



Health Care Program for First-Time Adolescent Mothers and their Infants

Well-conducted randomized controlled trial shows a 58% reduction in likelihood of another pregnancy, and nearly double the rate of child immunization, 18 months after random assignment.

I. Description of the Intervention:

The program, as evaluated in the study described below, served teenage girls who gave birth at Philadelphia's Children's Hospital of Pennsylvania from 1987-2002. During regularly-scheduled well-baby health check-ups, teen mothers received additional services, including (i) counseling on birth control methods and referral to a birth control clinic, if appropriate, and (ii) one-on-one education in basic parenting and child health (e.g., how to feed and hold a baby, how to take their temperature) and how to manage minor health problems not requiring emergency care (e.g., runny noses, diaper rash, etc.). These services were provided by a team headed by a masters-level nurse practitioner, which included trained volunteers and part-time help from another masters-level nurse practitioner, a pediatrician, and a social worker. After any missed appointment, mothers received regular reminder letters and phone calls for up to eight weeks.

The cost of the program was approximately \$440 per adolescent mother over 18 months, in 2010 dollars.¹

Hospitals and other organizations seeking to implement this program can [purchase program materials and technical assistance here](#).

II. Evidence of Effectiveness:

A. **Evaluation method: A single-site randomized controlled trial of the program with follow-up 18 months after random assignment.**

The program was evaluated in a well-conducted randomized controlled trial of 243 teen mothers age 17 or under who had just given birth. Mothers and their infants were randomly assigned to either a group that received the program described above as part of their routine well-baby health check-ups or a control group that did not but that received the hospital's standard care for teen mothers (i.e., routine well-baby check-ups, as well as social work services if referred by their physician). If control group mothers missed their appointments, they did not receive reminder phone calls or letters.

All mothers were African American, unmarried, and on Medicaid. 21% had been pregnant previously. Their average age was 16.4 years.

B. **Effects of the program at the 18-month, post-random assignment follow-up** – when the mothers were 18 years old on average.

These are the effects on all main outcomes that the study measured at the 18-month follow-up, compared to the control group (including any such outcomes for which no or adverse effects were

¹ This is the total cost of providing eight regularly-scheduled well-baby visits incorporating the program elements described above. It does not, however, include the initial cost of training the program delivery team.

found). All effects shown are statistically significant at the 0.05 level unless otherwise stated. Compared to the control group, program group mothers were:

- 58% less likely to have experienced another pregnancy during the follow-up period (12.0% of program group mothers experienced another pregnancy vs. 28.3% of control group mothers).
- 82% more likely to have fully immunized their child (32.7% vs. 18.0%; $p=0.011$)²
- More than twice as likely to have taken their child for an 18-month well-baby check-up at the study clinic (40.0% vs. 17.9%; $p=0.002$)
- No more likely to have returned to school or have taken their child to the emergency room (i.e., there were no program effects on these outcomes).

Although not measured, the study may have produced sizable savings to Medicaid, given the program's effectiveness in reducing repeat pregnancies and, presumably, their associated health care costs.

C. **Discussion of study quality:**

- The study had low sample attrition: At the 18-month follow-up, outcome data were collected for 90-100% of the sample, depending on the outcome measure. Follow-up rates were virtually the same for the program and control groups.
- The program and control groups were highly similar in their pre-program characteristics (e.g., demographics, rates of previous pregnancy, amount of prenatal care).
- The study measured outcomes for all members of the program group regardless of whether or how long they participated in the program (i.e., the study used an "intention-to-treat" analysis).
- The study used official medical records to measure children's immunization history; mothers' self-reports to measure their rates of repeat pregnancy; and both school records and mothers' self-reports to measure their school attendance.
- Study limitation: The study evaluated the program as implemented in one teaching hospital by a small team led by a single nurse-practitioner. Replication of these findings in another site would be desirable, as noted immediately below.

D. **Thoughts on what more is needed to build strong evidence:** A second well-conducted randomized controlled trial, carried out in another setting, to show that the effects generalize to other settings where the program might normally be implemented.

III. **References:**

[O'Sullivan, Ann L.](#) and Barbara S. Jacobsen. "A Randomized Trial of a Health Care Program for First-Time Adolescent Mothers and Their Infants." *Nursing Research*, July/August 1992, vol. 41, no. 4, pp. 210-215.

² It isn't entirely clear when this effect on immunizations was found. The body of the study report says 18 months after random assignment, but the study abstract says 12 months.