



A Decade of Research on The Children's Aid Society Carrera Adolescent Pregnancy Prevention Program: 1999-2009

In 1984, Dr. Michael A. Carrera and The Children's Aid Society (CAS) developed an Adolescent Pregnancy Prevention Program that uses a holistic approach to empower youth, to help them develop personal goals and the desire for a productive future, in addition to developing their sexual literacy and educating them about the consequences of sexual activity. CAS-Carrera works with boys and girls 11-12 years old and follows them through high school and beyond. Guided by a philosophy that sees youth as "at promise" instead of "at risk," CAS-Carrera works to develop a participant's capacity and desire to avoid pregnancy. The program model is now being implemented in two ways:

1. As a traditional after-school, youth development approach each day and on Saturdays, fifty weeks a year including a summer program, and
2. Integrated within a public or charter school day working with succeeding grades each year until the entire school is receiving the model. This approach is also six days a week (includes Saturday school) fifty weeks a year.

The model includes **seven components**:

- 1. Education:** Individual academic plans for each participant are developed. Daily engagement includes one-on-one or small group tutoring, PSAT and SAT preparation, and college trips;
- 2. Employment:** Weekly Job Club class is a full introduction to the "world of work," including opening bank accounts, exploring career choices and providing summer and part-time jobs. Participants are paid a stipend and make monthly deposits in their bank accounts;
- 3. Family Life and Sexuality Education (FLSE):** Weekly comprehensive sexuality education sessions taught in an age-appropriate fashion;
- 4. Self-Expression:** Weekly music, dance, writing and drama workshops led by theater and art professionals, where children can discover talents and build self-esteem;
- 5. Lifetime Individual Sports:** This program emphasizes sports that build self-discipline, impulse control and can be enjoyed throughout life, including golf, tennis, squash, swimming, and bowling;
- 6. Full Medical and Dental Care:** No cost, comprehensive medical and dental services provided in partnership with local providers;
- 7. Mental Health Services:** Full time counseling and crisis intervention as needed, and weekly discussion sessions called Power Group led by certified social workers.

To test the impact of this model, six agencies in New York City each randomly assigned 100 disadvantaged 13 to 15 year olds to their usual youth program or to the CAS-Carrera program. At the three year follow-up of these young people, the research found:

- **79% of these young people were still in the program.**
- **Both male and female program participants had lower rates of sexual activity than did control youth.**
- **Females in the program were significantly more likely than controls to have used a condom and a hormonal method of contraception at last intercourse.**

And perhaps most importantly—

- **Females in the program had one-third the odds of becoming pregnant as controls (.31 odds ratio).**

There were also positive outcomes for the males in the study:

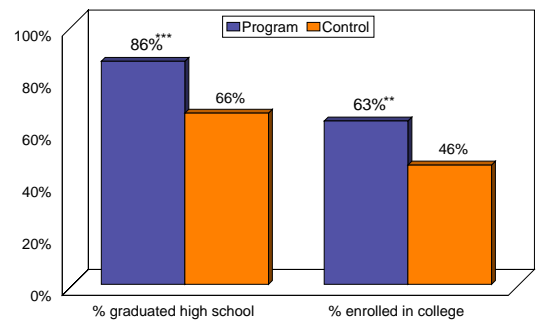
- **Their sexuality and reproductive knowledge gains were significantly higher than such gains among control boys.**
- **They were also more likely than control boys to have a medical home, to have had their hepatitis B vaccination, and to have made a reproductive health care visit in the past year.**

All of these outcomes remained significantly related to program participation in a multivariate analysis controlling for demographic and baseline differences.

Data from a special follow-up survey of 449 of the 598 program and control teens in the New York Program sites who were eligible to graduate by June, 2004, show the following:

- **Significantly more of the program students had graduated from high school or obtained a GED, and**
- **Significantly more were enrolled in college.**

Education-Related Outcomes - High School Graduation & College Enrollment

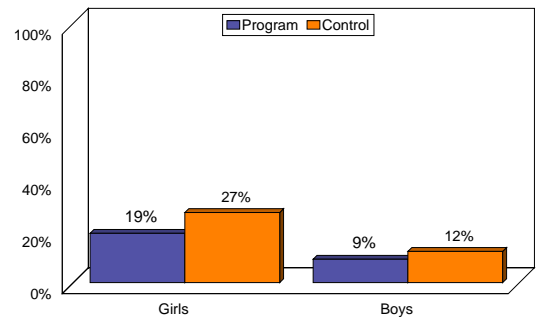


p<.01 / *p<.001.

A year after the New York sites were put into random assignment condition for this evaluation, six other sites were partially funded by the Charles Stewart Mott Foundation. These sites too, had randomly assigned control groups including 243 young people in CAS-Carrera programs and 215 controls. The graph to the right shows the cumulative pregnancy rates at the third-year follow-up among both girls and boys in these programs.

Program girls had a pregnancy rate that was 42% lower than the rate among control girls and the rate of causing pregnancy was 33% lower among program boys than among control boys. Neither of these differences was statistically significant but both were practically important and in the desired direction.

Cumulative Pregnancy (percentage ever pregnant)



Since the random assignment studies, data have continued to be collected in CAS-Carrera sites. The ongoing research does not include randomly assigned control youth, but the rates of alcohol use (ever and current), marijuana use (ever and current), fighting during the past year, carrying a weapon during the past month, sexual activity, contraceptive use, and pregnancy can be compared to other youth of comparable ages and race/ethnicity. Data from program participants from January, 2006 through December 2008 are shown below:

Total for grades 9 to 12	Among Males			Among Females		
	(N)	Program Males	National data (among HS blacks and Hispanics) ^a	(N)	Program Females	National data (among HS blacks and Hispanics) ^a
Alcohol use (ever) ¹	187	34%	72%	227	37%	74%
Alcohol use (past month) ¹	186	19%	41%	225	16%	41%
Marijuana use (ever) ¹	185	23%	43%	225	16%	35%
Marijuana use (past month) ¹	184	7%	23%	227	7%	17%
Fighting during the past year ¹	187	34%	49%	226	20%	36%
Carrying a weapon during past month ¹	188	11%	26%	227	6%	10%
Ever had sexual intercourse ¹	186	59%	65%	228	39%	53%
Condom use at last intercourse ¹	110	96%	72%	90	83%	56%
Ever been/caused a pregnancy ²	190	4%	6%	231	5%	9%

^a These are averages of the black and Hispanic rates.

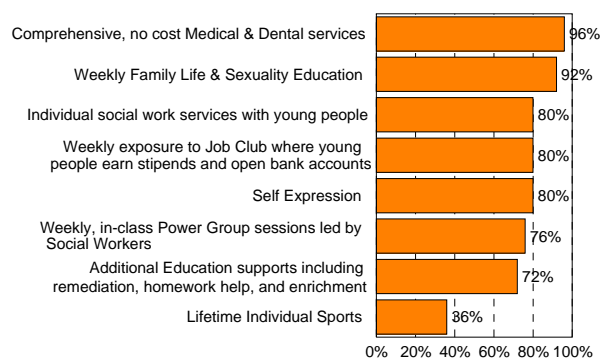
Both males and females in these programs, compared to black and Hispanic youth in the national Youth Risk Behavior Surveillance, have—

- Lower rates of alcohol use (ever and during the past month);
- Lower rates of marijuana use (ever and during the past month);
- Lower rates of physical fighting during the past year;
- Lower rates of carrying a weapon during the past month;
- Lower rates of sexual activity;
- Higher rates of condom use at last intercourse, and
- Lower rates of pregnancy.

To reach more young people with this program model, the CAS-Carrera team is now implementing this program in schools, integrating its components into the daily school curriculum. Data are not yet available to track the impact of this effort among students, but preliminary data have been collected from 25 teachers and school administrators in the four New York City Schools testing this model. The graph to the right shows the percentage of these respondents rating each component of the model as helpful or very helpful.³

Clearly the model's components are well received by these school personnel.

Rating Model Components as Helpful or Very Helpful



(n=25)

¹ National data come from the Department of Health and Human Services Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance – United States, 2007. MMWR June 2008; Vol. 57 (No. SS-4).

² National pregnancy rates are from the Department of Health and Human Services Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance – United States, 2003. MMWR May 2004; Vol. 53 (No. SS-2).

³ These data come from Brigham Nahas Research Associates, CAS/Carrera Pilot Teaching Survey Findings, July 2009, Unpublished manuscript, Cambridge, MA.

What impacts do these school personnel see among students? Almost 90% of the school staff said that the program was having an “increasing” or “significant” impact on their students. Specifically they mentioned the following outcomes:

Student-Level Outcomes

- Increased and improved connections with adults
- Improved management of emotions
- Improved self expression and communication
- Greater engagement in learning
- Strong sense of ‘group life’ with less fighting, stealing and bullying
- Gains in knowledge about their bodies as well as experience working through peer pressure

Classroom and Teacher Outcomes

- Calmer classrooms
- Improved classroom management based on support for implementing effective strategies for managing challenging behavior
- Shifting the teachers’ mindsets around adolescent development through a greater understanding of overall youth development

School-Level Outcomes

- Shifting culture to infusing youth development into education
- Faster interventions in crisis situations
- Earlier identification of needs
- Better parent communication and connection
- Stronger sense of belonging, cohesion and school spirit

Here are some of their own words:

“The big difference between my grade and other (non-Carrera) grades is that they can let out some of their energy, drama, you name it. I never have student meltdowns like my other colleagues. I owe that to the Carrera staff. First off, Carrera provides a staff that connects to the students. Secondly, Carrera provides the kids with events/classes that allow my students to express themselves and have fun. It has been a great year where the only thing I had to worry about was teaching.”

“Students are more interested in political, social and emotional topics. They can be addressed in and out of the classroom. They are more aware of themselves and the surrounding population. Less teasing, bullying, and fighting have occurred in my classroom. Children seek out additional support more often.”

These testimonies are only a start in documenting the success of this model in schools. In the months ahead more systematic data on student impact will be collected.

