



More Than a Decade of Research on The Children's Aid Society Carrera Adolescent Pregnancy Prevention Program: 1999-2010

ABOUT THE PROGRAM

In 1984, Dr. Michael A. Carrera and The Children's Aid Society developed the **Carrera Adolescent Pregnancy Prevention Program** (CAS-Carrera) that uses a holistic approach to empower youth; help them develop personal goals and cultivate the desire for a productive future; develop their sexual literacy; and educate them about the consequences of sexual activity. CAS-Carrera begins working with boys and girls at age 10 or 11 and follows them through high school and beyond. Guided by a philosophy that sees youth as "at promise" not "at risk," CAS-Carrera builds a participant's capacity and desire to avoid pregnancy. The program model is implemented in two ways:

- A traditional **afterschool**, youth development approach six days a week (including Saturdays), year-round including a summer program; and
- An **in-school** model incorporated into the school-day schedule of a public or charter school, beginning typically with grade 6 and enrolling each succeeding grade annually until the entire school is receiving the model. Class time for components is provided during the school day through advisory and guidance periods, resource time, and other amenable periods where CAS-Carrera staff can deliver programming. The in-school model also runs six days a week (including Saturdays), year-round including a summer program.

The foundation of both models centers on **seven core components**:

1. **Education:** Daily engagement includes one-on-one or small group tutoring, PSAT and SAT preparation, and college trips. Individual academic plans for participants are developed;
2. **Employment:** Weekly Job Club class is a full introduction to financial literacy and 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 medically and scientifically comprehensive sexuality education sessions are taught in an age-appropriate fashion;
4. **Mental Health Services:** Weekly discussion sessions called Power Group are led by certified social workers. 24 hour counseling and crisis intervention as needed;
5. **Full Medical and Dental Care:** No cost, comprehensive medical and dental services are provided in partnership with local providers;
6. **Self-Expression:** Multiple exposures to music, dance, writing and drama workshops are led by theater and art professionals, where children can discover talents and build self-esteem; and
7. **Lifetime Individual Sports:** Multiple exposures to a program emphasizing sports that build self-discipline, impulse control and can be enjoyed throughout life, including golf, tennis, squash, swimming, and bowling.

EVALUATION

Over the years, several different methods for evaluation have been used to prove CAS-Carrera's effectiveness. A **randomized control trial evaluation** of the after-school model conducted with six agencies in New York City each randomly assigned 100 disadvantaged 13 to 15 year olds to either their usual youth program (control group) or to the CAS-Carrera program. At the three-year follow-up of these young people, the research found:

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

And perhaps most importantly:

- **Female CAS-Carrera participants had one-third the odds of becoming pregnant as the control group (.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.**
- **Male CAS-Carrera participants 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.**

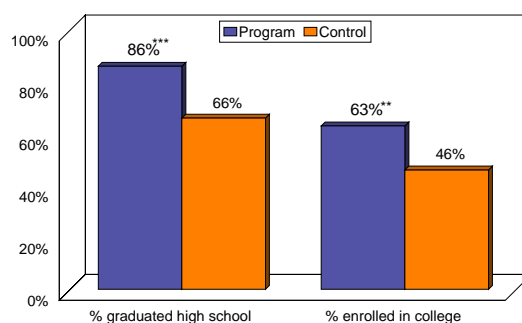
All of these outcomes remained significantly related to program participation in a **multivariate analysis** controlling for demographic and baseline differences. Based on a follow-up survey of 449 of the 598 young people in the New York Program sites who were eligible to graduate by June 2004, outcomes include:

- **Significantly more of the CAS-Carrera participants had graduated from high school or obtained a GED.**
- **Significantly more were enrolled in college.**

A year after the start of the New York random assignment, six additional national sites participated in 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 Year Three follow-up among both girls and boys in these national programs.

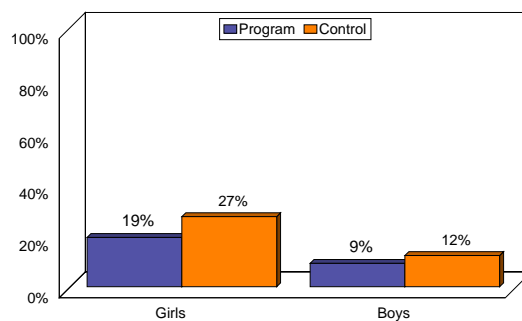
CAS-Carrera program girls had a pregnancy rate that was 42% lower than the rate among control girls and the rate of causing pregnancy was 33% lower among program boys than among control boys. While these results were not statistically significant, both show practically important results in the desired direction.

Education-Related Outcomes - High School Graduation & College Enrollment



p<.01 / *p<.001.

Cumulative Pregnancy (percentage ever pregnant)



SURVEY DATA: AFTER-SCHOOL MODEL

In addition to the random assignment studies, data is collected on an ongoing basis at CAS-Carrera sites via student, teacher and CAS-Carrera staff assessments. Based on survey data, the rates of alcohol use, marijuana use, 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 after-school CAS-Carrera participants from January 2006 through December 2008 are shown below:

	Among Males			Among Females		
	(N)	Program Males	National data (average of HS blacks and Hispanics)	(N)	Program Females	National data (average of HS blacks and Hispanics)
Total for Grades 9 to 12						
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%

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

- 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.
- Lower rates of pregnancy.



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).

SURVEY DATA: IN-SCHOOL MODEL

The CAS-Carrera in-school model implementation began in 2007. Every year a new grade is added at each school until the entire school is receiving the model. Early indicators from participants in Grade 8 at sites in New York City already show their risky behavior patterns at a much lower rate than their peers nationally.

	Fall 2010 CAS-Carrera NYC program Grade 8 (N=217)	2005 Grade 8 across eight national cities ³
Ever had intercourse	12%	30%
Fighting during the past year	30%	71%
Carrying a weapon during the past month	2%	43%
Alcohol use (ever)	13%	51%
Marijuana use (ever)	4%	21%

Also promising is the most recent data (Fall 2010) collected from a sample of Grade 9 and 10 participants from NYC CAS-Carrera school sites.

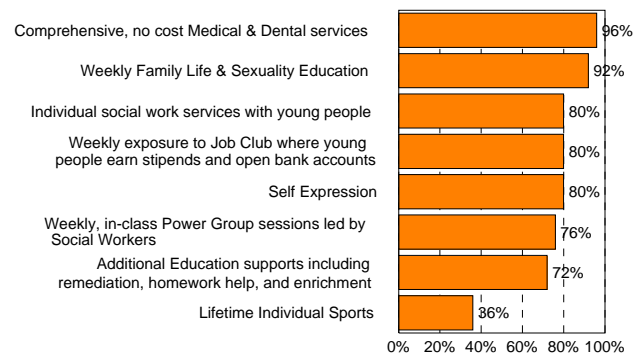
	Fall 2010 CAS-Carrera NYC program Grade 9 (N=71)	2009 nationally ⁴ (blacks and Hispanics) Grade 9	Fall 2010 CAS-Carrera NYC program Grade 10 (N=80)	2009 nationally ⁴ (blacks and Hispanics) Grade 10
Ever had sexual intercourse	30%	45%	33%	56%
Condom used at last intercourse	91%	62%	100%	66%
Carrying a weapon during the past month	8%	16%	4%	15%
Alcohol use (ever)	23%	64%	45%	72%
Alcohol use (past month)	16%	33%	12%	39%
Marijuana use (ever)	20%	33%	11%	41%
Marijuana use (past month)	11%	20%	6%	21%
Ever been/caused a pregnancy	4%	7% ⁵	4%	7% ⁵

Grade 9 and 10 program participants demonstrate significantly lower rates of risky behaviors than their black and Hispanic peers in Grades 9 and 10 nationally.

Additionally, preliminary data was collected from 25 teachers and school administrators in the four New York City Schools testing this model. The graph at the right shows the percentage of these respondents rating each component of the model as helpful or very helpful.⁶ And 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.**

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

Rating Model Components as Helpful or Very Helpful



(n=25)

³ CDC, 2005 Middle School Youth Risk Behavior Survey, released 2007. Data from young people in eight cities: District of Columbia, Tampa, Memphis, Miami, Milwaukee, San Bernardino, San Francisco, and Dallas.

⁴ National data come from the Department of Health and Human Services Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance – United States, 2009. MMWR June 2010; Vol. 59 (No. SS-5).

⁵ New York City Department of Mental Health & Hygiene: Teen Pregnancy in New York City: 1997-2007; pg 16. 2007 rate used here for blacks and Hispanics aged 15-17 in New York City.

⁶ These data come from Brigham Nahas Research Associates, *CAS/Carrera Pilot Teaching Survey Findings, July 2009*, Unpublished manuscript, Cambridge, MA.