OLR RESEARCH REPORT

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TEEN PREGNANCY

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You asked a series of questions about teen pregnancy. Specifically, you wanted to know (1) the teen pregnancy rates in the state's largest cities during the last 10 years, (2) the graduation rates in these cities, (3) information about New York City's teen pregnancy prevention model, and (4) information on any other successful prevention models.

SUMMARY

We were unable to obtain town-by-town teen pregnancy rates. However, we were able to obtain town births and birth rate information for certain years. According to an official from UConn Health Center's Family Planning Program, approximately one-third of teen pregnancies do not go to term. (When determining the pregnancy rate, researchers look at the number of live births, abortions, and miscarriages.) While nationally and in Connecticut both the teen pregnancy and birth rates have fallen over the last decade and beyond, state data reveal that the largest cities continue to have much higher birth rates than the statewide averages.

Many teen pregnancy prevention models have been tried and evaluated. Two stand out for having been replicated, rigorously evaluated over the last 20 years, and found to achieve positive results in reducing teen pregnancy and other risky behaviors. One is the Carrera model, a comprehensive, multi-year approach that engages young adolescents living in impoverished communities in daily activities designed to keep

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them in school and focused on a future that includes college. The other model is the Teen Outreach Program (TOP). This nine-month model combines community volunteerism with classroom activities. Both programs have consistently produced positive outcomes in terms of reducing teen pregnancy and other risky behaviors. And both stress a comprehensive approach to prevention, which includes both abstinence education and access to other birth control methods.

Both models are currently being used in Connecticut cities with high teen pregnancy rates.

TEEN PREGNANCY AND BIRTH RATES IN CONNECTICUT

According to the federal Centers for Disease Control and Prevention (CDC), nationally, teen (ages 15-19) pregnancy rates have been dropping steadily since 1988. Between 1988 and 2008, the average dropped from 111 to 68 pregnancies per 1,000 teens. The teen birth rate likewise has fallen. CDC reports that the number of births to teens dropped to 44 births per 1,000 from 1991 through 2010 (in 2010, this figure was 34.3 per 1,000 and in 2012, 29.4 (preliminary)), the lowest rate ever).

Connecticut's teen pregnancy rate dropped from 107 to 55 per 1,000 teens between 1988 and 2008. And the statewide birth rate similarly dropped from 40 births per 1,000 teens to 16 births, according to the CDC. (Department of Public Health (DPH) birth data show this rate to be higher between 2006 and 2010.) While Connecticut's rates have improved, a closer look at the data reveals that higher than average teen birth rates persist in those cities with the highest poverty rates.

Table 1 shows (1) the seven cities with the highest rates of teen births as a percentage of all births in those cities in 2004 (2) the number of births to teen females per 1,000 teen females between 2006 and 2010 (birth rate) in these cities, and (3) graduation rates in 2004 and 2010.

Table 1: Teen Birth and Graduation Rates in Select Cities (2004, 2006-2010)

City	Births to Teens (2004)	State Births to Teens (2004)	Teen Birth Rate (2006-2010)	State Teen Birth Rate (2006-2010)	High School Graduation Rate (2004)	State Graduation Rate (2004)	High School Cohort Graduation Rate (2010)[1]	State Rate (2010)
Bridgeport	13.2	6.9	53.7	22.0	Bassick 60.6 Central 74.1 Harding 66.1	89.8	55.5	81.8
Hartford [1]	20.1	6.9	61.9	22.0	Bulkeley 67.0 Classical 100 HPHS 45.0 Sports 93.0 Weaver 68.2	89.8	59.8	81.8
New Britain	16.0	6.9	57.0	22.0	70.4	89.8	55.7	81.8
New Haven	13.6	6.9	45.4	22.0	Cooperative 83.0 Hyde Leadership 81.1 James Hillhouse 64.9 Polly T McCabe 47.1 Riverside 67.7 Sound School 93.0 Wilbur Cross 68.1	89.8	62.5	81.8
New London	14.0	6.9	30.0	22.0	45.3	89.8	63.9	81.8
Waterbury	14.5	6.9	57.5	22.0	Wilby 83.9 JFK 85.0 Crosby 86.8	89.8	68.4	81.8
Windham	15.4	6.9	33.4	22.0	77.4	89.8	62.8	81.8

Sources: UConn Health Center (UCHC, 2008), State Department of Education (SDE), DPH

[1] The high school graduation rate data since 2010 students tracked students from their initial entrance into 9th grade through to graduation with student-level data from a longitudinal data set.

TEEN PREGNANCY PREVENTION MODELS

Declining teen pregnancy and birth rates are welcome news to states. Various theories posit why the rates have dropped. Columbia University professor of population and family health Dr. John Santelli attributes the changes to a greater emphasis on getting contraceptives to teens, especially long-acting methods such as the intrauterine device (IUD). A 2013 *Slate* article suggests that the improvements come from the American Academy of Pediatrics and American College of Obstetrics and Gynecology being more aggressive in promoting teen sexual health. Others have suggested that abstinence-only campaigns have led to the declines (see SOURCES).

DSS currently provides grant money to entities using two of the oldest and most rigorously tested models for reducing teen pregnancy rates. The first is the Carrera model, named for the model's founder. It is a multi-year, multi-disciplinary approach that has shown great progress in both reducing teen pregnancy and increasing high school graduation rates for adolescents living in poor communities. The other model is the Teen Outreach Program (TOP).

Comprehensive Model—Carrera Program

Since 1970, Dr. Michael Carrera has directed the *Carrera Program* for New York's Children's Aid Society. This teen pregnancy prevention model, which has evolved over time, has been used widely across the country (including Connecticut) and has been evaluated. (According to its website, the program is the only fully evaluated prevention program in the country with statistically proven effectiveness.) (http://www.childrensaidsociety.org/carrera-pregnancy-prevention, last visited 10/15/13)

The model offers a holistic, intensive, long-term approach to prevention, with boys and girls beginning their involvement at the beginning of middle school and continuing until they graduate from high school.

The program runs seven days a week and currently serves almost 4,000 young people in neighborhoods throughout New York City and at partnership sites in several states, including Connecticut. It is run in communities that face higher-than-average rates of poverty, teen pregnancy, and high school dropouts.

The Carrera philosophy is that in order to educate young people about abstinence, sexually responsible behavior, and the avoidance of unintended pregnancies, it must reduce the hopelessness and fatalism many of these youth feel and help them begin life changes that generate a genuine desire by adolescent girls not to become pregnant. The program is designed to create an environment where young people can identify their gifts and talents.

The program includes daily tutoring, enrichment, homework assistance, and remediation. All educational activities are designed to ensure that youth graduate from high school and complete college. The program's "Family Life and Sexuality Education" component helps young people learn about themselves and their bodies in an "age- and stage-appropriate fashion." Separate sessions that involve parents and other adults reinforce the program's philosophy that parents should be their children's primary source of information about sexuality.

Program participants also learn sports that can be played over their lifetime and that do not rely on a team format. This helps reinforce self-discipline and impulse control, which can be transferred to other aspects of daily living.

Service Learning Model—Wyman's TOP

The other teen pregnancy prevention program that Connecticut has used is TOP, which uses the Service Learning Model. TOP is school-based and emphasizes young people volunteering in their communities. It links the volunteerism to classroom-based, curriculum-guided discussions on a wide variety of issues, from family conflict to human growth and development. As one of its evaluators stated, the program places students in a "help-giving (as opposed to help-receiving) role." The program runs for nine months (typically during the school year).

The TOPS curriculum has four levels, one for each developmental stage (e.g., 12-13-year-olds and 14-year-olds). Participants at all levels engage in a minimum of 20 hours of community service learning per academic year but many participants do more. The classroom groups meet at least once a week to discuss topics such as communication skills, assertiveness, understanding and clarifying values, relationships, goal-setting, influences, decision-making, and adolescent health and sexual development.

The ongoing classroom discussions and other classroom activities are based on the Teen Outreach Curriculum, which is designed to engage students via structured discussions, group exercises, role playing, guest speakers, and informational presentations.

While the program is designed to serve youths aged 12 through 17, it has only been rigorously evaluated for high school-aged youth (see below).

Abstinence-Only

While the above two programs predate it, the 1996 federal welfare reform law includes significant federal funding for abstinence-only education as a means to promote sexual abstinence and healthy teen behavior. At its core, this approach is designed to teach (1) the social, psychological, and health gains to be realized by abstaining from sexual activity and (2) that abstinence from sexual activity outside of marriage is the expected standard for all school-aged children (Trenholm, et al., p. xiv)

Other Models

A Washington, D.C.-based organization, Advocates for Youth, has identified those teen pregnancy prevention initiatives that meet stringent criteria for inclusion in a publication listing programs that work to prevent teen pregnancy, HIV, and other sexually transmitted diseases. The criteria include:

1. having been evaluated, (a) with the results published in a peer-reviewed journal, (b) using an experimental or quasi-experimental design, and (c) including at least 100 young people in treatment and control groups and

2. (a) continuing to collect data from both groups at three months or later after intervention and demonstrating at least two positive behavior changes (e.g., postponement or delay of sexual initiation) or (b) showing effectiveness in reducing the rates of any of the two target issues.

Twenty-six programs met these criteria (including Carrera and TOPS) in the latest edition of the publication. The following link provides detailed summaries of these programs
http://www.advocatesforyouth.org/storage/advfy/documents/thirdeditionexecutivesummary.pdf

EVALUATIONS

Phillliber Research Associates is an independent research and evaluation firm that specializes in outcome-based, scientific evaluations and program planning services for social, cultural, educational, health, media, and other programs.

The group has conducted several evaluations of teen pregnancy prevention programs, including the two programs mentioned above.

New York's Carrera Program

The team evaluated New York's Carrera program in 2002 and its findings were published in Perspectives on Sexual and Reproductive Health. Using an experimental design, the team chose six agencies in New York City and randomly assigned 100 disadvantaged 13- to 15-year-olds either to the agency's regular youth program (control group) or the Carrera program (experimental group). Both groups were followed for three years, from 1997 to 2000.

The researchers based their findings on 81% of the 600 participants who supplied data at the three-year follow-up. The sample included females and males. Three years after enrollment, 79% of the participants were still involved at some level in the Carrera program. Specifically, 48% were actively involved in all program components and 31% had contact with program staff outside of the weekday afternoon schedule. In contrast, only 36% of the control students were regularly participating in their program after three years.

The researchers used both bivariate and multivariate analysis to make a more accurate assessment of program results. Some of the more significant findings were:

1. at the third year follow-up, females in the program group had significantly lower pregnancy and birth rates than females in the control group;

2. the program maintains long-term connections with young people, which directly affects young women's risk of pregnancy by improving their sexual literacy, delaying initiation of intercourse, and increasing their effective use of birth control;

3. the oldest females attended significantly more hours than the oldest males, sexually experienced females attended significantly more hours than sexually experienced males (with some exceptions); and

4. females in the program were significantly (a) more likely than those in the control group to say they had chosen not to have sex when pressured (75% vs. 36%) and (b) less likely than control females to have ever had intercourse.

Program effects among men were generally weaker, perhaps because young men who had intercourse before enrolling were the least likely to attend regularly. While male participants had significantly higher gains in knowledge than controls, they were significantly less likely to have used a condom along with a highly effective birth control method at last intercourse.

The researchers also examined the use of health care as an indicator (including mental health and dental care), finding that the program participants had greater rates of receipt of care outside the emergency room than youth in the control groups.

Other Carrera Evaluations—New Britain Program. The Carerra model has continued to be a model of choice for state and local teen pregnancy prevention initiatives. One such program, the Pathways/Senderos Center in New Britain, was evaluated for its cost effectiveness in the more recent past by Yale, UConn Health Center, and Mount Sinai School of Medicine researchers. In this study, researchers developed estimates of the costs and benefits of the model. When extrapolating up to age 30, benefits to society exceeded costs by over $10,000 per adolescent per year, with social benefits outweighing total social costs by age 20.1 (Rosenthal, et al., Am. J Prev. Med 2009 December; 37 (6 Suppl 1), S280-287).

TOP

Allen, et al. Studies. The same researchers who have evaluated the Carrera program have also rigorously studied TOPS. Their 1997 evaluation was claimed to be the first controlled experimental evaluation of the program's efficacy. Besides looking at preventing teen pregnancy, the researchers examined whether the model had an impact on school failure and suspension rates.

They looked at 25 randomly chosen sites nationwide between 1991 and 1995. Students were randomly assigned to the control or program (experimental) group. Classroom discussions and activities for the program group focused either on maximizing learning from the service experiences or helping teens cope with important developmental tasks they would face.

The researchers found that the program substantially reduced teen pregnancy rates, course failure, and school suspension during the year. Specifically, it found that the risk for these three "risk behaviors" for TOP participants was half of the risk than those in the control group. These

results were consistent with earlier, nonrandom assignment data obtained from the program during the 10-year period leading up to the 1997 study. The researchers asserted that the findings provided evidence that TOPS was virtually unparalleled among teen pregnancy prevention programs that did not "explicitly" focus on contraceptive distribution (Allen, et al., p. 737)

A subsequent study examined whether such a "broadly targeted" program as TOP could help those at highest risk for teen pregnancy and other problematic behavior. It concluded that the program seemed most effective for those students at "greatest initial risk." (Allen, et al. (2001). The following results, derived from this latter evaluation, show that program participants experienced a:

1. 52% lower risk of school suspension,
2. 60% lower risk of course failure,
3. 53% lower risk of pregnancy, and
4. 60% lower risk of school dropout.

Abstinence-Only Education

A study published in the October 2011 issue of Public Library of Science (PLoS) ONE (an international, peer-reviewed, open-access online publication) looked at the effectiveness of abstinence only education programs on reducing teen pregnancy rates. The researchers wanted to determine if there was any correlation (positive or negative) between abstinence-only programs and teen pregnancy.

Looking at teen pregnancy, birth, and abortion data from 2005 (the most recent available), they expected to find an association between higher levels of abstinence education and more abstinence and fewer teen pregnancies. Factoring out things like educational attainment and ethnic composition, the researchers found the opposite: abstinence-only programs resulted in a positive rather than negative correlation. In fact, the more strongly abstinence was emphasized in state laws and policies, the higher the average teen pregnancy and birth rates. But teens exposed to comprehensive sex education, including abstinence education, had the lowest pregnancy and birth rates (Hall and Hall, pp. 1-11)

A 2007 study published in The Journal of Adolescent Health showed similar results (Kohler, et al., Abstinence-Only and Comprehensive Sex Education and the Initiation of Sexual Activity and Teen Pregnancy, 2007).

But another study suggests the efficacy of a theory-based abstinence-only program. Here the researchers conducted what they called the "first randomized controlled trial" to determine whether abstinence-only intervention reduced the percentage of adolescents who reported any sexual intercourse 24 months after the intervention. Despite the limitations of the trial, the researchers suggest that such interventions could have positive effects on youth, especially in communities where this might be the only acceptable approach (Jemmott, et al.).

Evaluation Limitations

The Promising Practices Network (PPN), a website operated by the Rand Corporation, is a group of individuals and organizations dedicated to providing quality, evidence-based information about what works to improve the lives of children, families, and communities. It is sometimes referred to as a "best practices" site or a "model program" site, according to the network's "Welcome page."

Like Advocates for Youth, PPN has identified those teen pregnancy prevention "Programs that Work," identifying for each program outcome areas, indicators, and the evidence level. While it gives TOPS a "promising" rating, it points to methodological limitations in the Allen, et al. evaluation, including sample selection and comparability of treatment groups.

ONGOING PROGRAMS IN CONNECTICUT

According to the UCHC official, the following cities and towns presently run teen pregnancy prevention programs. Only New Britain is currently using the Carrera model; the rest use TOP. (We attempted to get DSS to confirm this data, as well as supply any outcome data, but were unsuccessful.)

Town	*Model*
Bridgeport	TOP
East Hartford	TOP
Hartford	TOP (2 middle schools)
Killingly	TOP
Meriden	TOP
New Britain	Carrera and TOP
New London	TOP
New Haven	TOP
Norwich	TOP
West Haven	TOP
Windsor	TOP

Source: UCHC (2013)

CDC Contract with City of Hartford

As part of President Obama's Teen Pregnancy Prevention Initiative (TPPI), the CDC is partnering with the federal Office of the Assistant Secretary for Health to reduce teen pregnancy and address disparities in teen pregnancy and birth rates. Its goal is to demonstrate the effectiveness of innovative, multi-component, communitywide initiatives in reducing these rates, with a special focus on reaching African-American and Latino and Hispanic youth aged 15-19 years. (A community-wide model is an intervention implemented in defined communities applying a common approach but with different strategies.)

According to the Connecticut Women's Education and Legal Fund (CWEALF) website, the Hartford TPPI was awarded a federal grant to reduce the city's teen birth rate 10% by 2015. The city's Department of Health and Human Services manages the project and is using seven diverse local agencies to provide evidence-based programming. CWEALF, along with researchers from Yale and the University of Saint Joseph, will evaluate the program. Click here for information on the initiative.

SOURCES

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