



The Personal Responsibility Education Program Evaluation

Design for an Impact Study of Four PREP Programs

OPRE Report Number 2015-01
FYSB Report Number 2015-01

January 2015

Cover photo image courtesy of Inwood House's Teen Choice Program.

OPRE Report Number:
2015-01

FYSB Report Number:
2015-01

Contract Number:
HHSP23320110011YC

Mathematica Reference Number:
06991.S50

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January 2015

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OVERVIEW

To help reduce teen pregnancy, sexually transmitted infections, and associated risk behaviors, Congress authorized the Personal Responsibility Education Program (PREP) as part of the 2010 Patient Protection and Affordable Care Act. The program is overseen by the Family and Youth Services Bureau (FYSB) within the Administration for Children and Families of the U.S. Department of Health and Human Services. Through PREP, FYSB funds a mix of competitive and formula block grants to U.S. states and local organizations to provide educational programs to adolescents on teen pregnancy prevention and related topics. The program is expected to serve roughly 300,000 youth across more than 1,300 program sites nationwide (Zief et al. 2013).

To measure PREP's success, FYSB and the Office of Planning, Research and Evaluation within ACF have contracted with Mathematica Policy Research to conduct the PREP Multi-Component Evaluation. As part of the evaluation, the study team is conducting a random assignment impact study of four PREP-funded programs. These programs were chosen to fill specific gaps in the existing research literature and are not representative of all PREP-funded programs. Therefore, the study is not designed to assess the overall effectiveness of PREP. The four programs to be evaluated are:

1. **Wise Guys (Davenport, Iowa).** The *Wise Guys* curriculum is designed for young adolescent males. The evaluation is testing the curriculum with 7th grade boys in seven middle schools in the Davenport area.
2. **Reducing the Risk (rural Kentucky).** The evaluation is testing an adapted version of *Reducing the Risk* developed by health educators in Kentucky that can be delivered in 8 instructional hours, instead of the standard 12 hours. It is being tested in 13 high schools in mostly rural, low-income areas of the state.
3. **Teen Choice (New York City area).** The evaluation is testing *Teen Choice* in five alternative schools in the New York City area. The program is serving at-risk youth placed in these schools because of behavioral, emotional, or academic issues.
4. **Steps to Success (San Angelo, Texas).** *Steps to Success* is a home visiting program for adolescent mothers living in the San Angelo area. It covers contraception, adequate birth spacing, relationship skills education and career planning, in addition to standard home visiting content on parenting and child development.

In each site, the study team will use a rigorous random assignment research design to assess the impacts of each program. Data will be gathered through a baseline survey conducted before programming begins and two follow-up surveys, the first conducted about a year after the start of programming and the second about two years after program start. Impact analyses will be conducted separately for each site to account for cross-site differences in program approaches, sample characteristics, and key research questions of interest. For each site, the study team will produce two impact reports: the first reporting on interim program impacts from the first follow-up survey, the second reporting on final program impacts at the end of follow-up data collection. The first impact findings will be available in 2016, with the remaining site-specific impact reports released on a rolling basis through 2018.

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I. INTRODUCTION

High rates of teen pregnancy, sexually transmitted infections (STIs), and associated sexual risk behaviors remain a troubling issue in the United States. Nationwide, 23 percent of high school students report having had four or more partners by graduation, and nearly 41 percent of sexually active students had not used a condom during their last sexual intercourse (CDC 2014a). These behaviors increase the risks of pregnancy and STIs, including HIV. Although the teen birth rate has declined markedly over the past 20 years, to a current low of 29.4 births per 1,000 females 15 to 19 years of age (Martin et al. 2013), the rate remains higher in the United States than in most other industrialized countries (United Nations 2012). In addition, estimates suggest that adolescents and young adults account for half of all new STI cases in the United States every year (CDC 2014b).

To help reduce these risks, Congress authorized the Personal Responsibility Education Program (PREP) as part of the 2010 Patient Protection and Affordable Care Act. The program is overseen by the Family and Youth Services Bureau (FYSB) within the Administration for Children and Families (ACF) of the U.S. Department of Health and Human Services (HHS). Through PREP, FYSB funds a mix of competitive and formula block grants to U.S. states and local organizations to provide educational programs to adolescents on teen pregnancy prevention and related topics. By supporting these programs, PREP ultimately aims to further reduce rates of teen pregnancy, STIs, and associated sexual risk behaviors, particularly among high-risk youth. According to recent interviews conducted with participating state agencies, the program is expected to serve roughly 300,000 youth across 1,350 program sites nationwide (Zief et al. 2013).

To measure PREP's success in achieving these goals, Congress also authorized a federal evaluation of the program. In response, FYSB and the Office of Planning, Research and Evaluation (OPRE) within ACF have contracted with Mathematica Policy Research to conduct the PREP Multi-Component Evaluation. The seven-year (2011–2018) study has three main components:

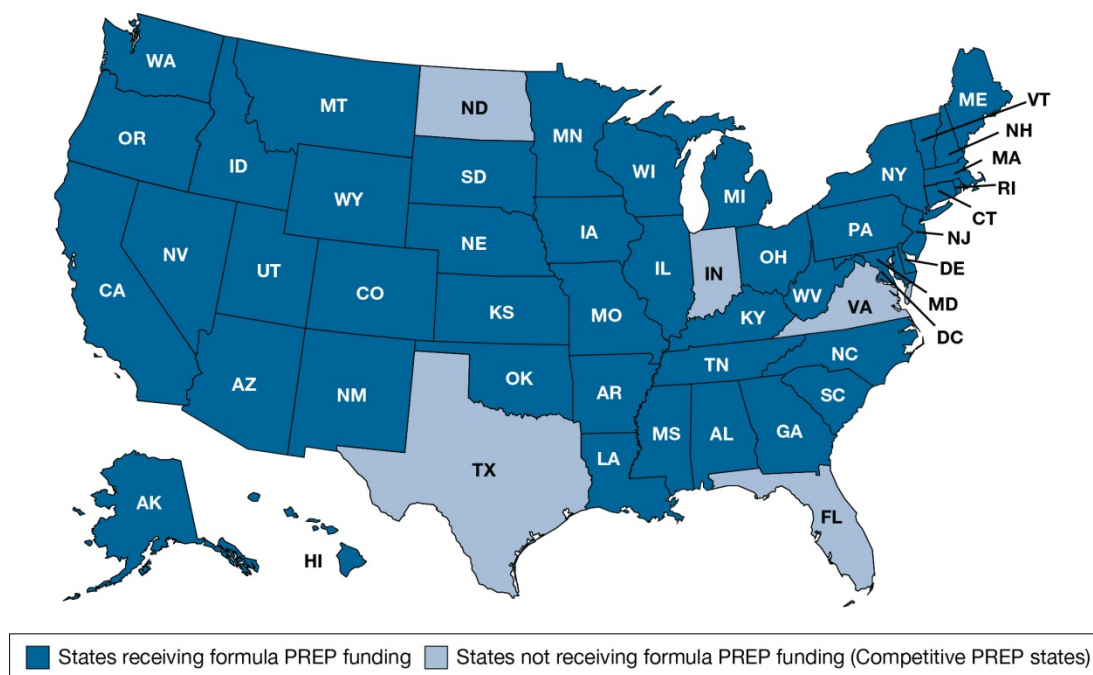
1. **A broad descriptive study of state PREP grantees.** The study team is conducting a broad descriptive analysis of state PREP grantees to assess how states have designed and implemented their programs. Initial findings from this component of the evaluation were released in October 2013 (Zief et al. 2013).
2. **Performance measure data collection and analysis from all PREP grantees.** The team is also collecting and analyzing performance measurement data from all PREP grantees. The team will use these data to track program outputs and outcomes, such as the number of youth served, program attendance patterns, and grantees' success reaching high-risk and vulnerable populations.
3. **A random assignment impact study of four PREP programs.** The team is conducting rigorous random assignment impact evaluations and accompanying program implementation evaluations in a subset of four PREP-funded sites. These four sites were chosen to expand our understanding of effective approaches to teen pregnancy prevention by filling specific gaps in the existing research evidence. This component is not designed to assess the overall effectiveness of the PREP program.

This report describes the design of the third study component: an impact study of four PREP-funded programs. We begin by providing a brief overview of PREP funding, the overarching goals of this study component, and the process used to select four participating sites. We then describe each site in detail: the program being tested, the planned evaluation sample and setting, key features of the impact evaluation design, and the evaluation timeline and expected schedule for data analysis and reporting of results. Sample enrollment for the study began in spring 2013 and will continue through early 2016. Interim and final impact findings will be released on a rolling site-by-site basis beginning in 2016.

Overview of PREP funding

Funding for PREP began in fall 2010, following passage of the Patient Protection and Affordable Care Act. Under this Act, Congress appropriated \$75 million in annual funding to PREP for a mix of competitive and state formula grants. Forty-five states and the District of Columbia applied for and received formula block grants through the State PREP Program, beginning in 2010 (Figure I.1). The U.S. territories of Micronesia, Puerto Rico, and the Virgin Islands also received funding. The funding amounts are proportionate to population size, with a minimum annual allotment of \$250,000 per state. As required by the PREP legislation, in the five U.S. states that elected not to participate in the State PREP formula grant program (Florida, Indiana, North Dakota, Texas, and Virginia), FYSB has awarded competitive grants to local service providers in each state to deliver similar types of teen pregnancy prevention programming. FYSB awarded a first round of grants under this Competitive PREP program in fall 2012, with awards ranging in size from \$200,000 to \$900,000 per year.

Figure I.1. States receiving PREP formula funding



The PREP legislation provides some broad guidelines governing the use of program funding (see Figure I.2). Grantees must use the funding to provide educational programs to adolescents that include information on both abstinence and contraception. The funded programs must have existing research evidence documenting their effectiveness or substantially incorporate elements of evidence-based programs. In addition to providing education on abstinence and contraception, the funded programs must address at least three of six adulthood preparation subjects specified in the legislation: (1) healthy relationships, (2) adolescent development, (3) healthy life skills, (4) parent-child communication, (5) educational and career success, and (6) financial literacy. The legislation also directs PREP grantees to target funding to specific high-risk populations, such as youth living in areas with high teen birth rates, youth in foster care, adjudicated youth, homeless youth, and adolescent parents.

Figure I.2. PREP programmatic expectations

Emphasis on Evidence-Based Programming	✓ Provide evidence-based programs or substantially incorporate elements of them.
Focus on High-Risk Populations	✓ Target youth living in areas with high teen birth rates, youth living in foster care, adjudicated youth, homeless youth, and adolescent parents.
Coverage of Abstinence and Contraception	✓ Provide education on both abstinence and contraception.
Incorporation of Adulthood Preparation Subjects	✓ Educate youth on at least three adulthood preparation subjects.

Within these broad guidelines, states participating in the PREP formula grant program have discretion to design their programs in ways to best meet the needs of their local communities. Findings from recent telephone interviews with participating state agencies (Zief et al. 2013) indicate that most states have used PREP grants to fund local school districts, county or regional health departments, or local community-based organizations to provide the required educational programs. However, the states have also maintained an important planning and oversight role by identifying the particular teen pregnancy prevention programs to offer, prioritizing particular geographic areas or high-risk populations to receive services, and strategically selecting the local service providers best positioned to execute the state's intended plans. Nearly all states have also worked to establish a training and technical assistance infrastructure to support high quality program implementation.

Goals of the study

Drawing from this large and diverse set of funded sites, this component of the overall PREP evaluation aims to expand the available evidence on effective approaches to teen pregnancy prevention, especially among high-risk youth. The teen pregnancy prevention literature has grown dramatically in the past 20 years, and studies have identified more than 30 programs with evidence of effectiveness in reducing teen pregnancy, STIs, or associated sexual risk behaviors (Goesling et al.

2014). However, much of this research focuses on general youth populations with average risk levels for teen pregnancy. Fewer studies focus specifically on the types of high-risk populations targeted by PREP.

Under this component of the overall PREP evaluation, we will conduct rigorous impact evaluations in four PREP-funded sites. With a sample of four sites, the study can advance current understanding of effective approaches to teen pregnancy prevention by filling specific gaps in the existing research evidence. Because the sites selected are not representative of the full universe of PREP-funded sites, we cannot generalize these findings to the success or effectiveness of the overall formula grant program.

The four study sites are designed to be distinct, independent evaluations. Each site implements a different teen pregnancy prevention program, offers services to a distinct target population, and operates in a different geographic area of the country (see Table I.1). Within each site, we designed the impact evaluation to compare the effectiveness of the selected program relative to a control group in the same site. The period of sample enrollment, random assignment procedures, data collection schedules, target sample sizes, and key outcomes of interest also vary across sites. We will analyze and report the study findings separately for each site to provide evidence on the effectiveness of each of these programs. We do not plan to compare or combine impact estimates across the four sites.

In each site, the impact study will address the following types of questions:

- **Was the program successful at reducing adolescent pregnancy, STIs, or associated sexual risk behaviors?** The particular outcomes tested will vary by site, depending on the specific characteristics of the program, target population, and evaluation setting. In all sites, we will examine program impacts on at least one key measure of sexual risk behavior or pregnancy.
- **What are the pathways or mechanisms through which the program works?** Each program specifies a particular mix of mediating variables or pathways through which it intends to influence youth behaviors—for example, by teaching refusal skills or changing attitudes or intentions. We will estimate program impacts on these mediating variables, as identified in the logic models for each site.
- **How do program impacts vary by levels of program participation?** Our primary research questions will estimate program impacts for all study youth, regardless of how much (or little) of the program youth actually attended. Some youth may participate in all sessions or activities, some may participate in a limited number, and some may not participate at all. If we find that attendance patterns vary widely across youth, we will examine as a non-experimental exploratory analysis how program impacts vary by participation levels.

In conjunction with the impact study of these four PREP-funded programs, the study team is also conducting an in-depth implementation study in each of the four sites. The implementation study will feature two rounds of in-person site visits. During these visits, we will interview program staff, observe service delivery, and conduct focus groups with participants. In addition, we will gather data from sites on attendance at group sessions and the frequency and content of service delivery.

The study team will report findings from these data collection activities in site-specific implementation reports as well as in the interim and final impact reports for each site. The implementation study will carefully document how the programs operated and how services were

delivered. It will provide important context for the interpretation of impact findings and help us explore potential pathways by which programs may have generated effects.

Site selection

To identify and select the four participating sites, Mathematica worked closely with FYSB and OPRE for nearly two years to conduct an extensive outreach and recruitment effort spanning all 45 PREP-funded states, the District of Columbia, and the local service providers awarded funding under the Competitive PREP Program. This effort involved collecting basic information on the program and implementation plans of each state or agency, conducting exploratory telephone conversations with a select set of states and local agencies to collect more detailed information, holding in-depth planning and evaluation design conversations with a small number of prospective sites, and ultimately selecting and establishing formal agreements with the final set of four sites.

For each prospective site, we first assessed the feasibility of conducting a random assignment impact evaluation. Assessing feasibility required identifying a viable approach for random assignment, specifying the size of the potential sample, understanding the distinction between the planned treatment and control groups, determining the risk of contamination of the control group, evaluating the sponsoring agency's ability to implement the program model with fidelity, and judging the site's capacity to support the required study activities. Only those sites deemed feasible for a random assignment impact evaluation were further considered for inclusion.

We also assessed each prospective site's value in advancing available evidence on effective approaches to teen pregnancy prevention. For example, we looked especially for sites serving high-risk populations, such as pregnant or parenting teens, or groups underrepresented in the current research literature, such as youth in rural areas. We also prioritized programs and approaches that have not been subject to as much prior research. As discussed earlier in this chapter, the PREP legislation directed grantees to use evidence-based programs or substantially incorporate elements of evidence-based approaches. However, the available research evidence is stronger for some programs than for others. We looked for programs that could most benefit from additional research.

Overview of participating sites

We finalized agreements with the four sites (Table I.1) on a rolling basis from spring 2013 through winter 2014. One of these three programs is designed specifically for use with young adolescent males (*Wise Guys* in Iowa), one targets male and female high-school age students living in rural areas (*Reducing the Risk* in Kentucky), and one is being evaluated among a particularly high-risk sample of youth in alternative school settings (*Teen Choice* in New York). The fourth site involves a two-year enhanced home visiting program intended to delay repeat pregnancy among adolescent mothers (*Steps to Success* in San Angelo, Texas). In this site, we are comparing the effectiveness of the enhanced home visiting program with that of a traditional home visiting program that does not emphasize contraception and adequate birth spacing.

In each site, the study team will estimate program impacts using a rigorous random assignment evaluation design (Table I.2). Appendix A provides more information on the schedule for the impact study of these four programs. In the remainder of this document, we describe each site and the planned impact evaluations in more detail.

Table I.1. Key program features of impact study sites

Program feature	Iowa	Kentucky	New York	Texas
Program name	<i>Wise Guys</i>	<i>Reducing the Risk</i>	<i>Teen Choice</i>	<i>Steps to Success</i>
Program description	Group-based sexuality education and male responsibility curriculum for middle-school aged boys	Group-based sexuality education program for male and female high school aged students	Group-based sexuality education and healthy relationship program for male and female adolescents	Enhanced home visiting program for adolescent mothers and the fathers of their babies
Program duration	Fourteen 45-minute sessions	Eight one-hour sessions	Twelve one-hour sessions	Regular home visits for two years after birth
Funding source	Iowa's State PREP grant	Kentucky's State PREP grant	New York's State PREP grant	Competitive PREP grant awarded to implementing agency
Implementing agencies	Bethany for Children & Families	Barren River and Lincoln Trail Health Departments	Inwood House	Healthy Families San Angelo
Delivery setting	Seven middle schools in and around Davenport, Iowa	Thirteen high schools in rural central and southwestern Kentucky	Five New York City area schools housing residential and day programs for high-risk youth	Home visits to adolescent mothers in San Angelo, Texas
Targeted population	At-risk middle school boys	Rural high school students	High-risk youth in alternative school settings	Adolescent mothers who are primarily Hispanic and English-speaking

Table I.2. Key design features of impact study sites

Design feature	Iowa	Kentucky	New York	Texas
Random assignment approach	Stratified random assignment of students within schools	Stratified random assignment of schools (clusters)	Stratified random assignment of students within schools	Rolling random assignment of individual mothers
Unit of assignment	Individuals	Schools	Individuals	Individuals
Targeted sample size	800 boys	2,000 students	750 high-risk youth	720 adolescent mothers
Timing of first follow-up	12 months after start of programming	12 months after start of programming	9 months after start of programming	12 months after start of programming
Timing of second follow-up	24 months after start of programming	24 months after start of programming	21 months after start of programming	24 months after start of programming
Mode of follow-up data collection	Paper and pencil surveys, group administration in schools	Paper and pencil surveys, group administration in schools	Paper and pencil surveys, group administration in schools when possible, supplemented with telephone surveys	Telephone surveys
Key outcomes of interest	Sexual initiation	Sexual initiation, unprotected sex, number of sexual partners	Sexual initiation, unprotected sex, STIs, pregnancy	Repeat pregnancy, use of long-acting reversible contraception (LARC)

II. EVALUATION OF WISE GUYS IN IOWA

Few teen pregnancy prevention programs target the specific needs of young adolescent males. In recent years, researchers and policymakers have increasingly recognized and prioritized the need to support young men in achieving positive educational and career outcomes, in part to help them become strong, responsible fathers. However, many of these efforts target young men only after they have become fathers (Avellar et al. 2011). Fewer programs aim to support young adolescent males in delaying the onset of sexual activity and avoiding the risk of teen fatherhood. Among the teen pregnancy prevention programs currently recognized by HHS as having evidence of effectiveness, only one is designed specifically for use with males (Goesling et al. 2014).

To help address this need, Mathematica is collaborating with the Iowa Department of Public Health and Bethany for Children & Families, a social service provider operating in western Illinois and eastern Iowa, to conduct a rigorous evaluation of the *Wise Guys Male Responsibility Curriculum*. The *Wise Guys* curriculum is one of few teen pregnancy prevention programs designed specifically for young adolescent males. Although the program was originally developed more than 20 years ago and has been used widely in communities across the country, there has been relatively little research on its effectiveness in changing youth behaviors. The present study will provide rigorous evidence on the effects of *Wise Guys* in delaying sexual initiation and improving other outcomes of primary interest. The evaluation sample will come from seven public middle schools served by Bethany with PREP funding in eastern Iowa.

The **Wise Guys** program in Iowa

Wise Guys was developed by the Family Life Council of North Carolina as one of the only teen pregnancy prevention programs to focus exclusively on young males. The first *Wise Guys* program was offered on a volunteer basis to males at a Greensboro Boys and Girls Club in the summer of 1990. In the program, young men are asked to explore manhood and sexual decision making in a safe, respectful environment. The program soon attracted the attention of national organizations involved in teen pregnancy prevention. It is now offered across the nation in diverse settings.

The program has two curricula, each targeting a distinct age group. Adolescent males ages 11 to 17 are offered the original “Level 1” curriculum. The newer “Next Level” curriculum is designed for older males, ages 18 to 29. The two curricula may be used independently or in combination. The Iowa program uses only the original curriculum for younger males, because the program is targeted to middle school youth. The program is typically offered as a multi-session curriculum delivered either in school or in community-based settings over a period of 5 to 12 weeks.

The *Wise Guys* program as delivered in Iowa has 14 total sessions (see Table II.1), each lasting about 45 minutes. Of these 14 sessions, 10 are part of the standard *Wise Guys* curriculum and cover such topics as communication and masculinity, dating violence, abstinence and contraception, and STIs. To meet PREP requirements to cover multiple adult preparation topics, Iowa requires program staff to supplement these 10 core sessions with 3 sessions on healthy relationships, healthy life skills, and adolescent development. The healthy relationships session

covers dating violence and was developed by the Washington State Coalition Against Dating Violence. The healthy life skills session focuses on social media and was developed by ETR Associates. The adolescent development session covers suicide and depression and is drawn from the *SOS Signs of Suicide* curriculum distributed by Screening For Mental Health, Inc. Program staff also added an informal “celebration” session to the end of the program, to recap key lessons and recognize youth for completing the program.

To date, there has been little rigorous research evidence on the effectiveness of *Wise Guys*. From 2005 through 2007, researchers fielded a random assignment impact evaluation of the program among middle school students in Guilford County, North Carolina (Gruchow and Brown 2011). The study found some evidence of favorable program effects, particularly on measures of student knowledge and attitudes. However, the study’s relatively small sample size and high rate of sample attrition undermine the quality of its causal evidence. An earlier study conducted with North Carolina middle school students from 1990 to 1994 found mixed evidence of program effects (Gottsegen and Philliber 2001). This study used a non-experimental research design and, like the more recent 2011 study, does not provide strong evidence of causal effects.

Table II.1. Overview of the Iowa **Wise Guys** program

Session	Objectives
Orientation, Myself	Set expectations for the program and explore issues of self-esteem and confidence
Personal & Family Values	Help participants articulate and identify influences on their personal values
Communication & Masculinity	Identify and practice effective communication skills; discuss the concept of “masculinity” and what it means to be a male
Sexuality	Provide information on the physical changes that occur during puberty; discuss the meaning of “sexuality”
Dating Violence	Identify and discuss the signs and risks of dating violence and unhealthy relationships
Abstinence & Contraceptives	Discuss abstinence as the only risk-free method of staying safe; identify the advantages and disadvantages of other contraceptive methods
Sexually Transmitted Infections	Provide information on types of STIs and how they are transmitted
Goal Setting	Introduce the importance of goal setting and discuss how unintended pregnancy and STIs can alter life plans
Decision Making	Identify and practice effective decision making skills
Parenthood	Identify the roles and responsibilities of “fatherhood” and how having a baby can affect a teen’s life
Stress/Mental Health*	Discuss how stress can affect mental health and how to effectively manage stress
Healthy Relationships*	Identify the features of healthy relationships and discuss how to achieve them
Social Media*	Discuss the risks of social media and how to stay safe
Celebration	Review highlights of the program and recognize youth for participating

* Supplemental sessions required under Iowa State PREP funding.

Evaluation setting and sample

To add to the existing evidence on the effectiveness of *Wise Guys*, Mathematica is collaborating with program staff from Bethany for Children & Families, a not-for-profit agency that provides social services to children and families in western Illinois and eastern Iowa. Since 2012, Bethany has received funding for *Wise Guys* from the Iowa Department of Public Health as part of Iowa's formula state PREP grant. *Wise Guys* is one of three teen pregnancy prevention programs Iowa selected to support with PREP funding across different areas of the state (Zief et al. 2013). The state awarded Bethany funding to deliver *Wise Guys* to middle school students in and around the city of Davenport, Iowa.

For the evaluation, Bethany is using its PREP funding to deliver the *Wise Guys* program to 7th grade boys in two Iowa school districts: Davenport Community School District and North Scott Community Schools. Seven middle schools are included in the evaluation, six in the Davenport district and one in North Scott. In each participating school, Bethany is delivering *Wise Guys* as a voluntary elective program during the regular school day. The program is delivered by two trained Bethany facilitators, who work with school staff to identify boys who may have interest in the program. Bethany intentionally seeks a mix of both "leaders" and "at-risk" students to participate in the program, as they have found this diversity beneficial to the group sessions. The students identified by school staff are invited to participate in the program and excused from their regular classes as needed to attend the *Wise Guys* sessions. The boys must receive permission from their parents to participate in the study and the program.

The *Wise Guys* program follows a similar schedule in six of the seven study schools. In these six schools, Bethany delivers the 14 program sessions once a week, allowing for completion of the full curriculum in about four months. This schedule allows Bethany to deliver up to two separate cycles of the program each school year, once in fall and again in spring. In the smallest study school, Bethany instead delivers a year-round program with sessions meeting every other week. A year-round schedule is sufficient in this school because student enrollment is not large enough to support two separate program cycles.

Bethany works with school staff to design the program schedule to maximize attendance and minimize disruption to other scheduled classes. Some schools offer the program during an elective or "free" period. Other schools pull students out of their regular school schedule to attend *Wise Guys*, but the time of the class varies from week to week. Varying the schedule in this way limits the number of times a student misses any given class period. Attendance data collected from the fall 2013 program cycle show a high rate of exposure to the program: across the seven study schools, 94 percent of participating boys attended at least one *Wise Guys* session, 83 percent attended at least half the sessions, and 73 percent attended at least three-quarters of the sessions.

The study population is racially diverse and relatively disadvantaged. Among those who enrolled in the study in fall 2013, about half were non-Hispanic whites; the rest were mostly African American or Hispanic (Table II.2). Just under half lived with both their biological parents at sample enrollment, compared with the national average of 62 percent for children ages 17 and under. The student population from which these boys are drawn has incomes that are below the national average. Across the seven schools, nearly 60 percent of students are eligible

for free or reduced-price lunch, above the national average of about 50 percent for all public schools.

Table II.2. Iowa **Wise Guys** sample characteristics

Measure	Percentage
Demographics	
Age	
11 years old	2
12 years old	83
13 years old	16
Race/ethnicity	
White, Non-Hispanic	50
African American, Non-Hispanic	17
Hispanic	20
Other	13
Sex	
Male	100
Female	0
Family relationships	
Lives with biological mother	85
Lives with biological father	53
Lives with biological mother and biological father	47
Biological parents are married	41
Romantic relationships and risk behaviors	
Currently in a dating relationship	29
Ever had sexual intercourse	5
Smoked cigarettes in past 30 days	4
Drank alcohol in past 30 days	5
Used marijuana in past 30 days	3
Sample size^a	234

Source: Baseline survey administered in fall 2013.

^a This table reports data for only the first sample cohort, which was enrolled in the study in fall 2013. Sample enrollment will continue at the beginning of each semester through fall 2015.

Design of the impact evaluation

Sample intake and random assignment. Sample enrollment will occur over five school semesters from fall 2013 through fall 2015. Within each school, Bethany works with school staff to invite eligible 7th grade boys to participate in the study. Boys must receive permission from their parents or guardians to participate. They must also complete a baseline study survey before enrollment. When study recruitment began in fall 2013, a total of 234 boys were recruited to participate across the seven study schools. Three of these schools had enough eligible boys to randomly assign an additional cohort in January 2014 for programming offered in the second half of the 2013–2014 school year. Fifty-one boys were randomly assigned in this second cohort, for a total of 285 enrolled in the study during the 2013–2014 school year.

After each round of sample enrollment, youth are chosen randomly to participate in *Wise Guys*; the rest serve as the control group. Random assignment is conducted separately within each school. Depending on the number of consented youth in a particular school, one-half to two-thirds of consented youth may be selected for the *Wise Guys* group. The random assignment ratio is varied within this range to ensure that *Wise Guys* class sizes range from 10 to 15 students

per school. In addition, within each school, consented students are divided into “high,” “medium,” and “low” risk categories before random assignment. These designations are made by the student counselors in each school and are intended to meet the interests of program and school staff in having a diverse mix of students in each *Wise Guys* group. Random assignment is conducted separately within each risk group. Any siblings in the same grade level are randomly assigned together, to avoid splitting the pairs into different groups.

Control condition. The evaluation will test the effects of *Wise Guys* as a supplement to the “business-as-usual” health and sex education curriculum, which varies from school to school. For example, one school offers one week of sexuality education to 7th graders as part of a required nine-week health class. Another school provides two or three class periods on pregnancy and STIs as part of a broader unit on human growth and development. There is no standardized or mandated district-wide health curriculum. Students may also have exposure to other health and sexuality education programs available in the community—for example, a statewide text-messaging program available to teens in Iowa (www.AskTxTina.com). The control condition for the evaluation thus reflects a continuum of exposure to other health and sexuality education topics, which is consistent with a goal of testing *Wise Guys* as a supplemental (not replacement) program.

Data collection. Data for the evaluation of *Wise Guys* will come from self-administered surveys of both research groups. These surveys will be administered at three time points: (1) at baseline (in 7th grade), before random assignment; (2) one year after the start of programming (in 8th grade), about 9 months post-intervention; and (3) two years after the start of programming (in 9th grade), about 21 months post-intervention.

Key outcomes of interest. Given the age of the target population, the *Wise Guys* evaluation will focus on delayed sexual initiation as the ultimate outcome of interest. This outcome will be measured at final follow-up when sample members will be in 9th grade. The evaluation will also examine the program’s effects on other outcomes of primary interest, including sexual risk behaviors (such as unprotected sexual activity), attitudes concerning romantic relationships, contraception, and sexual activity, as well as knowledge of contraceptives and STIs. In addition, to get a more complete picture of the full range of outcomes *Wise Guys* may affect, the evaluation will examine some additional outcomes, such as parental communication, education and career goals, and alcohol and drug use.

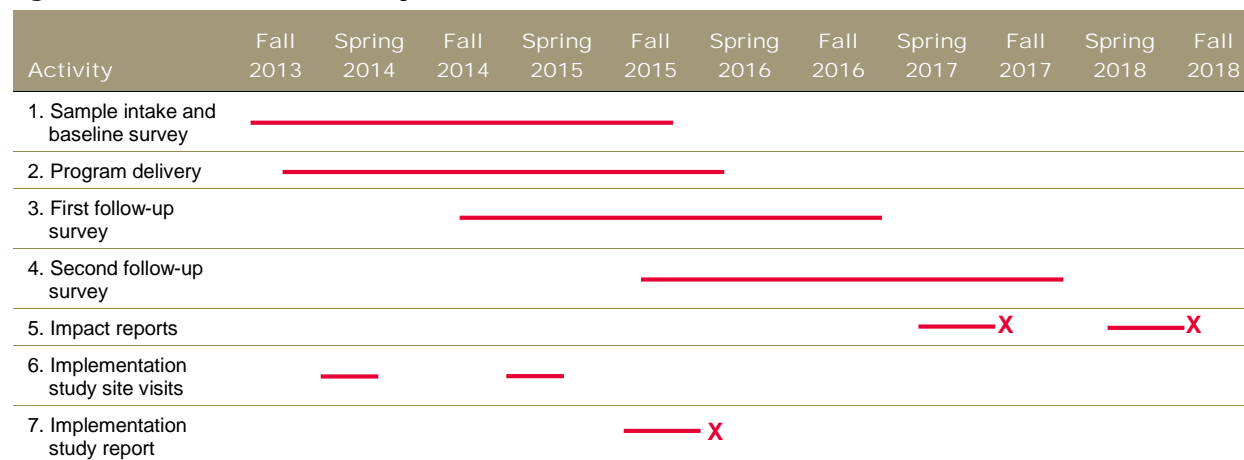
Likely sample size and statistical power. The target sample size for this site is 800 boys. This sample size will allow us to detect an impact on sexual initiation rates of about 7 percentage points, assuming a control group mean of 23 percent (based on 9th grade data from the 2011 Iowa Youth Risk Behavior Survey) and follow-up response rate of 85 percent. A 7-percentage-point impact on sexual initiation is a reasonable expectation for a successful program targeting middle school students. For example, among other school-based programs for middle school students, *Draw the Line/Respect the Line* (Coyle et al. 2004) showed evidence of a 7.9 percentage point impact on boys’ sexual initiation rates by 9th grade (27.2 percent versus 19.3 percent) and *It’s Your Game: Keep it Real* (Tortolero et al. 2009) had a 6.5 percentage point impact by 9th grade (29.9 percent versus 23.4 percent).

Study schedule

The *Wise Guys* study will be completed in five years (Figure II.1). Sample intake and baseline data collection began in August 2013 and will continue through September 2015. The *Wise Guys* curriculum was first delivered to sample members in September 2013. The delivery of the *Wise Guys* curriculum will continue with sample members through early 2016.

Follow-up surveys will be administered to sample members when they are in 8th and 9th grades. First follow-up survey data collection began in fall 2014 and will continue through fall 2016. Second follow-up survey data collection will begin in fall 2015 and continue through fall 2017. Impact reports will be produced in 2017 and 2018. We will conduct site visits for the implementation study in spring 2014 and spring 2015. A report summarizing the findings from these visits will be available in 2016.

Figure II.1. Iowa *Wise Guys* evaluation timeline



III. EVALUATION OF REDUCING THE RISK IN KENTUCKY

Rural counties have the highest teen birth rates in the United States. In 2010, the teen birth rate in rural counties was 43 births per 1,000 females aged 15–19, compared with 36 births per 1,000 females in this age range in large urban counties (National Campaign 2013). Suburban counties had the lowest rate, at 24 births per 1,000 adolescent females. This pattern of higher rural teen birth rates holds across all racial/ethnic groups.

Despite the clear need for effective approaches to teen pregnancy prevention among youth in rural areas, these youth are often underrepresented in the research literature. Most of the teen pregnancy prevention programs currently recognized by HHS as having demonstrated evidence of effectiveness were developed and tested in more urban areas (Goesling et al. 2014). A few prior studies have tested the effectiveness of transferring programs developed for urban youth to more rural or suburban areas (Borawski et al. 2009; Stanton et al. 2005, 2006). However, these studies have generally not found effects on adolescent sexual risk behaviors. The findings of these studies suggest the likely need to adapt existing programs and approaches to meet the unique needs of rural youth (Bell et al. 2007).

Recognizing this need, Mathematica is collaborating with the Kentucky Department of Public Health and two of its local health departments, the Barren River Health Department and the Lincoln Trail District Health Department, to conduct a rigorous evaluation of an adapted version of the *Reducing the Risk* program in relatively low-income, mostly rural high schools. *Reducing the Risk* is one of the oldest and most widely implemented comprehensive sexuality education programs available in the United States. The program was originally developed and tested with high school students in northern California in the late 1980s (Kirby et al. 1991). The program is now in its fifth edition and distributed nationally by ETR Associates, a private, nonprofit health education organization based in Santa Cruz, California.

In Kentucky, the state public health department is using PREP grant funding to implement *Reducing the Risk* in high schools around the state through 12 local health departments. For this evaluation, Mathematica is partnering with two of these local departments (Barren River and Lincoln Trail), which serve high schools in a large, primarily rural area in the central and southwestern portions of the state. These health departments have adapted the *Reducing the Risk* curriculum by shortening the time it takes to deliver it to accommodate the schedules of local high schools and adapted the time spent on various topics to best meet the needs of teens in their service area. The curriculum is offered as part of a mandatory high school health class. The evaluation sample will come from 13 high schools served by these two health departments that agreed to participate in the study. The schools will be randomly assigned to either a treatment group that offers *Reducing the Risk* or to a control group that offers its standard health curriculum.

The *Reducing the Risk* program in Kentucky

Reducing the Risk is a classroom-based comprehensive sexuality education curriculum designed to prevent teen pregnancy, STIs, and associated sexual risk behaviors. The program was one of the first classroom-based curricula to move beyond the traditional approach of providing students basic factual information on human reproduction and anatomy. Instead, *Reducing the Risk* takes a more engaged and interactive approach, supplementing classroom instruction with more interactive skill-

building activities and role plays. Students actively participate in program activities designed to improve communication and refusal skills. The program identifies abstinence as the most effective way to avoid STIs and unintended pregnancy but also provides information on condoms and contraceptive methods. The current fifth edition of the program is divided into 16 forty-five minute sessions, for a total of 12 instructional hours. Each session is devoted to a specific topic, such as abstinence, HIV prevention, or avoiding high-risk situations. The sessions involve a mix of classroom-based instruction and interactive role plays and activities. Certain topics such as refusal skills and methods of protection span multiple sessions.

The Barren River and Lincoln Trail health departments have found that effectively transferring *Reducing the Risk* to their local context in Kentucky has required two main adaptations of the full curriculum. First, to accommodate the schedules of the high schools in their service areas, they deliver the program as eight, one-hour sessions. Barren River usually offers the eight sessions over a four-week period; Lincoln Trail usually offers eight sessions over a two-week period. The resulting program offers approximately eight instructional hours. Second, in part to accommodate the adapted schedule, the local health departments have also condensed and in some cases cut back on the amount of program material provided. For example, instead of having a separate session on abstinence, as in the full curriculum, they cover abstinence as part of a broader session that also provides information on the risks involved in unprotected sex. Barren River and Lincoln Trail, like all organizations in Kentucky implementing *Reducing the Risk* with PREP funds, are covering three adulthood preparation topics (a requirement of the grant): healthy relationships, adolescent development, and healthy life skills. They are not adding additional content to *Reducing the Risk* to cover these topics; they are instead covering them through the standard curriculum content.

The impact study will thus test an adapted eight-session version of *Reducing the Risk* as currently implemented in Kentucky (Table III.1). These adaptations were not newly developed under Kentucky's PREP funding. The Barren River and Lincoln Trail health departments have a long, 15-year history of implementing *Reducing the Risk* in local high schools in central and southwestern Kentucky.

Table III.1. Overview of the Kentucky *Reducing the Risk* program

Session	Objectives
Abstinence, Sex, and Protection	Introduce program, demonstrate refusal skills to help prevent pregnancy, and discuss advantages of abstinence and the risks teens incur when they engage in unprotected sex.
Refusals	Introduce verbal and nonverbal communication skills, and demonstrate skills important to abstaining and using protection.
Avoiding High-Risk Situations	Introduce delay tactics, identify and practice handling situations that can lead to unwanted or unprotected sex.
Getting and Using Protection I	Provide information on methods of protection against unplanned pregnancy and STDs.
Getting and Using Protection II	Discuss where to get protection and which methods best prevent pregnancy and HIV/STDs.
Preventing HIV and Other STDs	Explore information about transmission and prevention of HIV/STDs.
Risk Behaviors	Apply knowledge about HIV transmission and identify behaviors that put students at greatest risk for exposure to HIV/STIs.
Sticking with Abstinence and Protection	Discuss skills learned for abstinence or avoiding unprotected sex.

They developed and refined the current program adaptations over these 15 years to best meet the interests and needs of schools in their communities. This type of locally-informed adaptation may help address the limited success prior studies have achieved in transferring existing teen pregnancy prevention programs from urban to rural areas. The implementation study in Kentucky will carefully document the adaptations that were made to the original program model.

Evaluation setting and sample

Kentucky is providing *Reducing the Risk* to high school students throughout the state, using the health educators employed by 12 local health departments. For the evaluation, Mathematica is partnering with the two largest health departments—Barren River and Lincoln Trail. Combined, these two health departments cover a large, multicounty region in the southwest part of the state. The evaluation includes 13 high schools in nine counties served by these two health departments. Health educators from these two departments deliver the *Reducing the Risk* curriculum during regularly scheduled health classes in these high schools.

The high schools included in the evaluation are located primarily in low-income, rural areas. Nine of the 13 evaluation schools are designated as rural in metro-centric locale codes used by the U.S. Department of Education. Of the remaining four, two are designated to be in small towns, one on the fringe of a mid-sized city, and one in a mid-sized city. The students who attend these schools are economically disadvantaged, with 49 percent of the youth in these schools eligible for free or reduced-price lunch, compared with a national average of 40 percent of youth in secondary schools. The counties served by these schools have a teen birth rate that is substantially above the national average. In 2012, the average teen birth rate in these counties was 45.9 births per 1,000 women ages 15 to 19, compared with a national average of 29.4 births per 1,000 women in this age range. These counties are also relatively poor. For example, their average poverty rate is 17.3 percent (well above the average national rate of 14.9). Moreover, the median income in the region of \$43,816 in 2013 is almost 20 percent below the national average (<http://quickfacts.census.gov>).

As described below, an initial cohort of roughly 1,000 high-school youth who were targeted for the program were successfully enrolled in the study at the beginning of the 2013–14 school year (Table III.2). Of these youth, 80 percent are 9th graders and 16 percent are 10th graders, reflecting the grades in which youth in these high schools typically take the mandatory health class during which *Reducing the Risk* is offered. Just over 70 percent of the youth in this initial study cohort are white; most others are African American or Hispanic. Only 45 percent of these youth reported living with both their biological parents, compared with 62 percent among all children nationally. Slightly more than one in five sample members reported being sexually active at baseline. The rate of self-reported sexual activity is somewhat lower in this sample than the national average as reported in the 2013 Youth Risk Behavior Survey (YRBS)—22 percent in our sample compared with 30 percent of all 9th graders in the 2013 YRBS (CDC 2014). The fact that these young high school students have relatively low rates of sexual activity but the region where these high schools are located has high teen birth rates suggests that higher rates of sexual risk behavior are likely to emerge among these teens in coming years.

Design of the impact evaluation

Sample intake and random assignment. The Kentucky PREP evaluation uses school-level random assignment. The 13 schools included in the evaluation were randomized into two groups: (1) a treatment group, in which all eligible students were offered the *Reducing the Risk* curriculum as part of a required health class, and (2) a control group, in which no students were offered *Reducing the Risk*. School-level random assignment is an appropriate design for this evaluation site because *Reducing the Risk* is being delivered as part of a required health class, making individual-level random assignment infeasible. Random assignment was stratified by health department, so that Barren River and Lincoln Trail both provide *Reducing the Risk* in three or four schools in each year of the evaluation.

Table III.2. Kentucky *Reducing the Risk* sample characteristics

Measure	Percentage
Demographics	
Age	
14 years old	66
15 years old	27
16 years old	5
17 years or older	2
Race/ethnicity	
White, Non-Hispanic	72
African American, Non-Hispanic	10
Hispanic	9
Other	9
Sex	
Male	53
Female	47
Education	
Grade at sample enrollment	
9th grade	80
10th grade	16
11th grade	3
12th grade	1
Family relationships	
Lives with biological mother	83
Lives with biological father	53
Lives with biological mother and biological father	45
Biological parents are married	43
Romantic relationships and risk behaviors	
Currently in a dating relationship	37
Ever had sexual intercourse	22
Smoked cigarettes in past 30 days	17
Drank alcohol in past 30 days	23
Used marijuana in past 30 days	12
Sample size^a	1,032

Source: Baseline survey administered in fall 2013.

^a This table reports data for only the first sample cohort, which was enrolled in the study in fall 2013. A second round of sample enrollment in fall 2014 will enroll a similar number of youth.

Schools were randomized twice, at the beginning of each of the two academic years that programming was offered as part of the evaluation. The first round of random assignment occurred in summer 2013 to determine whether the school would offer *Reducing the Risk* during

the 2013–14 academic year. The second round of random assignment occurred in summer 2014 to determine whether the school would offer *Reducing the Risk* during the 2014–15 academic year. Under this design, a participating school could be a treatment school both years of the evaluation (and offer *Reducing the Risk* in both years), a control school both years of the evaluation (and not offer *Reducing the Risk* either year), or a treatment school one year but not the other (and offer *Reducing the Risk* only one of the two years). Having a second round of random assignment increases the number of randomized school clusters from 13 to 26, which substantially increases the ability of the evaluation to detect potential impacts. For example, randomizing the 13 schools twice to generate 26 randomized clusters results in the ability to detect an impact of just under 7 percentage points on sexual initiation. In contrast, if schools were randomized only once, we would be able to detect impacts on sexual initiation of only 10 percentage points or more. Students in these schools take the required health class only once during high school. Therefore, re-randomizing schools does not create the possibility that students could “cross over” from one research group to the other.

Within each of the 13 schools, the youth who took their required health class during the fall of 2013 or 2014 were eligible for the study. To enroll a youth in the research sample, the study team had to gain active consent from a parent or legal guardian. The study team gathered consent by distributing forms in schools with the assistance of school administration and staff. The consent-gathering process took place in the first few weeks of the school year, so that baseline data collection could be completed before programming was offered. For the fall 2013 cohort of eligible youth, 93 percent of parents returned a consent form and 75 percent of those who returned forms agreed to have their child participate in the study. This result corresponds to an overall consent rate of 70 percent for the first study cohort, yielding a total study sample of 1,056 youth across the 13 study schools for the first study cohort. We anticipate a similar number of students to be recruited for the second study cohort in fall 2014.

Control condition. The Kentucky Department of Education mandates that pregnancy prevention be taught in middle and high schools but does not require a specific curriculum. In high school, the requirement is limited to providing instruction on pregnancy, STDs, and contraception. Districts and schools have substantial latitude in how they meet these requirements. According to local officials, in most cases, study schools assigned to the control condition will do little more than meet the minimum state requirements. In most cases, their effort amounts to a health educator visiting the school to administer the required content over one or two class periods. In a few cases, schools have developed their own abstinence-focused curricula to meet the state requirements. In these schools, the curriculum is delivered by a health or physical education teacher, not a health educator.

Data collection. Data for the study comes from self-administered surveys of both research groups. These surveys will be administered to students in groups at the participating high schools. Surveys will be administered at three points in time: (1) at baseline, before the start of *Reducing the Risk* or any other pregnancy prevention programming in the study schools; (2) one year later, about 12 months after the start of the program; and (3) two years later, about 24 months after the start of the program. For the first cohort of sample members (those enrolled in 2013), these surveys will occur in fall 2013, fall 2014, and fall 2015. For the second cohort of sample members (those enrolled in 2014), these surveys will occur in fall 2014, fall 2015, and fall 2016.

Key outcomes of interest. The evaluation’s primary objective is to test the effectiveness of the adapted *Reducing the Risk* curriculum on sexual initiation, rates of unprotected sex, and other sexual risk behaviors. We will also examine program impacts on key mediating or secondary outcomes, such as attitudes toward healthy relationships and being sexually active, as well as knowledge of sexually transmitted infections.

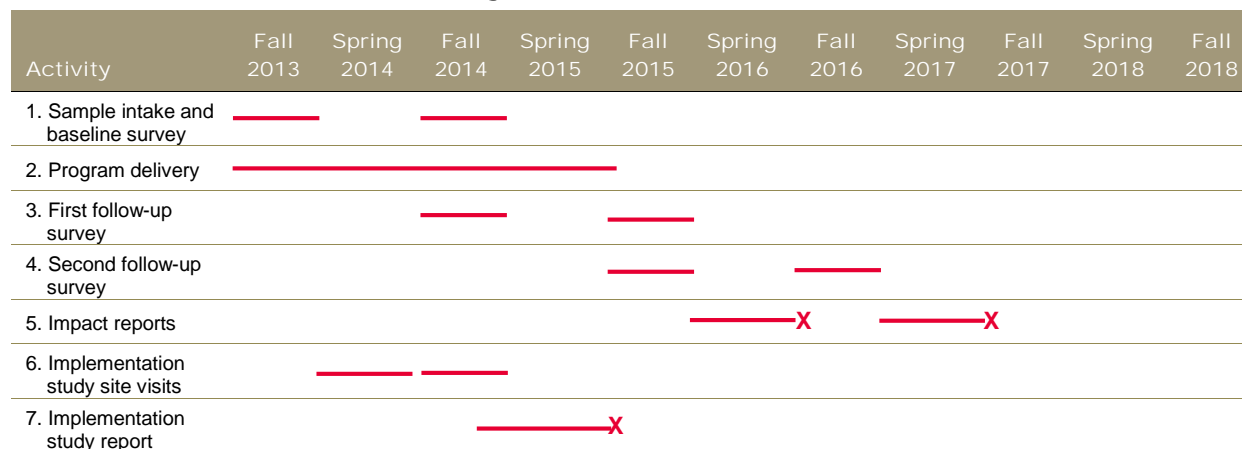
Projected sample size and statistical power. The projected sample is approximately 2,000 youth, randomized as 26 clusters (13 schools x 2 cohorts). Given this sample design, we have a high probability of detecting a true program impact as small as 6 to 7 percentage points on key outcomes of interest, such as sexual initiation or rates of unprotected sex. This minimum detectable impact is well below the estimated program impact of 12 percentage points found on rates of unprotected sex in the original evaluation of *Reducing the Risk*, although notably this impact was evident only among a subgroup of females who were not sexually active at the time of the baseline survey (Kirby et al. 1991).

Study schedule

The *Reducing the Risk* study will be completed in four years (Figure III.1). Sample intake and baseline data collection will occur twice—in fall 2013 and fall 2014. *Reducing the Risk* program will be offered to in the treatment schools in the 2013–2014 and 2014–2015 school years.

Follow-up surveys will be administered to sample members approximately 12 and 24 months after the baseline, ending in fall 2016. Impact reports will be produced in 2016 (using the 12-month follow-up surveys) and 2017 (using the 24-month follow-up surveys). We will conduct site visits for the implementation study in spring 2014 and fall 2014. A report summarizing the findings from these visits will be available in 2015.

Figure III.1. Kentucky *Reducing the Risk* evaluation timeline



IV. EVALUATION OF TEEN CHOICE IN NEW YORK

More than half a million adolescents in the United States attend alternative schools or other specialized education programs for youth at risk of academic failure (Carver and Lewis 2010). For many of these youth, learning disabilities and mental or behavioral health issues present challenges to their education in conventional middle schools and high schools. For youth with acute mental or behavioral health issues, some alternative schools and programs offer more intensive services or 24-hour residential programs in addition to standard educational instruction.

Youth in these settings may be at particularly high risk for teen pregnancy, STIs, and associated sexual risk behaviors. The few prior studies of teen pregnancy and STI prevention programs for alternative school students suggest that rates of sexual activity and unprotected sex are higher among these youth than in the general population (Coyle et al. 2006, 2013). In addition, youth in these settings may have more limited exposure to the types of teen pregnancy and STI prevention programs commonly offered as part of a regular school curriculum.

To help expand the available evidence on teen pregnancy prevention programs for youth in alternative school settings, Mathematica is collaborating with the New York State Department of Health, Bureau of Maternal and Child Health, and Inwood House, a social service provider operating in the New York City area, to conduct a rigorous evaluation of the *Teen Choice* curriculum. *Teen Choice* was first developed in New York City more than 25 years ago to combat high rates of teen pregnancy and school dropout in the city. It was the first co-ed, comprehensive sexuality education program offered in New York City public schools. Today, an updated *Teen Choice* curriculum is being implemented with more than 6,500 middle school and high school students annually in New York City and Atlantic County, New Jersey. For the present study, Inwood House is implementing *Teen Choice* with high-risk youth in five schools in the New York City area. Within each school, students will be randomly assigned either to a treatment group that is offered the *Teen Choice* curriculum or to a control group that is offered the standard school curriculum and services. The study will provide rigorous evidence on the effects of *Teen Choice* in reducing sexual risk behaviors among high-risk youth in alternative school settings.

The *Teen Choice* program

Teen Choice is a 12-session, comprehensive sex education and risk reduction program for middle and high school students. The program has three main goals: (1) to assist young people in making a healthy transition to adulthood; (2) to improve parent/child communication about adolescent health, school performance, and social and emotional development; and (3) to reduce rates of teen pregnancy and STIs by delaying the onset of sexual activity or increasing rates of contraceptive use. In New York, the program is delivered in classrooms or small-group settings by masters-level social workers, who receive training on the program and group facilitation. Through participation in classroom dialogue, group exercises, and small group “mutual aid” discussions, students develop critical thinking and communication skills designed to help them recognize the benefits of delaying sexual activity and parenthood.

The 12 one-hour program sessions cover a range of topics (Table IV.1). They provide comprehensive sexual education on topics such as anatomy, puberty, STIs, and contraceptive

methods (including abstinence). The program also covers topics such as values and trust, communication, decision making, and healthy relationships. As required by the PREP grant, *Teen Choice* covers three adulthood preparation topics: healthy relationships, adolescent development, and healthy life skills. These topics were already covered by the *Teen Choice* curriculum; therefore, Inwood House did not add supplemental material to cover this content. All *Teen Choice* instructors receive a copy of the curriculum manual, which specifies the topics and activities to cover in each session and provides guidance on responding to questions and addressing sensitive topics.

Table IV.1. Overview of the New York *Teen Choice* program

Session	Objectives
Introductions, Purpose and Contract	Orient students to the group, establish rules, and introduce the concept of thinking about what they are learning
Values and Trust	Help group members become more aware of their values and reflect on who or what to trust
Communication	Help members identify elements of, and barriers to, effective communication
Effective Decision Making	Provide group members the opportunity to reflect upon, practice, and improve their decision making skills
Sexuality and Sexual Feelings	Discuss the wide variations in the development of adolescents and help group members broaden their understanding of sexuality as a combination of many factors
Taking Care of Ourselves: Reproductive Anatomy and Physiology	Provide information about reproductive anatomy and physiology, and the changes that occur during development; help young people to be actively involved in their health care
Contraceptives	Provide information on all possible contraceptive methods and help group members understand the pros and cons of each method
Pregnancy Options	Help group members explore pregnancy options and the decisions teens face when dealing with unplanned pregnancy; identify support systems for teens who need help with unplanned pregnancy
STIs and HIV/AIDS	Provide information on sexually transmitted infections and HIV/AIDS; explain prevention, detection, and treatment of these infections
Healthy Relationships	Discuss the qualities of healthy relationships and how to recognize abusive relationships
Review and Action Plan	Help group members recognize their growth during <i>Teen Choice</i> and develop individual action plans
Reflections and Closing Ceremony	Reflect on what was learned and help the group create closure

The program can be tailored to meet the needs of the particular target population and setting. *Teen Choice* groups usually meet once a week for 12 weeks in small groups of 8 to 12 students. However, other delivery schedules are also possible, such as meeting twice a week for six weeks. In New York, the delivery schedule will vary across *Teen Choice* groups. In addition, *Teen Choice* instructors are allowed some discretion to lead and moderate the discussion in ways that account for the unique characteristics of the participants. For instance, instructors may cover some topics (for example, condom demonstration) in less detail with younger groups than with older students. For all groups, however, instructors must cover a full set of “key messages” defined for each lesson.

There is little research evidence on the effectiveness of *Teen Choice* in changing youth behaviors. The Inwood House Research Group has conducted longitudinal studies of *Teen Choice* in both New York City and Atlantic County, New Jersey. These studies suggest some evidence of improved outcomes among participants on measures of adolescent knowledge and attitudes toward sex. However, they do not meet the methodological standards for teen pregnancy prevention studies established by HHS, because they did not use an external comparison group. If the present study finds evidence of favorable program impacts on youth sexual risk behaviors, it will be the first rigorous evidence establishing the effectiveness of *Teen Choice*.

Evaluation setting and sample

For the evaluation of *Teen Choice*, Mathematica is working with Inwood House, a long-standing not-for-profit agency that provides social services to youth in the New York City area. Inwood House receives funding for *Teen Choice* from the New York State Department of Health, Bureau of Maternal and Child Health, as part of New York's formula state PREP grant. *Teen Choice* is one of nine teen pregnancy prevention programs that New York selected to support with PREP funding (Zief et al. 2013).

For the evaluation, Inwood House will deliver the *Teen Choice* program to high-risk 7th through 12th graders in five schools in and around New York City. Three of the schools are alternative schools run by the FEGS Health and Human Services (FEGS) social service agency. The three FEGS schools serve high school students who are at risk of educational failure because they are behind in their academic credits. The two other participating schools run residential and day school programs for middle and high school students with serious mental and behavioral health issues. One of the two schools is operated by the social service agency St. Christopher's Inc., the other by Leake and Watts Services, Inc.

In each participating school, Inwood House plans to offer *Teen Choice* as a voluntary elective program during the regular school day (including summer school, which is required for most of these youth). Students randomly selected for the treatment group will attend the *Teen Choice* program as an alternative to either an elective class or scheduled meetings with their school advisors. The program is delivered in school by trained Inwood House facilitators to groups of 8 to 12 students. In the schools that serve both middle and high school students, the program facilitators deliver separate *Teen Choice* programs to younger and older students.

Inwood House is taking several steps to encourage strong participation in the program. Among the target population, which comprises at-risk students with behavioral and mental health issues, school attendance rates are lower than in regular middle and high schools. To help mitigate these circumstances, Inwood House works with school staff to monitor program attendance and develop strategies for retaining students for the full 12-session *Teen Choice* curriculum. Program staff also work with schools to integrate the *Teen Choice* program with the existing school schedules and culture—for example, by adopting the schools' existing behavioral reinforcement systems and consulting with school staff about the needs of individual students.

The target population spans a broad age range and is racially and ethnically diverse (Table IV.2). Among the first cohort of students who enrolled in the study in winter 2014, the ages

range from 13 to 19 years old, with an average age of 15. Just over half of the sample is Hispanic, and more than a third is African American. About two-thirds are male.

Many students in the sample report having engaged in sexual activity and other risk behaviors. Nearly three in five sample members report having had sex. About 1 in 5 report having had unprotected vaginal intercourse in the three months prior to the baseline survey, and about 3 in 10 sample members report having had unprotected oral, anal, or vaginal sex. Thirteen percent of the sample members have been pregnant or gotten someone pregnant. Rates of cigarette, alcohol, and marijuana use in the prior month range from 24 to 28 percent.

Table IV.2. New York **Teen Choice** sample characteristics

Measure	Percentage
Demographics	
Age	
13 years old	8
14 years old	11
15 years old	18
16 years old	15
17 years old	20
18 years old	17
19 years old	11
Race/ethnicity	
White, Non-Hispanic	7
African American, Non-Hispanic	36
Hispanic	54
Other	3
Sex	
Male	66
Female	34
Education	
Grade at sample enrollment	
7th or 8th grade	23
9th grade	25
10th grade	23
11th grade	18
12th grade	11
Romantic relationships and risk behaviors	
Currently in a dating relationship	46
Ever had sexual intercourse	59
Had vaginal intercourse without condom in prior three months	21
Had vaginal, oral, or anal sex without a condom in prior three months	29
Ever been pregnant or fathered a pregnancy	13
Smoked cigarettes in past 30 days	25
Drank alcohol in past 30 days	28
Used marijuana in past 30 days	24
Sample size^a	124

Source: Baseline survey administered in winter 2014.

^aThis table reports data for only the first sample cohort in two schools, which was enrolled in the study in winter 2014. The remaining three schools will not enroll youth until fall 2014. Sample enrollment will continue through early 2016.

Design of the impact evaluation

Sample intake and random assignment. Sample enrollment will occur over approximately two years, from winter 2014 through early 2016. Within each school, Mathematica will work with school staff to identify groups of eligible youth. Depending on the number of youth identified, sample enrollment will occur either once or twice per year at each school. A first sample cohort was identified in two of the five participating schools in winter 2014. The three other schools plan to begin enrollment in fall 2014. All five participating schools require students under age 18 to receive parental permission for study. Four of the five schools also require parental permission for students 18 and older. All students complete a baseline survey upon enrollment in the study.

The random assignment process involves stratified randomization of individual students. Within each school, students are randomly assigned either to a treatment group that is offered the *Teen Choice* curriculum or to a control group that is offered the standard school curriculum and services. The allocation of students to treatment and control groups is adjusted to ensure the necessary 8 to 12 students per *Teen Choice* group. Within each school, randomization is further stratified by gender, to ensure a mix of male and female students within each *Teen Choice* group. In the schools that serve both middle and high school students, randomization is also stratified by age or grade level. In all schools, siblings are randomly assigned together, to avoid splitting the pairs into different groups.

Control condition. The evaluation will test the effects of *Teen Choice* as a supplement to the “business-as-usual” school curriculum. Because the participating schools serve at-risk students with a mix of learning disabilities and mental or behavioral health issues, this business-as-usual curriculum will likely vary between schools and in some cases among students within the same school. For example, two of the five schools serve a mix of full-time residential students and day-school students. The residential students will naturally receive more intensive program services than the students in the day school. It is likely that students in all schools receive some modest exposure to other health and sexuality education topics as a part of the school curriculum. For example, youth in all the study schools should receive six state-mandated HIV/AIDS lessons for youth in grades 7 through 12. Beyond those six annual lessons, health and sex education varies from school to school and grade to grade. The schools also employ social workers and school nurses, who may provide referral services or reproductive health information to individual students. Mathematica will collect more detailed information on the range of services provided in each school as part of the PREP implementation study.

Data collection. Data for the evaluation of *Teen Choice* will come from self-administered surveys of both research groups, with telephone follow-up as needed to increase response rates. These surveys will be administered at three time points: (1) at baseline, before random assignment; (2) 9 months after the start of programming, which is about 6 months post-intervention; and (3) 21 months after the start of programming, or 18 months post-intervention.

Key outcomes of interest. The *Teen Choice* evaluation will focus on rates of unprotected sex as the key outcome of interest. This outcome is an appropriate focus of the evaluation, because reducing rates of unprotected sex is a key goal of the curriculum, and because the measure is meaningful across the wide age span of students in the evaluation sample. We will examine two measures of unprotected sex: (1) having vaginal intercourse without any birth control in the prior three months (and thus being unprotected from pregnancy); and (2) having oral, anal, or vaginal sex without using

a condom in the prior three months (and thus being unprotected from an STI). The outcomes will be measured at both the first and second follow-ups. The evaluation will also examine the program's effects on other outcomes of interest, such as attitudes toward healthy relationships and being sexually active, knowledge of sexually transmitted infections, communication and decision making skills, and pregnancy.

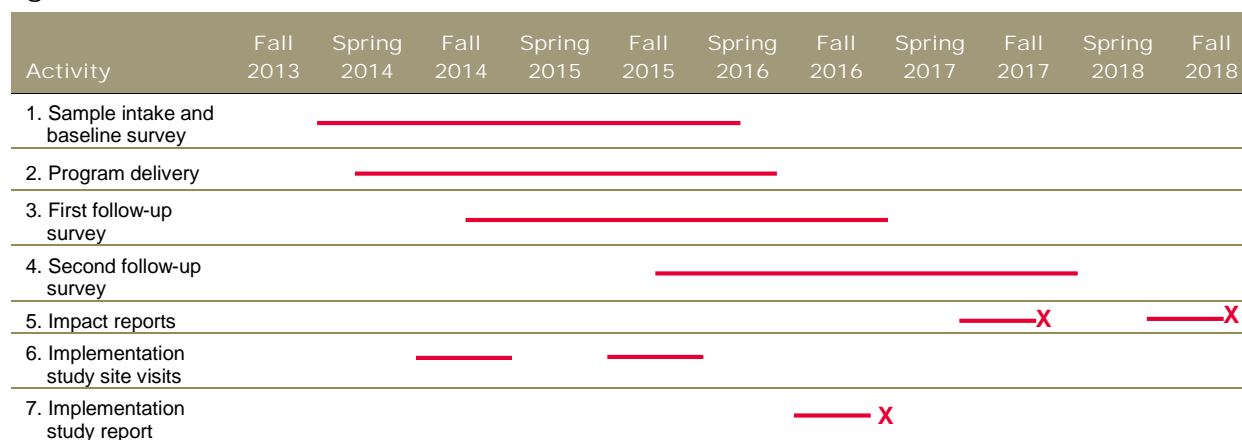
Likely sample size and statistical power. The target sample size for this site is 750 consented youth. This sample size will allow us to detect an impact on unprotected sexual activity of about 8 percentage points, assuming a control group mean of 25 percent and follow-up response rate of 80 percent. The assumed control group mean of 25 percent is similar to the rates of unprotected sex observed in the baseline survey data collected to date (Table IV.2). The few prior studies of teen pregnancy prevention programs for youth in alternative school settings have found impacts of this magnitude or larger on incidence of unprotected sex. In particular, Coyle et al. (2013) found an impact somewhat larger in magnitude for the *All4You!* program on the likelihood that participating alternative school students had sex without a condom in the past three months.

Study schedule

The *Teen Choice* study will be completed in five years (Figure IV.1). Sample intake and baseline data collection began in early 2014 and will continue through early 2016. The *Teen Choice* curriculum was first delivered to sample members in spring 2014. The delivery of the *Teen Choice* curriculum will continue with sample members through spring 2016.

Follow-up surveys will be administered to sample members 9 months and 21 months after programming begins, which is roughly 6 and 18 months post-intervention. First follow-up survey data collection will begin in late 2014 and continue through 2016. Second follow-up survey data collection will begin in late 2015 and continue through 2017. Impact reports will be produced in 2017 and 2018. The accompanying implementation study will involve two rounds of site visits. During the first round, study team members will visit participating schools periodically between summer 2014 and winter 2015 as new *Teen Choice* groups start up. A second round of site visits will occur about one year later. A report summarizing the findings from these visits will be available in 2016.

Figure IV.1. New York *Teen Choice* evaluation timeline



V. EVALUATION OF STEPS TO SUCCESS IN TEXAS

Adolescent parenthood can have substantial negative consequences for young mothers and their children. Young women who give birth as adolescents are at greater risk of dropping out of school, relying on public assistance, and living in poverty as adults (Hoffman and Maynard 2008; Perper et al. 2010). Their children face increased risk of abuse and neglect and are more likely to experience poor health, behavior, and educational outcomes than are children born to older mothers (Hoffman and Maynard 2008). These risks can be compounded if the young mother gives birth again within just a few years (Klerman 2004).

To date, relatively little rigorous evidence exists on effective strategies for reducing repeat pregnancy among adolescent mothers. Among the 35 teen pregnancy prevention programs currently recognized by HHS as having demonstrated evidence of effectiveness, only two are designed for use with adolescent mothers (Koniak-Griffin et al. 2003; Lesser et al. 2009). Among studies reviewed by HHS's Home Visiting Evidence of Effectiveness (HomVEE) project, four home visiting programs were found to be effective at reducing repeat pregnancies among adolescent and young adult women (Avellar et al. 2014). However, only one of these programs was evaluated exclusively with adolescent mothers. Two additional programs for adolescent mothers are currently being tested in randomized controlled trials as part of the ongoing federal Evaluation of Adolescent Pregnancy Prevention Approaches (Smith et al. 2012). Findings from these ongoing studies will be available in 2015 and 2016.

To improve our understanding of effective approaches for reducing repeat pregnancies among adolescent mothers, Mathematica is collaborating with Healthy Families San Angelo (HFSA) in San Angelo, Texas, to conduct a rigorous evaluation of the *Steps to Success* program. HFSA has developed *Steps to Success* by adapting the traditional Healthy Families home visiting model that has already been found to improve parenting skills and other outcomes related to child development (LeCroy and Krysik 2011; Duggan et al. 2007; Caldera et al. 2007; King et al. 2005). HFSA has adapted this model for the needs of adolescent mothers by adding material on contraception and the benefits of adequate birth spacing, actively engaging the baby's father in home visits, and incorporating material on relationship skills and education and career goals. Young mothers who are recruited for the study are randomly assigned into one of two groups: (1) a treatment group that is offered *Steps to Success* home visits or (2) a control group that is offered *Traditional Healthy Families* home visits. The study is examining the relative effectiveness of these two approaches. HFSA is no longer affiliated with Healthy Families America (HFA). However, both *Steps to Success* and *Traditional Healthy Families* incorporate the 10 critical program elements required by the national organization.

The *Steps to Success* program

HFSA is using its competitive PREP grant to offer the *Steps to Success* program, which serves adolescent mothers (ages 14 to 20 at program entry) and the fathers of their babies. HFSA has developed *Steps to Success* as an enhancement to the Healthy Families home visiting services that the agency has been offering for many years. HFSA developed the *Steps to Success* model based on research on key risk factors for repeat pregnancies among adolescent mothers. This research pointed to the prevalence of repeat pregnancy among adolescent mothers and the importance of encouraging these young mothers to use long-acting reversible contraceptives (LARCs) to delay

repeat pregnancy. Encouraging participants to use LARCs is a key element of the *Steps to Success* approach. Research also suggested that promoting more positive relations with the baby’s father and encouraging these young mothers to stay in school were both promising avenues for reducing the risk of rapid repeat pregnancy. *Steps to Success* aims to promote both these goals.

Steps to Success provides home visiting services for both mothers and fathers that cover contraception and the importance of adequate birth spacing for child well-being (Table V.1). *Steps to Success* visits also cover the *Traditional Healthy Families* topics of parenting and child development. In addition, *Steps to Success* home visits cover the adulthood preparation topics of healthy relationships, education and career success, and financial literacy. The adulthood preparation content is integrated throughout the *Steps to Success* curriculum, which emphasizes taking responsibility and planning for the future. *Steps to Success* home visitors have smaller caseloads than other HFSA home visitors, which allows them more frequent contact with the families they serve. *Steps to Success* visits initially occur weekly, then transition to every other week and eventually monthly, as appropriate based on the needs of the family. These visits will be provided for up to two years after the baby is born.

Table V.1 Comparison of **Steps to Success** and **Traditional Healthy Families** services

	<i>Steps to Success</i> (treatment condition)	<i>Traditional Healthy Families</i> (control condition)
Structure of services		
Regular home visits with new adolescent mothers	✓	✓
Fathers actively engaged in these visits	✓	
Smaller caseloads for home visitors to allow for more frequent visits	✓	
Content of home visits		
Parenting, child health and safety, child development	✓	✓
Contraception, adequate birth spacing, development of reproductive life plan	✓	
Adulthood preparation topics (relationship skills, education and career planning, financial literacy)	✓	

Evaluation setting and sample

HFSA has been working with at-risk families since it was founded in 1991, offering home visiting, fatherhood, and relationship skills services. HFSA serves families in and around San Angelo, Texas—a city of about 100,000 people in the west central part of the state. The agency serves primarily a native-born, Hispanic population. Since its founding, HFSA has provided home visiting services similar to those of Healthy Families America, a national home visiting program designed to prevent child abuse and neglect. For the past 20 years, HFSA staff members have met with new mothers in their homes to provide information and support on parenting and child development.

Sample intake began in May 2013. The characteristics of the young mothers who enrolled in the study during the early months of sample intake reflect the characteristics of the broader community that HFSA serves. Among those enrolled during the first seven months, 71 percent were Hispanic, and 93 percent reported English as the primary language they spoke at home (Table V.2). The young mothers ranged in age from 14 to 20 years old at sample enrollment, with 61 percent age 18 or older. Among these early enrollees, about one-quarter had already graduated from high school or obtained their GED, and most of the remainder were still enrolled in school. Nearly three-quarters of the mothers reported being in a romantic relationship with the baby's father around the time of sample intake: 10 percent were married to the baby's father; 42 percent were living with the father but not married to him; another 20 percent were in a romantic relationship with the father but neither married nor living with him. The sample is split evenly between those who were pregnant at study enrollment and those who had already given birth. For most sample members, the pregnancy that made them eligible for the program was their first. Just over one-quarter reported having had a prior pregnancy. Most sample members became sexually active at an early age; their median age at first intercourse was 15.

Design of the impact evaluation

Sample intake and random assignment. Sample intake for the *Steps to Success* study takes place in several locations. HFSA intake workers recruit young mothers who have just delivered their babies at two San Angelo hospitals. They also recruit some young women during pregnancy in prenatal clinics or local high schools. For mothers who are at least 18 years old, the intake workers first obtain signed consent for participation in the study and then ask the sample member to complete a self-administered paper-and-pencil baseline survey. For those who are under age 18, the intake worker first obtains consent from the mother's parent or legal guardian before asking the sample member to complete the baseline survey.

After the sample member has completed the baseline survey, the intake workers use a web-based system that randomly assigns sample members to either a treatment group that is offered the *Steps to Success* program or a control group that is offered *Traditional Healthy Families* services, with 50 percent randomly assigned to each group. Mothers in both groups are then assigned a home visitor, who reaches out to them to introduce the program and schedule the first home visit.

Control condition: *Traditional Healthy Families*. Mothers assigned to the control group receive *Traditional Healthy Families* home visits. These visits are provided by a different set of HFSA home visitors from those serving *Steps to Success* families. For much of the first year of program operations, four home visitors offered *Traditional Healthy Families* home visits and six offered *Steps to Success* home visits. These home visitors were not assigned randomly to the two programs. Data from staff surveys suggest that these groups of home visitors were similar in many ways, including their race/ethnicity, education levels, and the amount of training they had received. However, the *Traditional Healthy Families* home visitors were somewhat younger than *Steps to Success* home visitors, on average.

Table V.2. Texas **Steps to Success** sample characteristics

Measure	Percentage
Demographics	
Age (in years)	
14 or 15	8
16	16
17	15
18	21
19	20
20	20
Race/ethnicity	
White, Non-Hispanic	24
African American, Non-Hispanic	1
Hispanic	71
Other	4
Language spoken at home	
English	93
Spanish	5
Both English and Spanish	2
Sex	
Male	0
Female	100
Education	
Has high school degree or GED	27
No degree or GED but enrolled in school	51
No degree or GED and not enrolled in school	22
Family relationships	
Lives with biological mother	45
Lives with biological father	17
Lives with biological mother and biological father	10
Biological parents are married	19
Relationship with baby's father	
Married	10
Living together but not married	42
Dating but not living together	20
Not in a relationship	28
Pregnancy history and sexual risk behaviors	
Currently pregnant	51
Been pregnant more than once	28
Age at first Intercourse (in years)	
13 or less	11
14	17
15	31
16	23
17	12
18	6
Lifetime sexual partners	
One	32
Two	21
Three	17
Four or more	30
Sample size	125

Traditional Healthy Families visits follow the standard Healthy Families approach and focus primarily on parenting and child development issues (Table V.1). Unlike *Steps to Success* visits, *Traditional Healthy Families* visits do not cover contraception or birth spacing, nor do they include content on adulthood preparation topics (relationship skills, education and career planning, and financial literacy), as *Steps to Success* visits do. Unlike *Steps to Success* visits, fathers are not actively engaged in *Traditional Healthy Families* visits.

Follow-up data collection. Follow-up surveys will be conducted with both research groups 12 and 24 months after random assignment. These surveys will be conducted by telephone with field follow-up to ensure a high response rate. Program services in both groups will be offered for up to two years. Thus, the first follow-up will occur halfway through planned program services (12 months after random assignment), and the second follow-up will occur at the end of program services (24 months after random assignment).

Key outcomes of interest. The key question to be addressed by the study of *Steps to Success* is whether the program delays repeat pregnancies. More specifically, the evaluation will examine whether the *Steps to Success* enhanced home visits—including instruction for both young mothers and fathers on contraception, comprehensive sex education, and the importance of adequate birth spacing, as well as adulthood preparation topics—are more effective at delaying repeat pregnancies than are *Traditional Healthy Families* home visits offered to mothers only and focused only on parenting and child development issues. We will also examine the program's relative effectiveness at improving intermediary outcomes, such as the likelihood that sample members use LARCs or other contraceptives. We will also measure impacts on secondary outcomes that may be affected by the program's adulthood preparation content, such as the relationship with the baby's father and educational attainment.

Projected sample size and statistical power. HFSA aims to recruit 20 mothers each month into the research sample. Random assignment began in May 2013 and is scheduled to continue through April 2016. This three-year intake period should yield a research sample of about 720 young mothers. A sample of 720 will yield a high probability of detecting a true impact on repeat pregnancy of about 8 percentage points or more, assuming a control group mean of 25 percent. Among the 35 programs on the Office of Adolescent Health's list of evidence-based pregnancy prevention programs, five had a statistically significant effect on the risk of pregnancy. The average impact on pregnancy rates among these five programs was 8.6 percentage points, suggesting that an impact of 8 percentage points is a reasonable expectation for a successful program aimed at reducing repeat pregnancy.

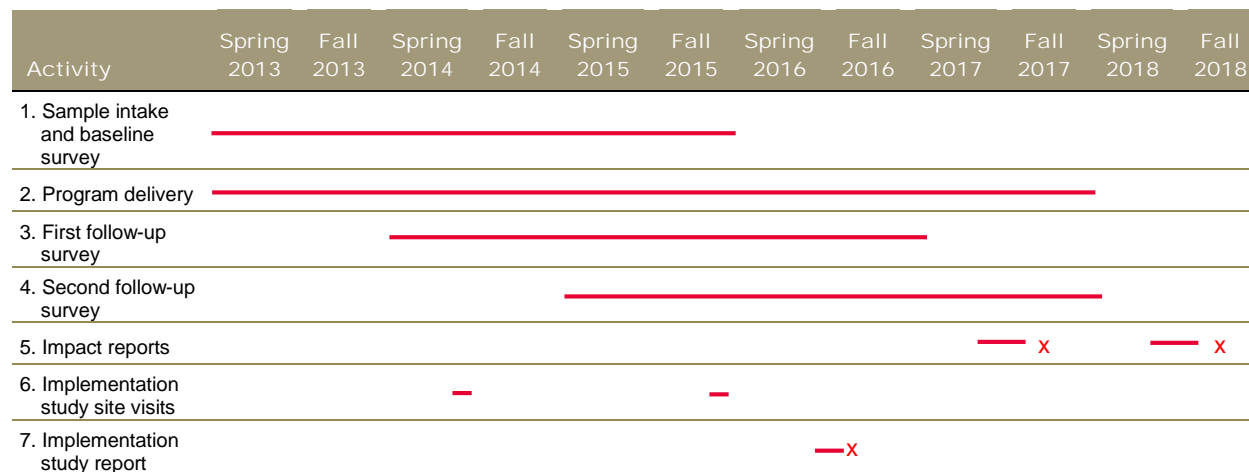
Study schedule

The *Steps to Success* study will be completed in five and a half years (Figure V.1). Sample intake and baseline data collection began in May 2013 and will continue through April 2016. *Steps to Success* and *Traditional Healthy Families* were first delivered to sample members in May 2013. The delivery of these programs will continue through early 2018.

Follow-up surveys will be administered to sample members one and two years after random assignment. First follow-up survey data collection began in June 2014 and will continue through June 2017. Second follow-up survey data collection will begin in June 2015 and continue through June 2018. Impact reports will be produced in 2017 and 2018. We will conduct site

visits for the implementation study in summer 2014 and fall 2015. A report summarizing the findings from these visits will be available in 2016.

Figure V.1. Texas **Steps to Success** evaluation timeline



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APPENDIX A

TIMELINE FOR THE IMPACT STUDY OF FOUR PREP PROGRAMS

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Table A.1. Impact study timeline



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