

## POPULATION SCIENCE

## Implementation and evaluation of the Carrera Program for delaying teen sex in Georgia

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### ABSTRACT

**Background:** In three geographic areas in Georgia, rural, micropolitan, and urban, Morehouse School of Medicine (MSM) implemented the evidence-based Children’s Aid Society Carrera Program at community organizations with Boys and Girls Clubs (BGCs) as the comparison group. This study attempted to replicate the findings of reduced teen pregnancy and birth found for the New York Carrera Program.

**Methods:** For this longitudinal study with a quasi-experimental design, the sample included 400 youth who were in 6<sup>th</sup> or 7<sup>th</sup> grade. A total of 220 were enrolled in the intervention group and 180 in the comparison group. The study was performed in the fall of 2012, 2013, and 2014. The following data sources were utilized: paper-and-pencil surveys, daily attendance, component attendance, observation forms, focus groups, and interviews. There was one analytic sample (N = 204) for the primary research questions. Data were pooled separately across the intervention and the comparison sites. A hierarchical logistic regression model was used to test for program impact. Covariates included selected demographic variables, site geography (urban vs. rural), and previous sexual history. For answering the two primary research questions the 0.025 significance level was used to adjust for multiple comparisons.

**Results:** After one year of the intervention, the Carrera group was significantly lower in “ever had sex” than the BGC group. At years two and three, however, there were no appreciable differences between these two groups, a result possibly due to implementation issues, particularly attendance.

**Conclusions:** When implemented with fidelity, Carrera can have a positive effect, even in rural communities. Programs should seek to achieve the required intervention dosage and address the reasons why teen pregnancy is often higher in these communities.

**Key Words:** rural youth; teen pregnancy; evidence-based programs

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### INTRODUCTION

Across the county and in the state of Georgia, health disparities exist in teen pregnancy prevention and intervention resources and outcomes for rural youth. Although teen pregnancy declined from 1990-2010, it declined at a slower rate in rural communities (Ng & Kaye, 2015). Teen pregnancy is higher in non-metropolitan communities even across racial and ethnic groups (Finley & Stewart, 2013). Possible reasons for the increased risk for teen pregnancy in rural communities are location of services, shortage of health professionals, stigmatization of social services, opposition to sex education, weaker infrastructure, poverty, long distances, transportation, translating/adapting urban interventions for rural youth, and relationship building/community trust of outside providers.

Since 1990, the Health Promotion and Resource Center (HPRC) at Morehouse School of Medicine (MSM), has been implementing, in rural Georgia, social programs for youth at risk of teen pregnancy, drug use, school dropout, and delinquency. In this time, the HPRC has committed more than \$10 million for programs and capacity-building in rural Georgia.

One of these programs was the MSM Children’s Aid Society (CAS)-Carrera Program funded by the Teen Pregnancy Prevention Program in the Office of Adolescent Health (OAH). MSM sought to determine if they could achieve, in rural Georgia, outcomes of reduced teen pregnancy similar to those of the New York Carrera Program of (Philliber, Kaye, Herrling, et al., 2002).

This report covers the findings of an OAH-funded study, *Evaluation of CAS-Carrera Program in Georgia*. Lessons

learned for replicating and implementing evidence-based programs in rural communities are presented.

### **Evidence-based Teen Pregnancy Prevention in Rural and Urban Georgia**

Teen pregnancy and birth are a cause of school drop-out, single-parent families, and poverty (CDC, 2015). In 2010, the Georgia teen pregnancy rate was 54 per 1,000 for 15-19 year olds compared to 57.4 for the United States (U.S.) (OASIS, 2016). The Georgia teen birth rate was 41.3 per 1,000 for 15-19 year olds, compared to 34.3 for the U.S. (OASIS, 2016). Similar to national trends, teen pregnancy was higher in Georgia in rural areas and among minority groups.

With its robust and comprehensive design, the Carrera program was expected to affect teen behavior, attitudes, beliefs, risks, and resiliencies in rural and urban communities in Georgia. In New York City, Carrera had positive effects among African-American and Hispanic youth; in particular, female participants were 40% less likely to have ever been pregnant and 50% less likely to have given birth (Phillibe et al., 2002). MSM sought to test the effectiveness of this evidence-based curriculum in a rural community, a micropolitan community, and an urban community of Georgia.

The 2010 teen pregnancy and birth rates per 1,000 females (15-19 years of age) for the counties from which the samples are drawn show the risk of teen pregnancy and birth in these areas (<http://oasis.state.ga.gov>). The risk varies across ethnic groups. Youth in these counties, particularly in rural Jasper County (67.0/1000) and urban Fulton County (60.0), are at a higher risk of teen pregnancy than other Georgia youth (54.0). Youth in micropolitan (rural-like) Lamar County are at a lower risk of teen pregnancy (35.3). However, White teens in Lamar County have a higher risk of pregnancy (56.4) than other White teens in Georgia (34.7) and are at a higher risk of having a teen birth (63.7) compared to other White teens in Georgia (28.9). White teens in Jasper (72.1) and Lamar (56.4) Counties have a higher risk of teen pregnancy than their White counterparts in Georgia (37.7). In Fulton County, Black (87.1) and Latino (102.9) teens are at greater risk of teen pregnancy than all other ethnic groups in Georgia.

In the three selected communities, the program was implemented with boys and girls 11-12 years of age or in the 6<sup>th</sup> or 7<sup>th</sup> grade. The study design was quasi-experimental, with three community-based agencies purposively selected for the intervention group and three regional Boys and Girls Clubs (BGCs) as the comparison group. Research questions were:

1. What is the impact of the Carrera Program relative to the BGCs on sexual initiation (ever had sex) on program youth after one, two, and three years of the intervention?

2. What is the impact of the Carrera Program relative to the BGC on recent risky sexual behavior (having sex without condoms or other birth control) of program youth after one, two, and three years of the intervention?

### **Program and comparison programming**

The Carrera Program is a holistic, long-term development model, including a comprehensive health and sex education curriculum. Offered during an after-school or in-school program, are seven “required” core components: homework assistance; family life; and sex education; power group; job club; life time individual sports; self-expression; health and dental services. The Carrera Program is designed to enroll and retain middle school youth in programming until high school graduation.

The comparison group were BGCs, a national organization with about 4,000 affiliates that operates after-school programs during the school year (Monday–Friday) and a summer program. The program enrolls youth 5-17 years of age for the school year. However, there is no expectation for daily or multi-year attendance as is the case for the Carrera Program. Each Club embraces the national model and curricula: homework assistance, sports, arts, vocational education/community service, and prevention education.

## **METHODS**

### **Study design**

In this study, the evaluators (investigators) compared the effects of the Carrera Program to the BGC in three geographic areas (rural, urban, and micropolitan). In each area, there was a single Carrera intervention site and a single, regional or “local” BGC site, formed by combining smaller satellite clubs or smaller BGCs in close proximity. This is common practice for BGCs ([www.bgca.org](http://www.bgca.org)), and was witnessed often in the rural communities. Two or three satellites may compose a regional club. This practice allowed the evaluation team to reach the target sample size for small, rural communities. Intervention sites and comparison sites with similar demographics were selected from either the same or similar geographic locations.

The rural intervention and comparison sites had similar rates of poverty and teen pregnancy (Table 1). For rural and metropolitan areas, pregnancy rates exceed the state (54) and national rate (57.4) (<http://oasis.state.ga.gov>). The micropolitan intervention and comparison sites were similar in ethnic and racial demographics, and had similar teen pregnancy rates below the state and national rates. The metropolitan intervention and comparison sites were identical in demographics and rates for teen pregnancy since they are located in the same area of the county, and both slightly exceeded the state and national teen pregnancy rates.

**Table 1. Demographics for the geographic areas in study**

Demographics	Geographic Location and County					
	Rural		Micropolitan		Metropolitan	
	Intervention Carrera	Comparison BGC	Intervention Carrera	Comparison BGC*	Intervention Carrera	Comparison BGC
Teen pregnancy rate (per 1,000 Females, Ages 15-19)	67.0	80.2	35.3	35.2–50.0	60.0	60.0
% Black (total population)	22.1%	47.9%	29.0%	30.0–50.0%	44.6%	44.6%
% Hispanic (total population)	4.2%	4.4%	1.0%	1.0–7.0%	12.3%	12.3%
% White (total population)	72.0%	46.4%	68.0%	40.0–80.0%	48.1%	48.1%
% Households in poverty	21.7%	26.2%	15.5%	30.0%	14.9%	14.9%

Source: Georgia Department of Public Health, Office of Health Indicators for Planning and U.S. Census Bureau: State and County Quick Facts

\* The ranges represent the minimum and maximum for the satellites sites that comprise the regional BGC sites.

A total of 220 males and females were enrolled in the Carrera Program (intervention) and 180 males and females in the BGC (comparison). At the intervention and comparison sites, youth were either in the 6<sup>th</sup> or 7<sup>th</sup> grade or 11-12 years of age.

For the Carrera Program or the BGC, the evaluation team recruited all youth who met program eligibility and who signed an assent form and whose parent signed a consent form. The study and survey process were discussed to address concerns that often arise in rural communities regarding parental opposition to sex education, confidentiality breaches, and stigma toward social programs (Finley and Stewart, 2013). All parents were given \$10 for attending a meeting.

This study had a longitudinal, quasi-experimental design, with clusters serving as the units of assignment. The design included three Carrera intervention sites and three BGC comparison sites.

**Data collection**

For evaluation of impact, an instrument was designed to collect the outcomes of interest (sexual initiation and recent risky sex), demographic variables (age, grade, gender, and race) and other risk variables. The instrument included the CDC Youth Risk Behavior Survey (Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System, 2010) and other questions to assess outcomes of interest. With this instrument, data were collected from intervention and comparison group members at each site in a group format that required 30-60 minutes. Survey administration was conducted in the fall of each year, beginning in the first implementation year (baseline).

Participants received incentives of \$10 after the baseline survey (2011), \$10 after first follow-up (2012), \$20 after second follow-up (2013) and \$30 after the final follow-up

(2014). Incentives were also given to the intervention and comparison sites to encourage their continued participation in this longitudinal study. Depending on the number of participants, between one and four netbooks were given to each site. Providing those resources fostered relationship-building, collaboration and increased commitment to the program.

For evaluation of the implementation, the team assessed fidelity to the Carrera model, quality of implementation of the Carrera program, experiences of the comparison group, and the context of the study/program.

**Outcomes for impact analyses**

Sexual initiation and recent risky sexual behavior were the outcomes of interest examined in the primary research questions. Sexual initiation was defined as “ever had sex.” Recent risky sexual behavior was defined as had “sex without a condom or other birth control.” Respondents who recorded “yes” to either sex without a condom or sex without birth control were coded as “1” on the recent risky sexual behavior variable; respondents who reported either never having sex, or both never engaging in sex without a condom and never engaging in sex without birth control were coded as “0” for the recent risky sexual behavior outcome. The secondary research questions concerned the same outcomes as the two primary research questions, except that they focused on outcomes measured after one year and two years and of intervention (rather than three years) and examined impacts separately for boys and girls to determine if the affects differed by gender.

**Study sample**

The study sample for this QED design consisted of three intervention clusters and three comparison clusters. The six clusters participated in all data collection events. The initial sample size was 400; 220 youth in the intervention group and 180 in the comparison group agreed to participate and

completed a baseline survey. At the year-one follow-up, 138 intervention youth (63% response rate) and 105 comparison youth (58% response rate) had responses for the key outcomes. At the year-two follow-up, 111 intervention youth (50% response rate) and 79 comparison youth (44% response rate) had responses for the key outcomes. At the year-three follow-up, 119 intervention youth (54% response rate) and 85 comparison youth (47% response rate) had responses for the key outcomes.

### Baseline equivalence

A hierarchical logistic regression model, which acknowledges the clustered nature of the design, was used to assess baseline equivalence for the final analytic sample used to assess impacts for the primary research questions. Baseline equivalence on demographic variables, i.e., age, grade, gender and race; and the behavioral measure “sexual initiation,” were assessed. There were no statistically significant differences between the intervention and comparison groups for the demographic variables or the measure of “ever had sex.” At baseline, the analysis samples for the secondary research questions were also equivalent.

### Data analyses and evaluation

For the impact evaluation, hierarchical logistic regression modeling was used, with SAS PROC GLIMMIX, to estimate impacts. This statistical procedure adjusts the standard errors to account for the clustered nature of the design (i.e., youth groups at each site) and uses a logit model for the dichotomous (yes/no) outcome variables. The models controlled for demographic variables (age, grade, gender, and race) and sexual initiation at baseline. The primary outcome variables were sexual initiation (ever had sex) and recent risky sexual behavior (sex without a condom or other birth control). A two-tailed test ( $p < 0.05$ ) was used to determine statistical significance, and a Bonferroni adjustment was used to correct for multiple comparisons in the analysis of the two primary research questions. To avoid assuming or pre-determining the direction of the impact, a two-tailed test was used.

The methods used to answer the secondary research questions were the same as those for the primary research questions with one exception—no Bonferroni correction was applied as these analyses were more exploratory.

The evaluation examined implementation by measuring adherence to the Carrera model, the quality of the intervention, the experiences of the comparison group, and the context of the study. Adherence to the model was determined by four elements: percentage of the program offered, percentage of content delivered, percentage of intervention received by participants, and percentage adherence to number and type of staff. Quality was measured via staff-participant interactions and participant engagement with the program. Staff-participant interaction was measured on a 5-point scale for item “staff rapport with students” on the program observation form. Similarly, participant engagement was measured by two items, “participant understood the material being presented” and “participated in discussion and activities” on the same rating

scale. To evaluate the counterfactual experience, the percent of the comparison group that received 75% of the BGC program was calculated. For context, we determined if other programming was available or offered to study participants, and whether any external events and unplanned adaptations affected implementation of the program. The percentage of participants involved in related programming was assessed by a “yes/no” survey item. Annual interviews with Program Coordinators established whether external events, other programming or unplanned adaptations occurred that could have affected the implementation.

## RESULTS

In general the Carrera model was implemented with fidelity and quality, particularly with program components and staffing. Adaptations were needed, however, in the rural communities. The urban intervention site had a sufficient pool of applicants to meet the required Carrera staffing requirements. However, MSM had to seek permission from the developer to make minor adjustments to the standard Carrera staffing due to limited numbers of health care professionals in the rural areas, particularly with licensed mental health professionals. Therefore, MSM contracted with the Georgia Boards of Behavior Health to provide services.

Attendance was a challenge for all sites. Most participants received over half of this daily, year-long program for the first year. However, attendance and documentation of attendance dropped significantly in years 2 and 3 (data are not presented).

For adherence, MSM implemented the program for the recommended number of days, and 84% of the recommended number of component sessions. MSM met the requirement for program days and sessions by beginning the program on time each year, operating a regular daily program and offering make-up sessions on the weekend.

During the first program year, 41-51% of participants across the three intervention sites (metropolitan, 50%; micropolitan, 41%; rural, 51%) received the required dosage (75% of attendance in program days). During year two, the percentage of participants receiving 75% dropped to 4% at one site and averaged 26% at the other two sites. Attendance increased slightly in the third year with 12-31% of participants across sites receiving 75% of the program. During year one, 70% of participants received at least half of the program (50% the program in days). For component sessions, only 36% of participants received the required dosage (75% program attendance) during year one; yet 62% received half of all component sessions. The 50% dosage may be an achievable benchmark for a 5 day/week, year-long multi-year program. Each component was provided with 100% of topics. Staffing was implemented with fidelity to the Carrera model; however one of the three sites had excessive turnover.

Across all sites, the quality of the instructional staff on “rapport with participants” was rated high, with 87%

receiving a score of “4” (above average) or higher. Participants were engaged, with 83% of staff receiving a “4” or higher on “participant understood material being presented.” On “participated in discussions and activities,” 81% of staff received a “4” or higher.

The experience of the counterfactual conditional was measured similarly. The BGC offered a youth development program similar to Carrera, although less rigid. In year one, 65% of the BGC group received 75% of the program in days.

According to the results of the youth survey, 100% of comparison group youth did not participate in and had little access to other teen pregnancy programs except what was taught in the middle school Health class.

Apparently, study participants had no competing program that interfered with the program, since 100% of treatment and comparison respondents reported that they did not participate in similar services. This was confirmed by interviews with the program coordinators.

External events occurred at two sites. At the end of implementation year one, MSM removed one of the site program coordinators for administrative reasons and subsequently moved the physical location of the site to within a mile of the original location. The impact on the program is uncertain, but this site had a drop in attendance during that time. Once the administrative issues stabilized, attendance rebounded, however not to year-one levels. During year three, another site also moved to a new location less than a mile away, and transportation was provided. This site however, did not have a similar drop in attendance.

Staff attempted to combat attrition and non-attendance around these events and general attendance issues by implementing various retention strategies, including phone calls after an absence, make-up sessions on Saturdays, and pizza parties. Transitioning to the Teen Center as the participants reached high school helped reduce attrition.

Another issue that likely affected attendance was long bus rides to and from the program for some youth. The program provided bus/van transportation for youth who could not commute by car. Approximately 60% commuted to the program by bus. The average commute time across the three sites was 38 minutes. This long commute was due to the geography of the rural and urban communities. Of note, the commute time was not greatly different for the rural and urban commuters. Although the rural community was spread out, the urban community was in a large metropolitan area with moderate traffic.

After one year, Carrera youth were significantly lower in regard to “ever had sex” than BGC youth. Of Carrera youth, 11.7% “ever had sex” compared to 28.3% of youth in the BGC program ( $p=0.02$ ). After two years, youth who engaged in sex appeared to be less prevalent among the Carrera youth (12.2%) than those in the BGC clubs (25.6%); however, this difference was not statistically

significant ( $p = 0.11$ ). There were also no appreciable differences between Carrera and BGC youth for having “sex without a condom or other birth control” ( $p = 0.90$ ). After three years, youth who received the Carrera Program had similar outcomes to youth from the BGC. Data for Carrera youth were similar to that of BGC youth in regard to “ever having sex” or “sex without a condom.” The percentage of Carrera youth who “ever had sex” was 14.2% compared to 15.6% for BGC youth ( $p = 0.85$ ). Data for Carrera youth were also not significantly different in regard to having risky sex, with 6.6% of youth having “sex without a condom or other birth control” and 7.2% of BGC youth having “sex without a condom or other birth control” ( $p=0.91$ ).

Thus, the trend for “ever had sex” for Carrera youth increased each year, from 11.7% to 14.2%; the trend for the BGC youth decreased from 28.3% to 15.6%. The decreasing trend in sexual initiation among the BGC youth was unexpected, as rates of initiation should have increased as youth became older. The decrease in initiation rates was assumed to be due to (1) changes in the composition of the samples at each time point (with youth initiating sexual initiation in year one not responding in subsequent years), (2) inconsistent survey responses over time (e.g., youth indicating sexual initiation in year one and not engaging in sex in follow-up surveys), or (3) a combination of the two.

To assess compositional changes in the samples, and how this might have influenced the findings, a “stable sample” of youth who responded to all three surveys (78 in the intervention condition, and 43 in the comparison condition) was examined as a sensitivity analysis. In this sample, there was the expected increase in sexual initiation rates over time for both conditions; the intervention group from 13.1% to 22.0% and the comparison group from 11.1% to 26.3%, suggesting compositional differences in the samples over time may have been the cause of the decreasing rates of sexual initiation among the control group over time. Thus, this result indicates that there were youth in the comparison group who responded that they had sex at the end of year one, but then did not respond to subsequent surveys.

The Carrera program implemented retention strategies, possibly retained in a cross-section of sexually active and non-sexually active youth. The BGC did not implement retention strategies to retain youth and likely lost greater numbers of that older, sexually active population. Notably, in this stable sample sensitivity analysis, none of the program affects showed statistically significant differences. This may have been due to a loss of statistical power, as only 121 youth contributed to the analyses. After three years of the program, the impact of the intervention did not differ in relation to gender. This may be due in part to the low sample size for the study and sub-groups.

## DISCUSSION

After three years, the Carrera Program had no substantial effect on behavioral outcomes relative to the BGC. A similar set of findings was observed at the end of two years of the program. However, after one year of the program,

Carrera youth were significantly lower in “ever had sex” than BGC youth. This positive impact in year one was not sustained into years two and three, perhaps due to implementation issues (low attendance) in the later years. In addition, the lack of positive program impacts in years two and three could have been due to youth in the control group who were sexually experienced at year one and did not respond to subsequent follow-up surveys, as highlighted in a sensitivity analysis that followed a stable sample of youth.

Perhaps the sample of comparison youth who took the year-one survey was different compositionally and behaviorally from the sample who took the year-two and -three surveys, which produce different effects in years one, two and three. At baseline, however, both the treatment and comparison groups were equivalent demographically and behaviorally, and initially, from baseline to year one, there was an expected increase for both the treatment and comparison group youth in sexual initiation with the comparison group youth appearing to be more sexually active than the treatment group. The comparison group after one year was also more active than the comparison group after two and three years. This decreasing trend, however, started after two years of the intervention. Thus, the Carrera program retained youth, causing a cross section of sexually active and non-sexually active youth to return annually, whereas the BGC did not.

In subsequent years, more sexually active youth may have dropped out of the BGC, leaving a larger group of non-sexually active youth in the program who completed the follow-up surveys in years two and three. In subsequent program years, the BGC youth completing the survey were likely non-sexually active, which may explain the downward trend.

There were implementation issues in years two and three. Program staff struggled with program attendance as participants grew older and were able to stay home, unaccompanied by a parent. It was also difficult to compete with sports and other after-school activities in a “mandatory,” five-days-per-week program, especially in the 8<sup>th</sup> and 9<sup>th</sup> grades. As youth approached high school, attendance issues were confounded by the external events discussed regarding implementation. The administrative changes, including moving locations, may have had a negative impact on attendance and sample retention during years two and three.

The lack of statistically significant results in years two and three does not conclusively show that the Carrera Program was ineffective after two years. Had the comparison group sample remained compositionally and behaviorally similar during these years, there might have been significant differences between the treatment and comparison group, especially if attendance and dosage remained high. Alternatively, it may show that the BGC is effective in reducing early sexual behavior and increasing protective factors for teen pregnancy, and therefore both programs provide valuable services to youth.

There were apparent differences between boys and girls as a result of being in the program and no significant differences in the effect of this intervention for other subgroups (geographic area or sexual initiation status at baseline). Thus, the Carrera Program had a similar effect for rural and urban youth.

## CONCLUSIONS

More evidence-based programs should be replicated and implemented in rural communities. Given the high teen birth and pregnancy rates in rural communities with limited resources, it was important to see if a youth development program such as Carrera could be effective in a rural community, as it was in New York City. Comprehensive programs such as Carrera have a higher likelihood of yielding positive effects in rural communities because they provide resources to a resource-deficit community.

In the present study, Carrera had a positive effect on youth after one year of intervention and most of the youth lived in rural communities, where two of the three intervention sites were located. Carrera had a similar effect for rural and urban youth. It is promising, however, to see that the Carrera Program was effective, at least transiently, among rural youth. As evidence-based programs are replicated in rural communities, delivery of services should meet the needs of these communities and address the reasons why teen pregnancy is higher in rural communities. Adaptations to the design of evidence-based programs may be needed to meet the needs of these communities.

MSM addressed many of the reasons why teen pregnancy is higher in rural communities: location of services, shortage of health professionals, stigmatization of social services, opposition to sex education, weaker infrastructure, poverty, long distances, transportation, translating/adapting urban interventions for rural youth, and relationship building/community trust of outside providers. In these communities, MSM had in the past, engaged in capacity-building and infrastructure development to address the weak infrastructure, preparing the communities for implementation of this program. Because of the shortage of health care professionals in rural areas, the MSM Carrera Program made adjustments in staffing, while maintaining fidelity to the Carrera model. Additionally, evaluation and program staff built relationships with community stakeholders, schools, site staff, and parents to de-stigmatize the social services provided. Despite being in “the Bible belt,” the MSM Carrera Program did not struggle with securing consent to provide sex education and collect sexual health behavior because of these relationships.

Another adaptation needed for the MSM Carrera program was related to youth sports. The program competed with this source of entertainment for attendance. Attendance in the Carrera Program dropped as youth enrolled in high school sports. In Georgia, sports, particularly basketball and football are a fundamental part of life for male youth. In 2011, 57.9% of boys and 46.9% of girls in Georgia plays at least one sport (CDC, 2012). For the 2014-2015 school year,

the state of Georgia ranked 12<sup>th</sup> for participation in high school sports (National Federation of High Schools, 2014). The Carrera staff incorporated youth sports into the life-time sports component by taking field trips to middle school and high school football and basketball games. Coaches, also included in the Carrera multi-disciplinary team, provided feedback about program participants who played a sport. Other adaptations could have been included, such as offering a flexible schedule for youth to receive dosage while participating in their sport.

In addition to the culture of sports, the geography of the targeted communities made it difficult for youth to participate in the program. Although MSM provided transportation, daily commuting to and from the Carrera Program was a hardship. Whereas youth in New York City travel to and from agencies by walking or taking public transportation, this was not an option for youth in this study. Although MSM provided bussing, youth were subject to long commutes and late evening drop-off. As they aged, it became easier to drop out and attend other interests that were more easily accessible than to attend a 5-day-per-week program, with long commutes. Again, a flexible schedule would assist in this regard, especially as youth enter high school with a variety of attractive extra-curricular activities. If youth could receive the required dosage without attending daily, they might commit to the long-term nature of the program. Many evidence-based programs now include a practice called “pairing” or combining similar components such as power group and sex education (Tucker, 2015). This would reduce the number of required sessions and hours while still presenting the same content.

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### References

- Boys and Girls Club of America website ([www.bgca.org](http://www.bgca.org)); Our Facts and Figures & How to Organize a Boys and Girls Club.
- Center for Disease Control and Prevention, Youth Risk Behavior Surveillance United States 2011, Morbidity and Mortality Weekly Report 2012, 61, No. 4.
- Center for Disease Control, Reproductive Health: Teen Pregnancy, About Teen Pregnancy, May 2015, [www.cdc.gov/teenpregnancy/about/index.htm](http://www.cdc.gov/teenpregnancy/about/index.htm).
- Finley, C. and Stewart A. (2013) Working with Rural Teens: Adolescent Reproductive Health in Rural America. Washington DC: The National Campaign to Prevent Teen and Unwanted Pregnancy.
- Georgia Department of Public Health, Office of Health Indicators for Planning, OASIS (Online Analytical Statistical Information System) <http://oasis.state.ga.gov>
- National Federation of High Schools, [www.nfhs.org](http://www.nfhs.org), High School Athletics Participation Survey 2013-2014.
- Ng A.S., and Kaye K. (2015) Sex in the (Non) City: Teenage Childbearing in Rural America. Washington DC.: The National Campaign to Prevent Teen and Unwanted Pregnancy.
- Philliber S., Kaye J.W., Herrling S., and West E., (2002) Preventing Pregnancy and Improving Health Care Access Among Teenagers, Perspectives on Sexual and Reproductive Health, 34(5):244-251.
- Tucker, T. (2015). Evaluation of the Carrera Program: Findings from the replication of an evidence-based teen pregnancy prevention program. Atlanta, GA: Tressa Tucker and Associates.

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