



## The Nurse-Family Partnership in Memphis

Since 1987, my colleagues and I have been conducting a large study in Memphis to determine the long-term effectiveness of the Nurse-Family Partnership (NFP), a home visiting program aimed at improving the health of at-risk mothers and their children.

Designed for mothers who have limited financial resources and are bearing their first child, NFP has three major goals:

- to improve prenatal health and promote positive birth outcomes
- to support children's development and well-being by encouraging positive and effective parenting practices
- to increase the economic well-being of families by helping mothers clarify their life goals and make informed decisions about work, education, and future pregnancies

Mothers typically register before the 28th week of pregnancy, and the program lasts through the first two years after birth. During this time, specially trained registered nurses visit families in their homes, forming close, collaborative relationships focused on improving maternal and infant health. Nurses encourage the involvement of other family members and friends and link families with outside services when needed. For most of the program's duration, nurses visit families every two weeks. (Visits are weekly for the first six weeks after birth and monthly during the program's last 4 months.)

*David Olds, PhD, leads the Prevention Research Center for Family and Child Health at the University of Colorado and is the founder of the Nurse-Family Partnership.*

## Evaluating the Program

Our evaluation of the Memphis NFP was designed to allow researchers to follow long-term outcomes for families who completed the program. In 1991, about 1300 Memphis women registering for prenatal care were offered participation in this study; over 1100 chose to enroll. Eighty-five percent of participants lived in families with incomes below the Federal Poverty Level.

After enrollment, each family was randomly assigned to one of two groups. The first group participated in the full Nurse-Family Partnership home visiting program and also received free transportation for prenatal care, periodic screening for children's development, and referrals to agencies when needed. The second (or "comparison") group did not participate in the home visiting program; they received only the transportation, screening and referral services.

After families completed the program, we continued to collect information on how they were faring. By observing differences in the two groups, we can estimate the added value of the NFP program beyond the basic services we provided to both groups of families. In other words, we can see how NFP affects health and development from pregnancy through late childhood.

## Maternal Outcomes

The study results indicate that the Nurse-Family Partnership has positive effects on families. On several measures, nurse-visited mothers and children have had substantially better outcomes than mothers and children in the comparison group.

Compared to mothers in the comparison group, NFP mothers

- were 35 percent less likely to develop Pregnancy-Induced Hypertension (a pregnancy complication characterized by dangerously high blood pressure).
- had 23 percent fewer closely spaced subsequent pregnancies during the first two years following birth of the first child.

## Child Outcomes

Children of participating families had better outcomes across many measures compared to children in the comparison group.

By age 2, NFP children

- had 23 percent fewer healthcare visits for treatment of injuries.
- had 79 fewer days of hospitalization for injuries and ingestions.

By age 6, NFP children

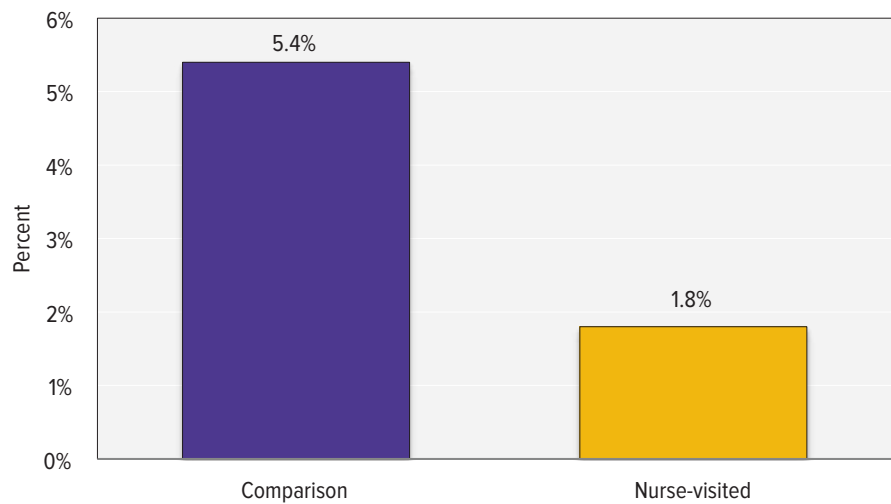
- performed better on tests of intellectual functioning and language development.
- had 67 percent fewer social and emotional problems (FIGURE 1).

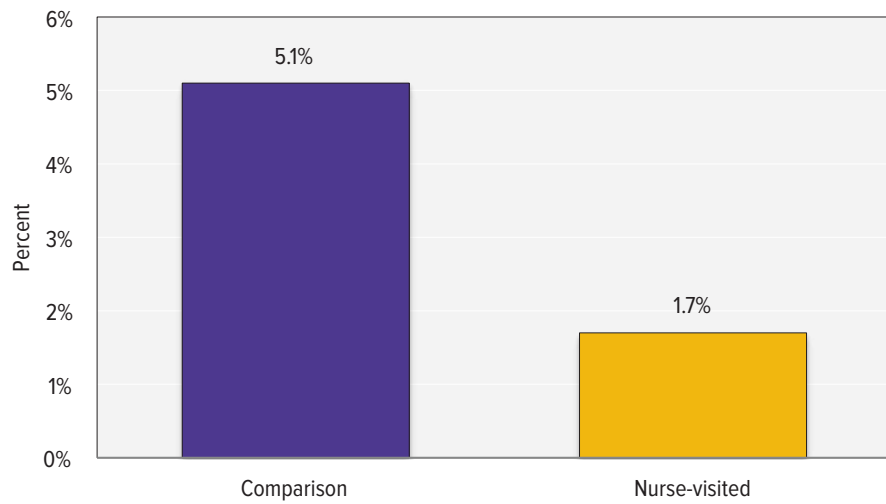
At age 12, nurse-visited children

- reported 83 percent less use of illegal substances (FIGURE 2).
- were 29 percent less likely to report clinically significant symptoms of depression and anxiety (FIGURE 3).

FIGURE 1:  
Percent of  
Children with  
Socio-emotional  
Problems at Age  
6 in Comparison  
and Nurse-Visited  
Groups

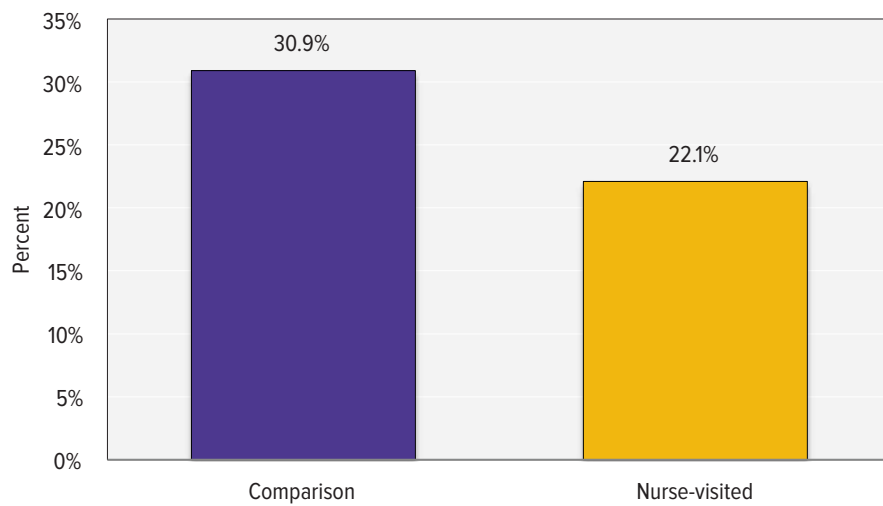
Source: Kitzman HJ, Olds, DL, Cole, RE, et al. Enduring effects of prenatal and infancy home visits by nurses on children. Archives of Pediatric and Adolescent Medicine. 2010; 164(5):412-418.





**FIGURE 2:**  
Percent of 12-year Old Children Who Used Tobacco, Alcohol, or Marijuana at Age 12 in Comparison and Nurse-Visited Groups

Source: Kitzman HJ, Olds, DL, Cole, RE, et al. Enduring effects of prenatal and infancy home visits by nurses on children. Archives of Pediatric and Adolescent Medicine. 2010; 164(5):412-418.

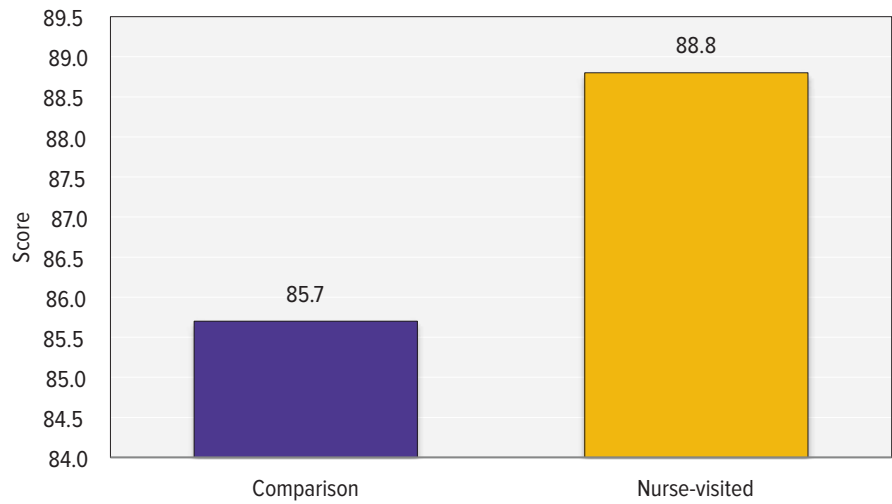


**FIGURE 3:**  
Percent of Depression/Anxiety Among 12-Year Old Children in Comparison and Nurse-Visited Groups

Source: Kitzman HJ, Olds, DL, Cole, RE, et al. Enduring effects of prenatal and infancy home visits by nurses on children. Archives of Pediatric and Adolescent Medicine. 2010; 164(5):412-418.

**FIGURE 4:**  
Average Reading  
and Math Achieve-  
ment Test Scores  
Among 12-Year  
Old Children (Born  
to Mothers With  
Low Psychological  
Resources) in Com-  
parison and Nurse-  
Visited Groups

Source: Kitzman HJ, Olds, DL, Cole, RE, et al. Enduring effects of prenatal and infancy home visits by nurses on children. *Archives of Pediatric and Adolescent Medicine*. 2010; 164(5):412-418.



Many benefits of the program were more pronounced among mothers who had fewer psychological resources at the time they enrolled in the study. Past research shows that mothers with more symptoms of depression and anxiety, lower intellectual functioning, and limited sense of control over their lives often find it harder to care for their children effectively compared to mothers with more psychological resources. Evaluation results suggest that NFP may be particularly beneficial for these families:

- Program effects on childhood injuries were stronger for children of mothers with low psychological resources.
- Effects on cognitive and language functioning at age 12 were more pronounced among children of low-resource mothers (FIGURE 4).

## Family Economic Well-Being

Nurse-Family Partnership families also fared better on measures of economic well-being. In the years between enrollment and the 12-year follow-up, families visited by nurses used fewer government entitlement services (Medicaid, food stamps, and cash assistance) than families in the comparison group. This reduced federal spending by about \$12,300 per family (in 2006 dollars), which was more than the cost of providing the NFP program (\$11,500 in 2006 dollars). In other words, public investment in NFP was returned through its effects on these three entitlement programs alone.

## Conclusion

The Memphis Nurse-Family Partnership program was delivered through the Memphis/Shelby County Health Department. Because we reached such a large portion of the eligible population and provided the program through a local institution, we believe that the findings of this study have broad applicability to families in need throughout the community.

Today, the Nurse-Family Partnership serves families in Memphis through Le Bonheur Children's Hospital. It is also being expanded throughout the United States and in six other developed countries—in large part because of its remarkable success in Memphis. Additional information on the NFP can be found on its website: [www.nursefamilypartnership.org](http://www.nursefamilypartnership.org).

## References:

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