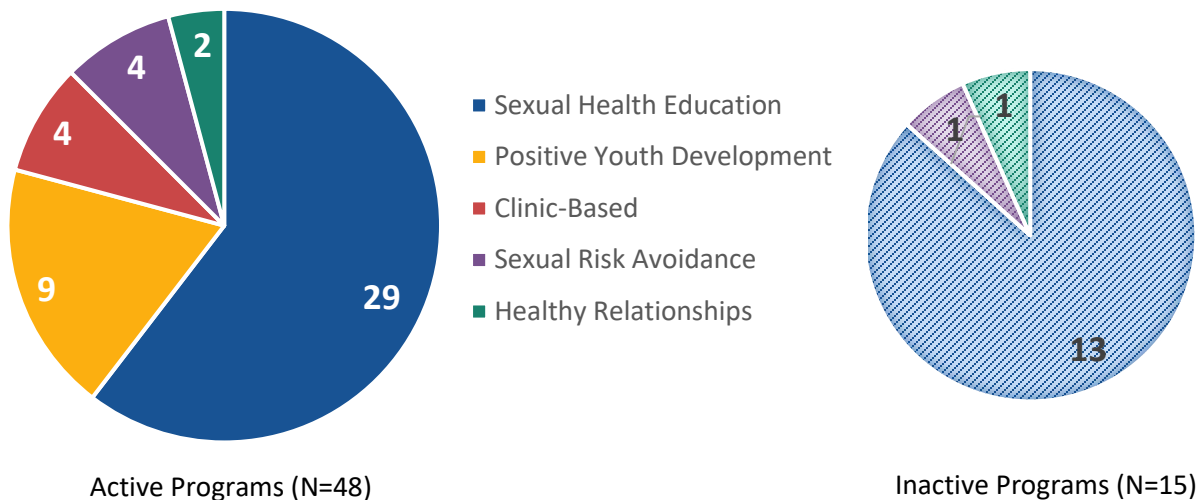
<sup>31</sup> Forrester, E., Aharpour, D., Cole, R., and Knab, J. Core components of evidence-based teen pregnancy prevention programs. Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. October 2024.

positive youth development programs include more individual values and academic success content.

- Program delivery often includes demonstration, role play, introduction, and assignments.
- Program formats are often in person and rely on full- or small-group activities.
- Program staff often include one or two facilitators in the health education or community health fields who receive developer-led training.
- Most TPP program developers consider the content and delivery mechanism to be core components, meaning that they might be important to a program’s ability to produce outcomes.
- Most programs are designed to be delivered in a specific context and to a specific intended population, but most settings and population characteristics are not considered core to the program, meaning there is generally flexibility in where programs can be offered and to whom.

TPPER categorizes programs into one of five approaches to reducing sexual activity and its consequences. When a program uses more than one approach, it is categorized based on its primary approach. As illustrated in Figure 6 below, nearly 29 of the 48 (60 percent) active programs use a sexual health education approach. A Positive Youth Development approach is the next most popular approach with nine active programs (19 percent), followed by four programs that use a clinic-based approach (8 percent), four programs that use a sexual risk avoidance approach (8 percent), and two programs that use a healthy relationship approach (4 percent).

**Figure 6. Number of Evidence-Based TPP Programs by Primary Program Approach**



### Programs Developed for Special Populations

Studies reviewed by TPPER include many evaluations of TPP programs that are intended to address gaps in the literature to serve young people who have the highest rates of teen pregnancy and births, such as Black and Hispanic or Latino adolescents, pregnant or parenting teens, and young people involved in the child welfare or juvenile justice systems. One program has a component specifically for youth-serving professionals.

Some TPP Programs are developed for parents and caregivers (with or without their child). There are 11 active TPP programs that involve parents, and they can be categorized into three categories:

- Programs intended for youth, with some parent activities: 7 programs
- Programs intended for adult parents or caregivers only: 1 program
- Programs intended for youth and their parents or caregivers to participate in together: 3 programs

There are also TPP Programs that have been developed for special populations of young people, including:

- Youth who are pregnant or parenting: 5 programs
- Youth in the juvenile justice system: 3 programs
- Youth in the child welfare system: 2 programs
- Youth experiencing homelessness: 2 programs

## Demographic and Other Characteristics of Evaluation Samples

Program developers and distributors often indicate that programs can be implemented with young people based on demographic characteristics like age, gender, and race and ethnicity, even if the program was not originally evaluated with those samples. However, it is also important to understand the evaluation samples upon which the evidence is based. Stakeholders do not know whether a program will be effective with a new population or in a new setting unless it has been evaluated under those new conditions and demonstrated evidence of effectiveness. The sections below describe the samples of participants used in the evaluation studies that showed a statistically significant, positive effect.

### Evaluated Population by Gender

Many programs can be used with both young women and young men. However, some programs were specifically evaluated using a sample in which the majority of youth were *either* young women or young men. Of the 48 active programs, there are 16 programs that were evaluated with the majority of the sample being young women. There is one program (My PEEPS Mobile) that was evaluated with a majority of the sample being young men.

Of the 15 inactive programs, 10 programs were evaluated exclusively with a sample that had a mix of genders. Two programs were evaluated with the majority of the sample being young women and two programs were evaluated with a majority of the sample being young men. One program was evaluated with two different samples: one sample with a majority of young men and one sample with a mix of genders.

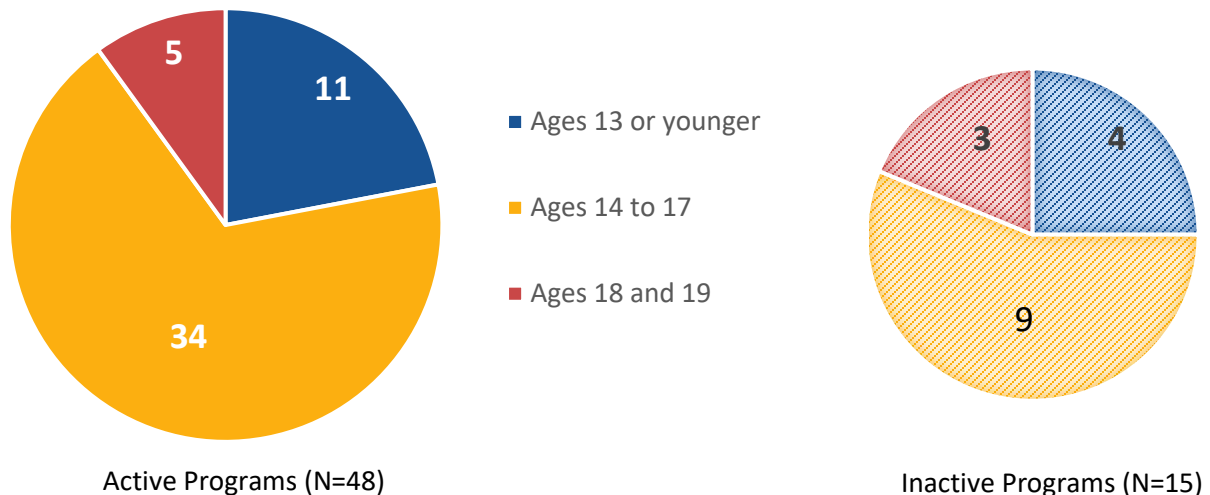
### Evaluated Population by Age

Program developers indicate the ages of youth the program can be implemented with, and many programs can be used with a range of ages. Figure 7 shows the number of programs evaluated in a sample in which the majority were categorized into one of three age groups. Note that some programs had more than one evaluation sample with different demographic compositions, and therefore the numbers sum to more than the total number of 48 active programs.

Program developers and distributors offer a wider range of ages that programs can be implemented with than observed in the evaluation samples. Specifically, developers and distributors indicate that programs can be implemented with multiple age groups as follows:

- Ages 13 or younger: 24 programs
- Ages 14 to 17: 44 programs
- Ages 18 and 19: 32 programs
- Ages 20 and over: 7 programs

**Figure 7. Number of Evidence-Based TPP Programs Evaluations by Age**



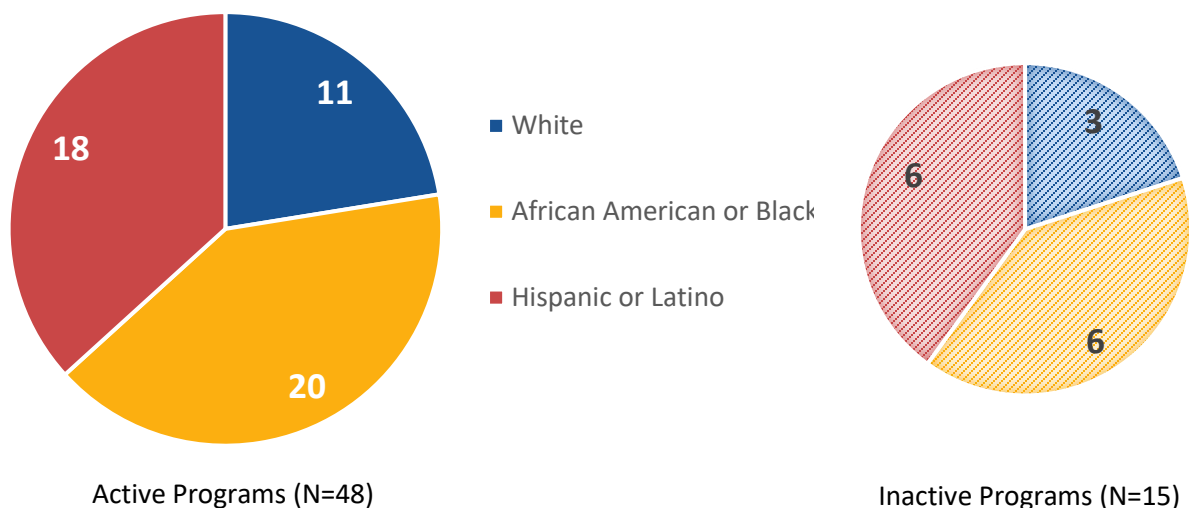
Evaluated Population by Race/Ethnicity

Program developers and distributors often indicate that their programs can be implemented with young people of any race or ethnicity. However, sometimes a program is developed for a specific racial or ethnic group. There are 40 active programs that developers and distributors indicate can be used with youth of any race or ethnicity. There are seven programs specifically designed for use with African American or Black youth and six programs that are designed to be used with Hispanic or Latino youth.

Figure 8 illustrates the racial and ethnic composition of participants in evaluation samples for each of the evidence-based programs. The total number of active programs is 49 and not 48 because one program (Teen Outreach Program) had one study with a sample in which the majority of participants were African American or Black youth and one study with a sample of majority of White participants.

There are no evidence-based programs in TPPER that have been designed for or evaluated in samples with a majority of youth who are Asian, American Indian or Alaska Native, or Native Hawaiian or other Pacific Islander.

**Figure 8. Number of Evidence-Based TPP Program Evaluations by Race/Ethnicity**



## GAPS IN THE EVIDENCE

An important goal of TPPER is to highlight existing gaps in the evidence for the research community and take steps to address those gaps.

First, it is clear that there is a need for additional evidence on the **effectiveness of specific program components**. For the first time in the 2023 review cycle, TPPER included evidence for TPP program components (vs. full programs). TPPER added a new section of the TPPER website to display these findings and include evidence for two new program components. Currently, there are few evaluation studies that examine the impacts of specific program components. We anticipate that the body of core components evidence will grow slowly over time.

Second, there is a need for evidence related to **outcome measures that predict later sexual behavior or reproductive health outcomes** that have been a focus of TPPER. Given the low prevalence of sexual activity and even lower prevalence of teen pregnancy – especially for younger adolescents – it is important to consider earlier measures that are related to these ultimate outcomes of interest. TPPER currently has a joint effort underway with the HHS Office of Population Affairs to fund a literature review to identify longitudinal datasets and examine whether there are key variables that predict later sexual risk behaviors and reproductive health outcomes. Identified variables could be considered for future inclusion in TPPER.

Third, there has been a decrease in evidence for **programs serving younger youth in the middle school years**. Rates of sexual activity in this age group have been rapidly declining over the last few decades. A resulting reduction in funding for programs and evaluation of interventions for this age group means it is likely that TPPER will have increasingly less information about those programs over time.

Fourth, there are gaps in **programs intended for specific populations or contexts**, including males, LGBTQ+ youth, justice-involved youth, youth in foster care, youth who are experiencing homelessness,



rural youth, youth with disabilities, pregnant and parenting teens, and adult caregivers of adolescents. TPPER has not identified any evidence-based programs specifically intended for use with American Indian or Alaskan Native youth, Hawaiian youth, or Asian youth. In addition, there are few evidence-based programs for youth-serving professionals or programs that are delivered virtually through technology. OPA and FYSB have targeted some of their grant announcements to fill these gaps in programming and evidence.

Fifth, there are clear limitations to statistical significance tests and *P* values, especially when trying to summarize the research literature or make comparisons across programs. It is more useful to examine the direction and magnitude of estimated program impacts through **effect sizes**. TPPER has made a concerted effort to collect reported effect sizes – or the ingredients to calculate effect sizes – for outcomes that are statistically significant as well as those that are not. If the information is not available in the evaluation report, TPPER staff query the study authors to obtain that information. Beginning in fall 2023, we began displaying effect size information in each study’s details presented on the TPPER website.

Finally, there is a continued need for **additional replication studies** of TPP programs. What works for one population and in one setting may not generalize to other populations or settings, or across time periods. Therefore, there is risk in generalizing findings from a single, isolated study to the broader evidence base. Replicating programs and evaluating them, particularly using the same measures or outcome domains, can provide additional confidence that the programs will be effective when replicated.

## CONTRIBUTIONS OF THE TEEN PREGNANCY PREVENTION EVIDENCE REVIEW

As the only federal evidence review providing information to communities about reproductive health for young people, TPPER has developed a **transparent, objective set of standards** to identify programs that have evidence of effectiveness. TPPER brings structure and focus to grant programs by offering a menu of evidence-based programming that federal agencies may wish to fund, including detailed implementation, evidence, and outcome characteristics for each program. TPPER’s existence enables grantees and program offices to focus on other important inputs to implementation (target population, staff hiring and training, facilitation skills, etc.).

**Studies reviewed by TPPER tend to be large, well-powered evaluations of TPP programs.** The TPP evidence base consists of a large number of RCT evaluation designs, the highest standard for evaluation studies. Evaluation studies often include multiple follow-up data collection periods, which enables testing of short-term (less than six months after study enrollment or program end), medium term (6 to 11.9 month after baseline or program end), long-term (12 to 17.9 months) and very long-term (18 months or longer) impacts. The research also focuses on a range of program approaches, with diverse populations and in a variety of settings (e.g., in-school, after school, community-based organization or center, health clinic, or virtual through a technology-based platform).

TPPER’s **reporting and evaluation standards** provide grantees and program offices clear standards for grantee-led evaluations. The standards form the basis for the evaluation technical assistance provided to grantees by federal agencies.

Most importantly, TPPER serves as a **resource for both practitioners and researchers, in addition to policymakers**. The TPPER website serves as a centralized resource for program and research information and TPPER identifies existing gaps in the research evidence and priorities for future research. This is an asset for federal program offices, policymakers, researchers, and communities hoping to improve outcomes for young people.

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# U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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