

Science-Based Practices: A Guide for State Teen Pregnancy Prevention Organizations

This document provides an overview of science-based practices (SBP)—what they are, why they are important, and how they relate to the work of state teen pregnancy prevention organizations. It also addresses benefits and challenges to incorporating SBP into the mission and work of each organization and offers helpful suggestions.

Why is the use of science-based practices important in the field of teen pregnancy prevention?

Research identifies and forms the foundation of science-based practices. Using science-based practices simply means relying on that which has been proven to work. Indeed, the public health, social science, and education fields have amassed a remarkable body of evidence about what works in promoting better health outcomes among youth. Moreover, much research identifies what works in promoting better *sexual health* outcomes among youth as well as among specific populations of youth. In fact, research shows that some programs are effective in spite of the problems faced by many participating youth—problems such as poverty, poor nutrition, discrimination, oppression, and/or lack of education and of hope for the future.

Nevertheless, programs for young people are too often designed without knowledge of or reference to science-based practices. When designed and implemented without relying on SBP, programs run the risk of falling far short of their goals and, sometimes, missing their goals altogether. With outcomes in doubt, such programs also risk: 1) not improving or, at times, worsening the situation of the young people they aimed to help; 2) wasting the funds spent to achieve too little; and 3) losing funding for future programs.

What exactly *are* science-based practices?

Across the public health, social science, and education fields, the understanding of science-based practices varies greatly. For example, in teen pregnancy prevention, workers often hear references to *promising approaches*, *best bets*, *model programs*, *evidence-based programs*, *scientific standards*, and/or *state-of-the-art*. Professionals often wonder which of these represents SBP. A useful, succinct definition is that science-based practices “include techniques, characteristics, activities, and programs for which there is *evidence* of effectiveness.”¹

More comprehensively, the term science-based practices refers not only to the *type* of program (for example, a teen pregnancy prevention program based on social science research) but also to the *process* for developing a program (such as creating a logic model and evaluating the program with process, outcome, and/or impact studies). Science-based practices in preventing teen pregnancy, sexually transmitted infections (STIs), and HIV include, but are not limited to, the following—

- Relying on interventions that have been evaluated and found to be effective in preventing or reducing sexual risk behaviors and/or in reducing the incidence of pregnancy and/or HIV/STIs²
- Relying on evaluations that have been rigorous enough to be accepted by a peer-reviewed journal and/or by a panel of *independent* experts who are conducting an *objective* review³
- Using social science research that identifies risk and protective factors⁴
- Using a logic model—a framework for linking risk and protective factors with effective program strategies and anticipated outcomes⁴
- Relying on programs that are grounded in behavioral and social science theory and that clearly define and document activities, curricula, and protocols⁴

- Conducting evaluation and using the findings to change programs so as to enhance their effectiveness.^{4,5}

In sum, relying on science-based practices means using evaluation findings, social science research, survey data, and empirical findings to establish effective strategies and to reject ineffective ones.

Science-based practices can be incorporated into local programs that serve youth directly as well as into all aspects of the work of state and local teen pregnancy prevention organizations, alliances, coalitions, and councils. At the local level, schools, community agencies, after-school programs, and others can design programs based on the research and/or can replicate evaluated, effective programs. While a state organization may seldom provide direct services, it can use program planning or logic models—with specific goals, objectives, activities, and expected outcomes—to shape its strategic plan.

What are the benefits of using science-based practices?

When teen pregnancy prevention organizations—at both state and local levels—rely upon and utilize SBP, they reap many benefits. Relying on science-based practices permits an organization to:

1. Maximize its opportunities to have a positive, measurable impact on young people's behaviors.
2. Maximize its opportunities to improve and refine its programs to achieve the best possible outcomes with youth and/or the professionals who serve them.
3. Contribute valuable lessons to the field of teen pregnancy prevention, especially to those who wish to replicate effective strategies.
4. Integrate pregnancy prevention with proven HIV/STI prevention and youth development programs and strategies.
5. Collaborate with organizations in related fields, such as social services, HIV treatment, and youth development, to increase the resources and services available to young people.
6. Improve its professionalism.
7. Hone the accuracy and impact of its products, messages, and efforts.
8. Increase the extent to which program planners, the media, policy makers, and others rely confidently on its information.
9. Address controversy and counter misinformation by providing accurate information to guide public discourse and to inform policy decisions.
10. Ensure that its resources are well spent—on effective programs, strategies, and activities.
11. Meet standards of accountability imposed by funding sources.
12. Increase the sustainability of programs by meeting funding sources' expectations that monetary investment will achieve measurable, anticipated outcomes.
13. Increase programs' sustainability by proving their worth to local, regional, and state private and corporate sponsors.
14. Avoid loss of funding that can ensue if the organization cannot prove the positive impact of its programs.

What are the challenges of using science-based practices?

State teen pregnancy prevention organizations face several logistical and programmatic challenges to relying on and promoting science-based practices. Challenges include:

1. Relatively few established adolescent sexual health programs meet scientific standards. For example, of some 160 evaluated adolescent sexual health programs, different reviews have identified 19 or fewer as effective.^{2,6,7}
2. Few effective programs have been widely replicated across diverse populations of youth. Moreover, the community context, or the background and experience of target youth, may limit opportunities to replicate some effective programs.
3. Evaluation of some successful programs may not be easily available. For example, the evaluation may not have been published in a peer-reviewed journal and thus, may be inaccessible to, or considered unreliable by, those seeking a replicable program.
4. Staff may be untrained or little trained in evaluation and/or in understanding the technical language of research studies.
5. The understanding of SBP varies greatly. For example, youth-serving professionals may disagree on whether science-based practices include only programs proven effective through rigorous scientific evaluation or also include promising, but unproven, practices.
6. Some widely used strategies, such as peer education and parent-child communication, have little rigorous, scientific evaluation to prove their efficacy.
7. Communities may not support, or opposition may arise to, an effective, proven program or strategy.

8. The work and impact of state teen pregnancy prevention organizations has been little studied. For example, few studies have focused on the ways in which teen pregnancy prevention organizations affect program and policy decisions, train professionals in the field, conduct research, and/or educate the media and/or teens.
9. Conducting an evaluation can be time-consuming and costly, and state organizations often lack funds to hire professional evaluators. Moreover, logistical issues—such as staffing, budget, and agency capacity—may limit an evaluation’s design.

How can a state teen pregnancy prevention organization integrate SBP into its work?

State organizations can do a great deal to promote science-based practices, both within and outside the organization. Some of the following suggestions focus on the internal capacities of the state organization, that is, on ways to incorporate SBP into all facets of its work, including leadership decisions, strategic planning, fund-raising, and public relations. Other suggestions focus on ways to incorporate SBP into the organization’s external work, that is, the services and products that it offers, such as public education, World Wide Web and library services, training and technical assistance, research and data collection, and local council development. In other words, some suggestions focus on integrating SBP into *what an organization is or can become* while others deal with *what the organization does*.

Although incorporating science-based practices into the organization’s identity and work can sound overwhelming, it’s a step-by-step process. Taken as a whole, reliance on science-based practices will strongly affect all that the organization is and does. Moving one step at a time, the organization can gradually adapt its mission, its strategic and operational planning, and its products and services to incorporate SBP. Moving one step at a time, the organization can:

- Articulate a clear mission statement reflecting a commitment to SBP.
- Develop a diverse board of directors (including researchers or evaluators) strongly committed to the organization’s use of SBP.
- Devise a clear, long-range, strategic plan, reflecting measurable goals and achievable objectives related to SBP.
- Devise a clear, one-year operational plan, with measurable goals and achievable objectives, tied to and supporting the long-range strategic plan.
- Regularly collect, document, and analyze reports and data related to the operational and strategic plans.
- Train staff in evaluation and evaluation procedures.
- Use process evaluation to regularly assess progress towards meeting the operational and strategic plans’ goals and objectives.
- Where feasible, conduct outcome or impact evaluation of the organization’s programs and work.
- Educate staff on all aspects of SBP and, where possible, obtain technical support and training on interpreting complex research studies.
- Collect and share data on programs operating within the state that implement an evaluation or that replicate an effective program.
- Develop public education messages that reflect medically accurate information about contraception and condoms; prevention of pregnancy, HIV, and other STIs among teens; and youth’s sexual behaviors.
- Collect and share information on the latest research in teen pregnancy and HIV/STI prevention.
- Provide tips for implementing effective programs and strategies and avoiding ineffective ones, as identified by the research.
- Ensure that the organization’s Web site provides access to: information on research studies; evaluated, effective programs; pertinent, peer-reviewed journal articles; and scientific organizations in the field.
- Train local councils, coalitions, and task forces on the essentials of using SBP in preventing teen pregnancy and HIV/STIs.
- Train local councils to use logic models.
- Provide technical assistance and training to local program planners on effective ways to reach diverse populations of youth.
- Provide technical assistance and training to local program planners on effective methods of replicating and/or adapting programs for diverse populations of youth.
- Provide researchers and program planners with opportunities and ways to exchange information about new directions and needed research.
- Develop a library of materials on science-based practices in preventing teen pregnancy and HIV/STIs. Find ways to make its contents widely available. For example, regularly disseminate summaries of pertinent research, or make the library’s catalog available on the World Wide Web.
- Hold conferences, roundtables, and symposia on science-based practices in preventing teen pregnancy and HIV/STIs. Provide opportunities for researchers to present study findings.
- Honor outstanding programs by giving awards to those that exemplify SBP.
- Encourage funding sources and policy makers to support programs that rely on science-based practices.

How is Advocates for Youth promoting science-based practices?

In 2002, the Centers for Disease Control & Prevention (CDC) initiated a three-year cooperative agreement with Advocates for Youth, the National Campaign to Prevent Teen Pregnancy, and the National Organization on Adolescent Pregnancy, Parenting, and Prevention (NOAPPP). The agreement, *Building the Capacity of State and Local Coalitions to Promote Science-Based Teen Pregnancy Prevention Practices*, provides support to the three national organizations and to five state teen pregnancy prevention organizations (in Arizona, Massachusetts, Minnesota, North Carolina, and South Carolina) to promote a greater use of science-based practices. The aim is to assist local programs to serve youth more effectively. The initiative works by:

- Commissioning research on little studied areas of adolescent sexual and reproductive health and programming
- Convening meetings and roundtables of national and state leaders, including researchers and evaluators
- Providing resources, technical assistance, and training to organizations at state and local levels.

The overall purpose of Advocates' work is to strengthen the readiness and capacity of state teen pregnancy prevention organizations (alliances, coalitions, and councils) to incorporate science-based practices, programs, and strategies into all areas of their work. Then they, in turn, can work more effectively with program planners, researchers, funding sources, the media, coalitions, and others at state and local levels.

Conclusion

Implementing science-based practices is not a simple, easy, or light-hearted task for a state teen pregnancy prevention organization as it may entail new directions, tasks, and efforts. However, the rewards are so great that following such a course becomes critically important. One step at a time, and with help from committed board members and from colleagues in the field, the state teen pregnancy prevention organization can weave reliance on science-based practices into all aspects of its work.

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