Journal of Adolescent Health 54 (2014) S70–S77

ELSEVIER

JOURNAL OF ADOLESCENT HEALTH

www.jahonline.org

Original article

A Peer Education Program: Delivering Highly Reliable Sexual Health Promotion Messages in Schools

Carolyn Layzer, Ph.D. [a,*], Lauren Rosapep, M.A. [b], and Sherry Barr, Psy.D., Psy.M. [c]

[a] *Curriculum and Instruction, The Pennsylvania State University, University Park, Pennsylvania*
[b] *Social Service Administration, School of Social Service Administration, University of Chicago, Chicago, Illinois*
[c] *School Psychology, Graduate School of Applied and Professional Psychology, Rutgers University, Piscataway, New Jersey*

Article history: Received August 14, 2013; Accepted December 13, 2013
Keywords: Peer education; Comprehensive sexuality education; Pregnancy prevention; Condom use; Youth development; School-based program; Implementation study; Sexual health promotion

A B S T R A C T

Purpose: This article describes preliminary findings from an implementation study of a school-based peer education program on sexual health for high-school youth. The responses of youth participants are described.
Methods: Qualitative data were collected across one semester in two successive waves of participants (N = 4 schools), including observations of program activities, in-depth interviews of stakeholders, focus groups with youth participants (N = 62 peer educators and 60 ninth graders), and brief surveys of youth participants (N = 678). Grounded theory methodology informed data collection and analysis.
Results: Teen Prevention Education Program (Teen PEP) was adapted and replicated with fidelity to the model in North Carolina high schools. All program "inputs" and five core model components (outputs) were implemented. The principal accommodation made was to implement the entire curriculum within one half of a school year rather than across the entire school year although still using the same amount of instructional time. Youth participants attributed high value to the experience, noting that the sexual health information they received was both new and important for their lives and that they felt they learned it better from their peers than from instruction in traditional health class. The majority of participants reported that the program helped them across a range of areas related to both social well-being and sexual health.
Conclusions: Teen PEP developers have been able to successfully adapt and replicate it in North Carolina, in settings that need sexual health education services for youth both because of the paucity of existing services in many areas and because of the evidence of risk in the form of high rates of pregnancy and sexually transmitted infections, including human immunodeficiency virus or AIDS in youth 15–19 years of age. Youth reported benefits across a range of social and sexual health-related areas.

IMPLICATIONS AND CONTRIBUTION

The Teen PEP program provides a model for school-based comprehensive sexual health education both for its use of peer education and for the activity-based learning approach used to convey the information. In this program, high school students rechannel peer pressure, providing medically accurate, positive sexual health messages to younger peers.

Conflicts of Interest: Potential conflicts, real, and perceived, for named authors: Sherry Barr is employed full-time as a vice president at one of the nonprofit organizations that co-developed the Teen Prevention Education Program and she is the project director of the Office of Adolescent Health-funded project referenced in this article.
Disclaimer: Publication of this article was supported by the Office of Adolescent Health, U.S. Department of Health and Human Services. The opinions or views expressed in this paper are those of the authors and do not necessarily represent the official position of the Office of Adolescent Health, U.S. Department of Health and Human Services.

* Address correspondence to: Carolyn Layzer, Ph.D., Abt Associates Inc., 55 Wheeler St., Cambridge, MA 02138.
E-mail address: carolyn_layzer@abtassoc.com (C. Layzer).

1054-139X/$ – see front matter
http://dx.doi.org/10.1016/j.jadohealth.2013.12.023

Does peer pressure affect teens' ideas about sexual activity? Many teens believe that most of their peers are sexually active. Rechanneling peer pressure to encourage healthy and informed choices about sexuality through a peer education model holds the promise of being more effective than traditional adult-delivered sexual health education, but it also entails risks, requiring careful preparation and training of peer educators. Below we examine how the Teen Prevention Education Program (Teen PEP) is being implemented in schools in North Carolina and how youth are responding to receiving messages about sexual health from older peers.

Background

Teen PEP is being implemented in North Carolina with funding from the Office of Adolescent Health's Teen Pregnancy Prevention (TPP) program as a research and demonstration grant, intended, in part, to evaluate promising strategies to reduce teen pregnancy and related risk behaviors. Teen PEP was one of the 19 programs funded in this competition and is one of only three involving a peer education component. This article uses the formal implementation study funded by the TPP grant to explore preliminary findings, including the benefits of the program as perceived by ninth-grade workshop participants in the first two cohorts of the study.

Teen PEP was developed in New Jersey by the Center for Supportive Schools[1] (CSS) and HiTOPS Adolescent Health and Education Center (HiTOPS[2]), in collaboration with the New Jersey Department of Health, and has been implemented in 50 mostly urban and suburban schools. The program was replicated in North Carolina, in mostly rural communities, as part of the TPP with a few adaptations to accommodate structural factors,[3] none of which touched the core program logic model (Figure 1). Implementation of Teen PEP occurs on three levels: a team of stakeholders and program advisors is assembled and trained; a team of 11th- and 12th-grade peer educators is recruited, selected, and trained; and a cohort of ninth graders participates in workshops on sexual health led by peer educators. Although this article focuses on the second and third levels, it is important to note Teen PEP's distinguishing features: it integrates into the school day, leverages existing resources within a school (staff, students, and space), develops a team of stakeholders committed to implementation success, utilizes the power of older peers to positively influence attitudes and behaviors of younger peers by conducting interactive workshops that include skits and small-group learning activities, delivers comprehensive training to program advisors and student peer educators, and includes a broad sexual health focus. A detailed description of the program model, which is beyond the scope of this article, can be found on the Teen PEP Web site (www.teenpep.org).

Social–political context

North Carolina has the 17th highest teen birth rate in the nation [1]. Reasons for the high teen birth rate include the significant number of adolescents engaged in sexual intercourse at earlier stages in their lives and participating in high-risk sexual behavior that increases their vulnerability to unintended pregnancy, human immunodeficiency virus (HIV), and other sexually transmitted infections (STIs). Nearly 36% of ninth-grade students in North Carolina high schools reported that they have had sexual intercourse. This percentage nearly doubles to 64% for 12th-grade students [2]. Among North Carolina high-school students in grades 9–12 who reported having sexual intercourse within the 3 months before completing a survey, over 46% indicated that they did not use a condom [3].

Until 2009, when the Reproductive Health and Safety Legislation that requires schools to provide sexuality education to students in seventh through ninth grades was passed in North Carolina, very few schools in the state provided sexuality education.[4] Inadequate information may provide one explanation for why students are engaging in risky behaviors, including unprotected sexual intercourse. Teen PEP offers a promising solution to inadequate sexual health education and student misinformation by equipping older peers to provide training to younger peers that includes medically accurate information, skill development activities, and support for engaging in health-protective behaviors.

Funding from the Office of Adolescent Health in 2010 provided the opportunity for CSS and HiTOPS to implement Teen PEP in the context of a rigorous randomized control evaluation design[5] and a formal implementation study. At the time of this writing, a total of seven high schools are participating, with four schools implementing Teen PEP as members of the "treatment group" and three "control group" schools that will begin implementation after a 2-year delay. All the participating schools are located in rural North Carolina Piedmont communities. For young women 15–19 years of age, pregnancy rates in participating counties (in 2011) ranged from a low of 32.2[6] to a high of 67.4 per 1,000, whereas teen birth rates ranged from 24.8 to 55.7 per 1,000. Table 1 lists a comparison of birth rates in the United States, New Jersey (where Teen PEP was developed), and North Carolina (where Teen PEP is being replicated). As at the national level, teen birth rates have been declining in North Carolina, although one participating county's rates for teen pregnancy and teen births were increasing immediately before study participation. There was great variation in the availability of sexual health resources in the participating counties, ranging from somewhat comprehensive programming to no services at all for school-age youth. In our study focus groups, youth consistently reported that they did not receive information about

[1] Formerly known as the Princeton Center for Leadership Training; now CSS, see www.supportiveschools.org.

[2] HiTOPS, see www.hitops.org.

[3] The main accommodation was to fit the program to North Carolina schools' block schedules by implementing the program in a single semester rather than over a full school year as it was originally implemented in New Jersey. In New Jersey, students are required to take health and physical education every year in 9th–12th grades, and the program was primarily implemented in ninth or tenth-grade health classes. In contrast, health class is only required for students in the ninth grade in North Carolina, which influenced the focus on ninth grade as the study population.

[4] North Carolina had mandated abstinence-only sexual health education prior to the Reproductive Health and Safety Legislation (also known as the Healthy Youth Act). In contrast, New Jersey had no mandated approach and allowed a range of approaches including comprehensive sexual health education.

[5] Teen PEP is also part of the Federal Adolescent Pregnancy Prevention Approaches (PPA) evaluation, which is rigorously evaluating seven promising approaches to reducing teen pregnancy and related sexual risk behaviors. The PPA study is currently in progress and will measure the impact of Teen PEP on participants' sexual health knowledge, attitudes, and behaviors.

[6] This county's rate was 48.9 when they signed on to the project. At that time, state rates were 43.8 for teen pregnancy and 34.9 for teen births during 2011 [1].

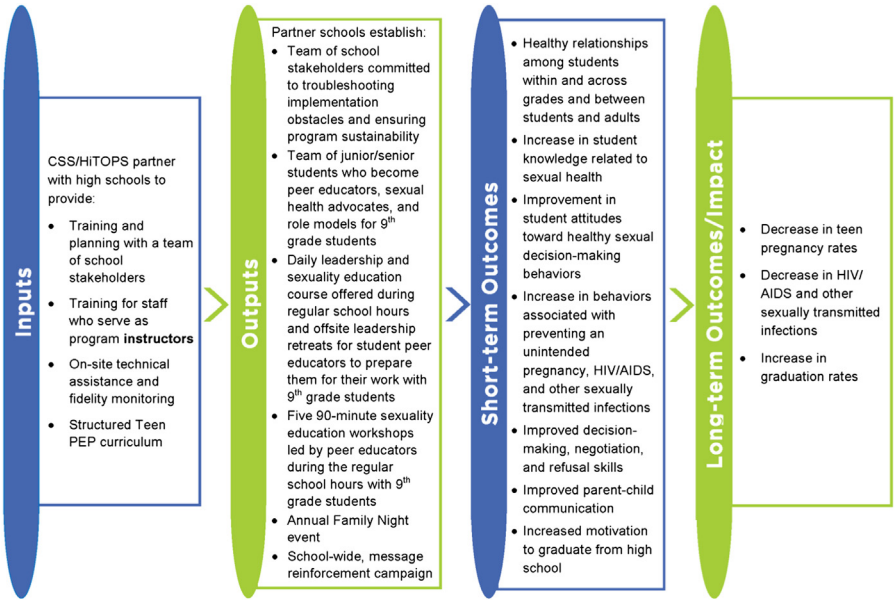

Figure 1. Teen PEP logic model

sexual health early enough for it to influence the decisions they would make. As a result, they indicated they are often misguided by inaccurate information and myths that are commonly perpetuated by their peers.

Description of Teen Prevention Education Program

Teen PEP is a school-based comprehensive sexual health education program designed to increase students' knowledge, skills, and behaviors associated with avoiding an unintended pregnancy, HIV, STIs, and other health issues. It also seeks to create a school climate that supports healthy decision-making among youth. Teen PEP uses a peer education approach to deliver workshops to ninth-grade students during the school day. Approximately 15–20 high-school students in their junior or senior year are selected and trained to serve as peer educators and role models to younger peers within their schools. Peer educators participate in a semester-long structured Teen PEP course developed by CSS and HiTOPS and co-facilitated by two trained adult program advisors. Peer educators earn a course grade and credit toward their graduation requirements for participation.

The program aims to develop faculty members and peer educators who can help transform the school's climate by encouraging positive peer pressure, building knowledge about sexual health issues, and providing opportunities for youth to practice communication and other skills that will help reduce the likelihood of their engaging in risky sexual behaviors. Teen PEP also maintains a consistent philosophy of communication, active learning, and reflective practice that starts during recruitment and training of peer educators and extends into the classroom and workshops.

Table 1
Comparison of birth rates in the United States, New Jersey, and North Carolina [1,4]

	Birth rate per 1,000 teenagers aged 15–19 years for selected years			
Area	2007	2009	2010	2011
United States	41.5	37.9	34.2	31.3
New Jersey	24.9	22.0	20.1	18.7
North Carolina	48.0	43.7	38.3	34.9

The Teen PEP model is grounded in a multitheoretical approach and draws upon tenets of *social learning theory* [5], the *health belief model* [6], and *principles of positive youth development* [7]. Guided by the social learning perspective, Teen PEP peer educators model positive attitudes and reinforce the benefits of healthy behaviors as a way of directing and changing behavior of younger peers while offering opportunities for practicing skills to support behavioral change.

The *health belief model* is based on the understanding that a person will participate in health-related behaviors if he or she (1) feels that an undesirable consequence (e.g., unintended pregnancy) can be avoided; (2) expects that by taking a recommended action, he or she can avoid the negative health consequence (e.g., using condoms and hormonal birth control to prevent pregnancy); and (3) believes that he or she can successfully take a recommended action (e.g., can obtain condoms comfortably and with confidence). The Teen PEP curriculum helps youth recognize their vulnerability to undesirable health consequences such as unintended pregnancy although simultaneously conveying specific risk-reduction strategies that they can use to avoid those outcomes.

The *positive youth development* approach is grounded in the belief that all students have the capacity to succeed, but in order for students to recognize and attain their potential, they need safety, structure, supportive relationships, opportunities to belong, skill building, and self-efficacy. A core premise of youth development programming is that *young people gain more from an experience when they are actively involved* [8]. Opportunities are continually provided for participants to develop and practice new skills as they learn to work together as a cohesive group. The skills taught in Teen PEP are not only essential for successfully navigating adolescence but are skills that will become lifetime assets. Participants articulate and clarify their values, learn how to make informed decisions, and learn how to set and achieve

goals in a supportive environment. The curriculum is delivered through a peer education approach; thus the youth development approach is integrated into the program model as a core program element.

The process of peer educator selection begins with general recruitment—publicizing the opportunity to apply to be a peer educator throughout the school, including eligibility criteria, participation requirements, and the application process. Program advisors participate in training that directs them to seek a group of peer educators who will be broadly representative of the student body—balanced racially or ethnically, by student population subgroups, and by gender. Each aspirant submits an application, which includes parental permission for participation. All applicants are invited to participate in a group interview, in which they participate in activities designed to assess how they function within a group (e.g., share verbal space, show respect for others' opinions, willingness to share own feelings and views). Applicants then participate in a brief individual interview. Additionally, the names of all applicants are shared with selected school staff who are asked to rate each student using a five-point scale (poor to excellent) on their reliability, leadership, ethics, ability to be a team player, and attendance. Program advisors then meet to make their final selection.

Selected students receive a letter of acceptance and a commitment form that they must sign and return to demonstrate their commitment to the participation requirements. Shortly after the final selection is made, an orientation session is held, followed by an induction ceremony, and then an intensive three-day, two-night training retreat that focuses on leadership skills, team building, and foundational sexual health content.

Peer educators obtain the training to facilitate the workshops, learning both the sexual health content and group facilitation techniques such as active listening and oral presentation skills in the Teen PEP course. In the workshops themselves, students are initially randomly assigned to a group with a pair of peer educators, and thereafter, attempts are made to keep youth in the same groups for the sake of continuity, so that they can establish some comfort and trust within the small groups. During the workshops, peer educators do all the facilitation, while program advisors supervise and are available if needed. After the workshop, the program advisors debrief with the peer educators—both eliciting from them their perceptions of how the workshop went and providing them with some feedback on the workshop. Workshops typically open with a large-group presentation—either a brief skit or a short dramatic speaking piece—and then continue with small-group activities, such as brainstorming reasons why teens have sex and then analyzing those reasons, participating in information gap activities such as placing behaviors along a risk continuum to build knowledge, or scripted roleplays. Peer educators usually co-facilitate the small-group activities in pairs, and the workshops typically culminate with another large-group skit or presentation and an opportunity for participants to reflect on the experience.

Over the course of one semester, peer educators deliver five 90-minute workshops to younger peers and one 150-minute "Family Night" workshop to family and community members. The workshops address postponing sexual involvement, preventing unintended pregnancy, preventing HIV and other STIs, avoiding sexual decision-making when under the influence of alcohol and other drugs, and improving parent–teen communication. Peer educators also develop a school-wide campaign to reinforce workshop messages.

Peer education approach

A defining feature of Teen PEP is the use of cross-age peer educators. Research indicates that peers play a critical role in the lives of adolescents by serving as support for each other, as formal and informal models of behaviors, and as trusted sources of information [9,10]. Research also suggests that people are more likely to personalize messages, and thus to change their attitudes and behaviors, if they believe the messenger is similar to them and faces the same concerns. Peer education draws on the credibility that youth have with their younger peers and leverages the power of role modeling [11]. Trained peer educators are a more credible source of information for some youth than adult educators because they communicate in readily understandable ways while also dispelling misperceptions that most youth are having sex [12].

Previous research demonstrates that peer-led interventions can reduce risky sexual behaviors, such as unprotected intercourse, frequency of sexual intercourse, and number of sexual partners [13–17]. Studies have also shown that adolescents who believe that their peers are using condoms are more than twice as likely to use condoms compared with teens who do not believe their peers use condoms [18,19].

Methods

This article is drawn from a preliminary report on the implementation of Teen PEP in North Carolina. Our objective is to understand how the program is implemented, what characteristics seem to affect implementation, and how participants experience the program. There is not a great deal of empirical research on school-based sexual health education programs that use a peer-to-peer model, so we view this as contributing to foundational research in this area. Below, we aim to answer the following research questions about the implementation of Teen PEP in North Carolina:

- How was Teen PEP implemented in North Carolina? Were core program components implemented, according to the program's logic model?
- How did participants (adult and youth) respond to the program?
- What were the perceived benefits of program participation among the target population (ninth-grade students)?[7]

We developed a question matrix derived from the program logic model and used qualitative techniques including: *observations* of program advisor training, youth classroom instruction, and workshops; *in-depth interviews* of program advisors, stakeholders, and youth participants; *focus groups* with peer educators and youth workshop participants; and review of participant *surveys*, including end-of-workshop evaluations and end-of-program perceived impact surveys (Table 2).

A team of three to four researchers collaborated to collect the data for the implementation study. Using naturalistic observation (typically a pair of observers) aided by curriculum and workshop guides (to illuminate activity objectives and structure), we

[7] Although the experience of the peer educators themselves is a part of our study, it is beyond the scope of the present article.

Table 2
Data collection matrix

Research question	Data sources	Respondents
1. How was Teen PEP implemented in North Carolina? Were core program components implemented, according to the program's logic model?	*Observations* (Teen PEP class and workshops) • Postponing sexual involvement • Preventing unintended pregnancy • Preventing STIs • Preventing HIV or AIDS • Avoiding sexual decision-making while under the influence of alcohol and other drugs • Family Night (parent–teen communication) *Interviews* • Stakeholder team • Program advisors • CSS (grantee) • HiTOPS (implementation partner)	Four program schools: Three to five stakeholders per school at four schools Two program advisors per school (N = 8) Principal investigator; fidelity manager
2. How did participants respond to the program? 3. What were the perceived benefits of program participation among the target population (ninth-grade students)?	*Focus groups* • Peer educators • Ninth-grade workshop participants • Parents *Surveys* Ninth-grade workshop evaluations and end-of-program perceived impact surveys	Focus groups: Nearly all peer educators (N = 62) One to two focus groups per school (N = 60 ninth graders); parents (N = 24) Evaluations and surveys: 84.9% of ninth-grade participants (N = 678)

HIV = human immunodeficiency virus; STI = sexually transmitted infection; Teen PEP = Teen Prevention Education Program.

observed at least one class, one workshop preparation, and one of each workshop at each school and recorded field notes.

Semi-structured interviews were based on an elaborated matrix with topics including context and process of program implementation (reasons for selecting the program, school and community context, process of selection of program advisors, selection of peer educators); program implementation (participants' views of components, experience of implementing program); barriers and supports for implementation; and perceived benefits of the program. We also used knowledge gained from observations over the course of the year (e.g., interactions among stakeholders, implementation of classes and workshops) to inform our questions. Youth focus groups were conducted after we had observed workshops in which youth had participated during the semester, and we used examples from our observations to focus our probes. Focus groups were conducted by a pair of researchers—one facilitating the discussion and the other taking notes—but were not audio recorded.

Evaluations were conducted immediately after each workshop and were generally very brief—consisting of a couple of questions aimed at gauging participants' satisfaction with the workshop and a couple of questions aimed at gauging participants' immediate retention of knowledge or skills presented and practiced in the workshop. The end-of-program evaluations were slightly longer and encompassed skills and knowledge at a more general level than the individual workshop evaluations.

Recruitment

Peer educators were recruited through a selection process involving informational meetings, written applications, faculty feedback, and group and individual interviews (as described above). Youth workshop participants were recruited using informational materials sent home for parental consent; any youth whose parents gave permission participated in five in-school workshops in lieu of whatever class they would have attended during that period. Youth focus group participants were volunteers and completed separate assent forms for focus group participation.

Participants

Peer educators were 11th- and 12th-grade students at each program school who had been selected in the recruitment process (N = 62). Workshop participants were students in the second semester of ninth grade (N = 799).

Data analysis

Data collection and analytic process follow the principles of grounded theory [20] with emergent themes used as sensitizing concepts in a constant comparative approach [21–25] to guide analysis and for the development of possible models for the process whereby the Teen PEP program affects participants' experiences. Notes from observations, focus groups, and interviews were compiled with results from the program-administered workshop evaluations and reviewed by team members again. In this stage, researchers were seeking to understand what we had seen and heard and to make sense of participants' responses to the program. Researchers met frequently during the main data collection periods (January–May in two successive years) to discuss themes and highlight questions of interest for subsequent observations and interviews. Each researcher read through all the notes to identify themes, confirming and disconfirming examples, and quotations from respondents that seemed to exemplify or draw a sharp contrast to themes identified.

Approval

The study protocol was approved by the Abt Associates Inc. Institutional Review Board.

Results

Preliminary findings indicate that CSS and HiTOPS have been able to successfully implement the program in a substantially different context (mostly rural schools) and compressed time frame (one semester rather than a full year) than where it was developed while maintaining fidelity to the core program components. The perceptions of the workshop participants show that even when implementation quality falls slightly short of the very high expectations of the developers, participants attribute high value to the experience and claim to have increased knowledge, changed attitudes, and behavioral intentions regarding sexual health.

Implementation

In all four schools, Teen PEP was replicated with fidelity, meaning that all program "inputs" (Figure 1) and five core model components ("outputs") were implemented.[8] The principal accommodation made was to implement the entire curriculum within one half of a school year rather than across the entire school year. This was done to accommodate North Carolina public schools' block scheduling, so that the full-year Teen PEP course could be completed within one semester. Although total course hours were not reduced (in a block schedule, classes meet for approximately 90 minutes daily for one semester rather than approximately 45 minutes daily for two semesters), the span of time between workshops was compressed, making it more challenging for peer educators to assimilate the course material and prepare for workshops.

Because Teen PEP is not just a teacher-taught curriculum, but is a peer-led program, stakeholders reported challenges in recruiting a group of peer educators broadly representative of the school community (e.g., not just the highest-achieving or most popular students). Selection of a robust group of peer educators is one cornerstone of successful implementation both for face validity (credibility to the younger peers) and for the sheer amount of work (memorizing lines for skits and learning facilitation techniques). Out of the four schools, two did this more successfully, selecting diverse peer educator teams of more than 16 youth broadly representative of the school population in terms of demographic characteristics and academic skills, whereas the other two recruited much smaller teams (only 9 students in one school and 14 in the other).

Participants' responses to Teen PEP

Participation in Teen PEP workshops represented a departure for participants from their previous school experiences, according to responses in focus groups with peer educators and ninth-grade participants in all four schools. As one student put it, it was typical for sexual health information to be delivered through "a book, [a] teacher, and a PowerPoint… and the teacher made it awkward." Students also reported that most of their other classes did not include active, hands-on experiences and opportunities for discussion, and that they appreciated that the sessions were peer-led.

Access to information about sexual health

Perhaps because Teen PEP represented the first-time detailed information on sexuality was presented in their school districts, many stakeholders and program advisors expressed some anxiety at the outset in anticipation of a negative parent reaction to some of the topics covered in the workshops. Although the condom demonstration was the topic causing the most initial trepidation, observations revealed that students across all schools impressed stakeholders by quietly observing the peer educators' demonstration and being actively engaged in activities reviewing condom use in later workshops. This reaction may be explained in part by the novelty of the information—their behavior seemed to mirror their stated perceptions that this kind of information was not only new but also useful and important.

One positive consequence of the students' response was that there was then no adverse parental response, which surprised Teen PEP stakeholders. To develop community support, school boards were involved in approving Teen PEP's implementation, and in some cases, parental forums were held before the program started. So far, all districts implementing the program have encountered only mild or isolated opposition to the program, and broader support than expected, with many parents expressing enthusiasm for the continuation of the program (as reported to us in parent focus groups).

One way in which schools have begun to develop broader community awareness about Teen PEP has been through the Family Night workshop. Although this workshop is primarily designed to facilitate communication between ninth-grade participants and their parents, in practice it has served more as a tool to showcase the program to parents and community members. This shift in utility has occurred mostly because schools have found it difficult to get sufficient ninth-grade student and parent attendance. Instead, schools have found that Family Night workshops have been attended by a diverse mix of attendees (e.g., parents of peer educators, school administrators, faculty, and representatives from community agencies). To date, Family Night has been well received by attendees. Many acknowledge that there is need for an intervention like Teen PEP in their community and expressed hope that it will continue to be available. These sentiments have helped to further allay stakeholders' concerns about opposition to the program.

Peer education as mode

In addition to new content, the way in which the content was delivered was important to students. Most students reported that Teen PEP represented the first time they had been exposed to a peer education model. Across all schools, students explained that it is easier to get information about sex from peers since they are not as far removed from the freshman experience as adults. As one student noted, "They don't try to sugar-coat it like they do in health class," and another said, "I liked this. I learn better from younger kids that have been in my situation."

[8] Here we refer to intervention fidelity—the intervention components were implemented such that according to the Office of Adolescent Health fidelity checklist for the model, all core component activities were enacted. Although this checklist does not take into account *implementation* fidelity—the selection and training of participating staff and peer educators, provision of technical assistance, support and oversight, there was also high-implementation fidelity. The *quality* of the implementation of the intervention varied somewhat from one site to another, but there is no evidence that this had an impact on students' perceptions of the benefits.

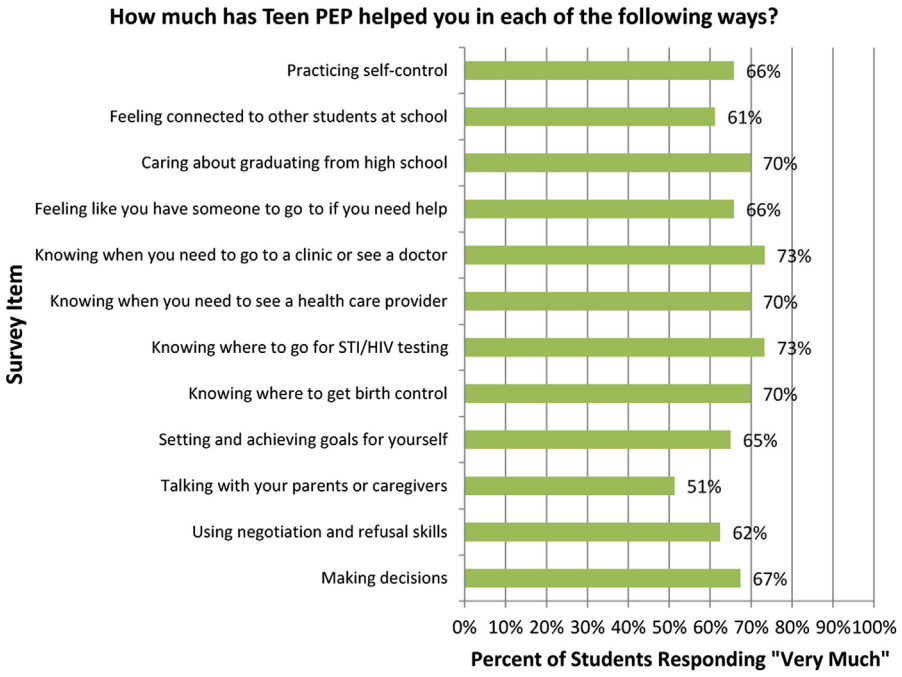

Figure 2. Perception of Teen PEP's benefits reported by ninth-grade participants

Although observation data suggest that some peer educators struggled to be fully prepared for their skits and small-group activities, it seems that so far, ninth-grade students had generally high opinions of their peer educators. When participants have been asked to reflect on the extent to which peer educators facilitated learning in the workshop and appeared to be prepared, an *overwhelming* proportion of students from all schools (over 95%) agreed or strongly agreed that the peer educators were organized and prepared, and that they clearly explained the instructions for each activity. Sound preparation of the peer educators is a cornerstone of the program, especially in a context such as these North Carolina public schools, where students are unlikely to have received medically accurate information about sexual health from another source.

Impact and perceived impact on ninth-grade outreach workshop participants

Impacts on workshop participants' knowledge, skills, and behaviors will be measured in the impact study that is currently underway[9], but observations during workshops, end-of workshop evaluations, and a survey conducted after the final workshop provided insights into the benefits participants believed they had received as a result of participating in Teen PEP.

Negotiation and refusal skills

Teen PEP developers view negotiation and refusal techniques as central to adolescents' decision-making regarding sexual activity[10], so the workshops emphasize negotiation and refusal tactics. In the first year of implementation, negotiation and refusal skills were presented as six steps.[11] A review of workshop observation notes and post-workshop evaluations indicated that students struggled to grasp the six steps. In response, CSS and HiTOPS simplified the concept into three skills: "say no," "say how you feel," and "compromise or walk away." Still, many students struggled to grasp the three steps. This may have less to do with Teen PEP implementation and design and more to do with the novelty of learning how to refuse or delay sexual activity using tactics other than just saying "no."

Important information

The way in which Teen PEP introduces negotiation and refusal skills is not the only aspect of Teen PEP that seems to be novel to participants. Focus group participants from all schools explained that although some aspects of sexuality were taught in middle school, many of the workshops went beyond what had been covered before. Students agreed that although Teen PEP's messages on abstinence and delaying sexual activity were familiar, content on birth control methods, STIs, and HIV or AIDS was novel or more comprehensive than previously covered in school. In end-of-workshop evaluations, students across schools overwhelmingly indicated that because of Teen PEP, they thought that they were more likely to use condoms and other forms of birth control if and when they decided to engage in sexual activity. Students in focus groups explained that they appreciated receiving information that they could use now and in the future. In short, one student's comment sums up the sentiment of many: "We needed to be told—we need this information!"

[9] The PPA study, see above.

[10] Indeed, many if not most positive youth development programs include an emphasis on the use of negotiation and refusal skills.

[11] Refusal skills in first cohort curriculum version: "say no," "take the offensive," "get out of it"; negotiation skills: "clarify," "offer an alternative," "compromise."

Perceived benefits

After the final workshop, students were asked to rate on a three-point scale (not at all, somewhat, or very much) the extent to which Teen PEP had helped them in three broad domains: cognitive and behavioral (decision-making, negotiation and refusal skills, goal setting); connectedness and self-concept; and changes in information or knowledge (knowing where to get birth control, where to go for STI or HIV testing, when you need to see a health care provider). The results are shown in Figure 2.

It is notable that across all 12 areas, the majority of participants reported that Teen PEP had helped them "very much." The weakest area, talking with parents or caregivers, is targeted by workshop homework assignments and Family Night but is not a principal focus of the program.

Although replicating Teen PEP in a context different from that in which it was developed has required adaptations (implementing in a block schedule rather than a traditional schedule), CSS and HiTOPS have been able to successfully implement the program in North Carolina. Although school stakeholders entered the process of implementing Teen PEP with some trepidation, the training that the program developers provided to stakeholders and program advisors equipped them with skills to garner program support and prepare peer educators to be credible messengers of medically accurate sexual health information. Results suggest that Teen PEP can be successfully implemented across a variety of settings, including urban and suburban schools where it was initially developed and rural schools where it has been adapted and replicated.

Benefits to youth participating in the peer-led workshops include gaining knowledge about sexual health topics that have not previously been addressed in their educational experience, greater familiarity with community resources, increased feelings of connectedness to school, and perceived cognitive and behavioral changes that could transfer to preventing other risky behaviors.

Funding Sources

This publication was made possible by Grant Number TP2AH000018 from the Office of Adolescent Health.

References

[1] Hamilton BE, Matthews TJ, Ventura SJ. Declines in state teen birth rates by race and Hispanic origin. NCHS data brief, no. 123. Hyattsville, MD: National Center for Health Statistics; 2013. Available at: http://www.cdc.gov/nchs/data/databriefs/db123.pdf.

[2] North Carolina Department of Public Instruction. North Carolina youth risk behavior survey. High school 2011 survey results; 2012. Available at: http://www.nchealthyschools.org/docs/data/yrbs/2011/statewide/high-school.pdf.

[3] Centers for Disease Control (CDC). Youth risk behavior surveillance system (YRBSS). Youth Online: High School YRBS-North Carolina 2011 results; 2012. Available at: http://apps.nccd.cdc.gov/YouthOnline/App/Results.aspx?LID=NC.

[4] Martin JA, Hamilton BE, Ventura SJ, et al. Births: Final data for 2010. National Vital Statistics Reports 2012;61 (August 28, 2012). U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System. Available at: http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_01.pdf#table12.

[5] Bandura A. Social learning theory. New Jersey: Prentice-Hall; 1977.

[6] Rosenstock IM. Why people use health services. Milbank Memorial Fund Q 1966;44:94–127.

[7] Eccles JS, Gootman JA. Community programs to promote youth development. In: National Research Council and Institute of Medicine Committee on Community-Level Programs for Youth. Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington, DC: National Academy Press; 2001.

[8] Pittman KJ, Zeldin S. Premises, principles, and practices: Defining the why, what, and how of promoting youth development through organizational practice. Washington, DC: Academy for Educational Development, Center for Youth Development and Policy Research; 1995.

[9] Maxwell KA. Friends: The role of peer influence across adolescent risk behaviors. J Youth Adolesc 2002;31:267–77.

[10] Whitaker DJ, Miller KS. Parent-adolescent discussions about sex and condoms: Impact on peer influences of sexual risk behaviors. J Adolesc Res 2000;15:251–73.

[11] Advocates for Youth. Peer education: Promoting healthy behaviors. Washington, DC: Mason, H; 2003.

[12] DiClemente RJ. Confronting the challenge of AIDS among adolescents: Directions for future research. J Adolesc Res 1993;8:156–66.

[13] O'Hara P, Messick B, Fichtner R, Parris D. A peer-led AIDS prevention program for students in an alternative school. J Sch Health 1996;66:176–83.

[14] Pearlman D, Camberg L, Wallace L, et al. Tapping youth as agents for change: evaluation of a peer leadership HIV/AIDS intervention. J Adolesc Health 2002;31:31–9.

[15] Smith M, Dane F, Archer M, et al. Students together against negative decisions (STAND): Evaluation of a school-based sexual risk reduction intervention in the rural South. AIDS Educ Prev 2000;12:49–70.

[16] Siegel DM, Aten MJ, Roghmann KJ, Enaharo M. Early effects of a school-based human immunodeficiency virus infection and sexual risk prevention intervention. Arch Pediatr Adolesc Med 1998;153:961–70.

[17] Beshers SC. A case study of peer educators in a community-based program to reduce teen pregnancy: Selected characteristics prior to training, perceptions of training and work, and perceptions of how participation in the program has affected them. Am J Sex Educ 2007;2:97–115.

[18] DiClemente RJ. Predictors of HIV-preventive sexual behavior in a high-risk adolescent population: The influence of perceived peer norms and sexual communication on incarcerated adolescents' consistent use of condoms. J Adolesc Health 1991;12:385–90.

[19] DiClemente RJ. Psychosocial determinants of condom use among adolescents. In: DiClemente RJ, ed. Adolescents and AIDS: A Generation in Jeopardy. Newbury Park, CA: Sage Publications; 1992, pp. 34-51.

[20] Strauss A, Corbin J. Basics of qualitative research: Techniques and procedures for developing grounded theory. Newbury Park, CA: Sage; 1998.

[21] Blumer H. Symbolic interactionism: Perspective and method. New Jersey: Prentice-Hall; 1969.

[22] Glaser BG, Strauss A. Discovery of grounded theory: Strategies for qualitative research. Mill Valley, CA: Sociology Press; 1967.

[23] Glaser BG. Theoretical sensitivity: Advances in the methodology of grounded theory. Mill Valley, CA: Sociology Press; 1978.

[24] Padgett DK. The qualitative research experience. Belmont, CA: Wadsworth/Thomson Learning; 2004.

[25] Patton MQ. Qualitative evaluation methods. Beverly Hills, CA: Sage; 1980.