



**INVEST IN KIDS & NURSE-FAMILY PARTNERSHIP: IMPROVING THE HEALTH AND WELL BEING OF COLORADO'S CHILDREN**



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"There is a magic window during pregnancy...it's a time when the desire to be a good mother and raise a healthy, happy child creates motivation to overcome incredible obstacles including poverty, instability or abuse with the help of a well-trained nurse."

David Olds, PhD, Founder, Nurse-Family Partnership



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**NURSE-FAMILY PARTNERSHIP IS...**

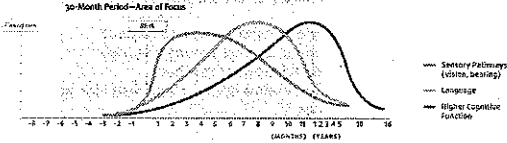
- An evidence-based, community health program
- Transforming lives of vulnerable first-time mothers living in poverty
- Improving prenatal care, quality of parenting and life prospects for mothers by partnering them with a registered nurse

Every dollar invested in Nurse-Family Partnership can yield **more than five dollars in return.**

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Human Brain Development  
Synapse formation dependent on early experiences

30-Month Period—Age of Focus



Source: Nelson, C.A., From Neurosciences to Neighborhoods (2009). Shonkoff, J. & Phillips, D. (Eds.)

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PROGRAM GOALS	KEY PROGRAM COMPONENTS	WHY NURSES?
<ul style="list-style-type: none"> <li>• Improve pregnancy outcomes</li> <li>• Improve child health and development</li> <li>• Improve parents' economic self-sufficiency</li> </ul>	<ul style="list-style-type: none"> <li>• First-time, at-risk mothers</li> <li>• Registered nurses</li> <li>• Intensive services (intensity, duration)</li> <li>• Focus on behavior</li> <li>• Program fidelity (Clinical Information System)</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge, judgment and skills</li> <li>• High level of trust, low stigma</li> <li>• Credibility and perceived authority</li> <li>• Nursing theory and practice at core of original model</li> </ul>

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**HOME VISIT OVERVIEW**

<p><b>Personal Health</b></p> <ul style="list-style-type: none"> <li>Health Maintenance Practices</li> <li>Nutrition and Exercise</li> <li>Substance Use</li> <li>Mental Health Functioning</li> </ul>	<p><b>Maternal Role</b></p> <ul style="list-style-type: none"> <li>Mothering Role</li> <li>Physical Care</li> <li>Behavioral and Emotional Care</li> </ul>
<p><b>Environmental Health</b></p> <ul style="list-style-type: none"> <li>Home</li> <li>Work, School, and Neighborhood</li> </ul>	<p><b>Family and Friends</b></p> <ul style="list-style-type: none"> <li>Personal network Relationships</li> <li>Assistance with Childcare</li> </ul>
<p><b>Life Course Development</b></p> <ul style="list-style-type: none"> <li>Family Planning</li> <li>Education and Livelihood</li> </ul>	<p><b>Health and Human Services</b></p> <ul style="list-style-type: none"> <li>Service Utilization</li> </ul>

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## EVIDENCE-BASED POLICY

The Coalition for Evidence-Based Policy has cited Nurse-Family Partnership -

"as one of only two interventions meeting the Top Tier, and if implemented more broadly, could help spark rapid progress against major national problems."

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## PROGRAM TRIALS



1977

Elmira, NY

Participants: 400

Population: Low-income whites

Studied: Semi-rural area

1988

Memphis, TN

Participants: 1,139

Population: Low-income blacks

Studied: Urban area

1994

Denver, CO

Participants: 735

Population: Large portion of Hispanics

Studied: Nurse and paraprofessionals

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## LASTING IMPACTS

The following outcomes have been observed among participants in at least one of the three NFP controlled program trials:

- 48% reduction in child abuse and neglect
- 59% reduction in arrests among children
- 72% fewer convictions of mothers
- 56% reduction in emergency room visits for accidents and poisonings
- 67% reduction in behavioral and intellectual problems among children

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"The great thing about Nurse-Family Partnership is that it works. To put it simply...it decreases about everything you want to decrease and increases about everything you'd want it to increase."

Thomas Frieden,  
Commissioner New York City Dept. of Health & Mental Hygiene

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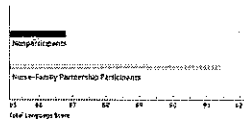


Academic Achievement  
Grades 1-3, Age 9 - Memphis  
(Born to low-resource mothers)



Source: Reproduced with permission from Pediatrics, Vol. 120, 683L, Copyright © 2007 by the AAP.

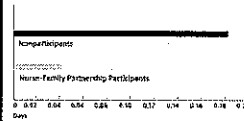
Freschool Language Scale  
Age 4 - Denver  
(Born to low-resource mothers)



Source: Reproduced with permission from Pediatrics, Vol. 111, 136L, Copyright © 2004 by the AAP.

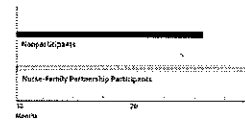
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Days Hospitalized for injuries  
Birth to age 2 - Memphis



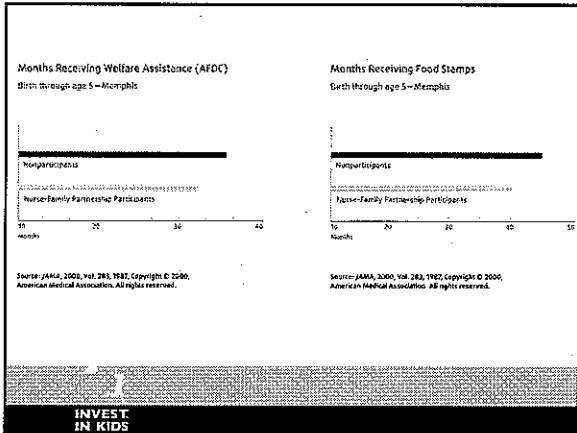
Source: JAMA, 1997, Vol. 278, 650, Copyright © 1997, American Medical Association. All rights reserved.

Months Between Births  
Between first and second child  
(by first child's fifth birthday) - Memphis



Source: JAMA, 2000, Vol. 283, 1882, Copyright © 2000, American Medical Association. All rights reserved.

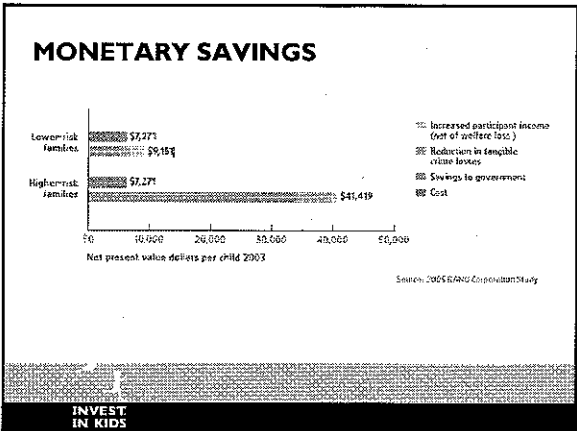
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"If communities are truly interested in making sound investments that will yield high public and private gains in both the long and short run, they would fare far better by investing in evidence-based, early child development initiatives like Nurse-Family Partnership than in professional sports stadiums or office towers."

Rob Grunewald,  
Associate Economist, Federal Reserve Bank of Minneapolis

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### NURSE-FAMILY PARTNERSHIP IS COST-EFFECTIVE

- Nurse-Family Partnership returns more than \$18,000 over and above program costs for each family enrolled (*Washington State Institute of Public Policy 2008*)
- Savings accrue to government from decreased spending on\*
  - health care
  - child protection
  - education
  - criminal justice
  - mental health
  - public assistance
- Savings also accrue to government from increased taxes paid by employed parents - \$5.70 per dollar invested \*

\* (RAND Corporation 1998, 2005)

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"This program saves money. It raises healthy babies and creates better parents. It reduced childhood injuries and unintended pregnancies, increased father involvement and women's employment, reduced use of welfare and food stamps, and increased children's school readiness. And it produced more than \$28,000 in net savings for every high-risk family enrolled in the program."

Barack Obama, U.S. President

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### COLORADO REPLICATION

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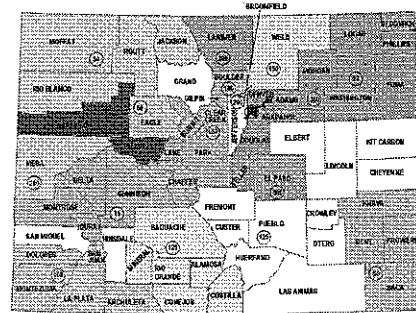
## COLORADO PARTNERS

The Nurse-Family Partnership, also known in Colorado as the Nurse Home Visitor Program (NHVP), is managed by a four part team including:

- Invest in Kids
- University of Colorado at Denver Anschutz Medical Campus
- Nurse-Family Partnership® National Service Office
- Colorado Department of Public Health and Environment

The program is funded through a portion of Colorado's Master Tobacco Settlement Agreement funds and a federal Medicaid match.

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## COLORADO NFP CLIENT DEMOGRAPHICS

- A total of 11,030 women have been enrolled in the program since inception
- Clients range in age from 11-44 years, with a median age of 19
- Median Annual household income of \$13,500
- 80% of clients were unmarried at program entry
- Median level of education was 10 years

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## COLORADO NFP OUTCOMES

- 91% of babies were born full-term
- Immunization rates for NFP infants and toddlers are over 92% (vs. Colorado immunization rate of 78%)
- 89% of NFP mothers report breast feeding at birth; 34% continue to breast feed at 6 months
- 20% reduction in cigarette smoking among mothers during pregnancy
- 41% of mothers who completed the program and did not have a diploma/GED at intake earned their diploma/GED

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## FOR MORE INFORMATION:

Lisa Merlino  
Executive Director  
Invest in Kids  
1775 Sherman Street, Suite 2075  
Denver, CO 80203  
[lmerlino@iik.org](mailto:lmerlino@iik.org)  
303.839.1808 ext. 103  
[www.iik.org](http://www.iik.org)

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**STATE PROFILE 2008**

**NURSE-FAMILY PARTNERSHIP IN COLORADO**

Nurse-Family Partnership is an evidence-based, community health program that helps transform the lives of vulnerable mothers pregnant with their first child. Each mother we serve is partnered with a registered nurse early in her pregnancy and receives ongoing nurse home visits that continue through her child's second birthday. Independent research proves that communities benefit from this relationship — every dollar invested in Nurse-Family Partnership can yield more than five dollars in return.

**NURSE-FAMILY PARTNERSHIP GOALS**

1. Improve pregnancy outcomes by helping women engage in good preventive health practices, including thorough prenatal care from their healthcare providers, improving their diets, and reducing their use of cigarettes, alcohol and illegal substances
2. Improve child health and development by helping parents provide responsible and competent care
3. Improve the economic self-sufficiency of the family by helping parents develop a vision for their own future, plan future pregnancies, continue their education and find work

**Positive Outcomes for Clients Served by Colorado's Nurse-Family Partnership**

**41%** of mothers who completed the program and who did not have a diploma/GED at intake earned their diploma/GED

**46%** reduction in domestic violence during pregnancy

**91%** of babies were born full-term

**92%** of children received all recommended immunizations by 24 months

**CLIENT DEMOGRAPHICS**

- At intake
- Median age: 19
- 80% Unmarried
- 70% Medicaid recipients
- 47% Hispanic
- 41% Non-Hispanic White
- 5% Multiracial/other
- 3% African-American
- 2% Native-American
- 1% Asian

Data as of September 2008



In Colorado, Nurse-Family Partnership (NFP) programs are currently being implemented in the following 52 counties: Adams, Alamosa, Arapahoe, Archuleta, Baca, Bent, Boulder, Broomfield, Chaffee, Clear Creek, Conejos, Costilla, Delta, Denver, Dolores, Douglas, Eagle, El Paso, Garfield, Gilpin, Gunnison, Huerfano, Jackson, Jefferson, Kiowa, La Plata, Lake, Larimer, Logan, Mesa, Mineral, Moffat, Montezuma, Montrose, Morgan, Ouray, Park, Phillips, Pitkin, Prowers, Pueblo, Rio Blanco, Rio Grande, Routt, Saguache, San Juan, Sedgwick, Summit, Teller, Washington, Weld, Yuma.

#### IMPLEMENTING AGENCY CONTEXT

Nurse-Family Partnership is a state-wide initiative, serving families in 52 of Colorado's 64 counties. Nineteen individual agencies operate NFP sites. These agencies consist of public health departments, community health centers, community nursing agencies, and hospital systems.

In Colorado, Nurse-Family Partnership is managed by a four-part team including the Colorado Department of Public Health and Environment; the National Center for Children, Families and Communities/University of Colorado at Denver Health Sciences Center; the Nurse-Family Partnership National Service Office; and Invest in Kids.

#### FUNDING AND POLITICAL CONTEXT

Invest in Kids (IIK) is committed to promoting the success of the NFP in Colorado, and has worked to ensure long-term, sustainable funding for the program. Beginning in 1999, IIK met with numerous Colorado legislators to explain the importance and effectiveness of the program.

As a result, the Colorado General Assembly passed the Nurse Home Visitor Act in the 2000 legislative session. The Act allocates a portion of Colorado's share of the tobacco settlement proceeds to NFP each year. The funding for the program is supplemented with a federal Medicaid match.

#### PUBLIC HEALTH PROGRAM WITH PROVEN AND MEASURABLE RESULTS

##### Societal Benefits

Nurse-Family Partnership is one of the only community health programs that is based on evidence from randomized, controlled trials – 30 years of research proves that it works. This evidence shows our clients – eligible first-time mothers – that if they follow the program and work with their nurse, they can transform their lives and the lives of their children. Moreover, independent policy research makes clear that every public health dollar policymakers and the communities invest in Nurse-Family Partnership could realize more than five dollars in return.

##### National Recognition

- The Washington State Institute for Public Policy, The RAND Corporation and The Brookings Institution have concluded that investments in Nurse-Family Partnership lead to significant returns to society and government, giving taxpayers a \$2.88-5.70 return per dollar invested in the program.
- Office of Juvenile Justice & Delinquency Prevention (OJJDP) recognizes Nurse-Family Partnership as an Exemplary Model Program.
- The Coalition for Evidence-Based Policy identifies Nurse-Family Partnership as meeting its "Top Tier" evidence of effectiveness.
- The Center for the Study and Prevention of Violence reviewed over 650 programs with published research in peer-reviewed literature. Nurse-Family Partnership is one of only 6% of the programs that clearly work, or even appear promising. The Center fully supports and endorses NFP as one of its "Blueprints" programs.



In partnership with the national Nurse-Family Partnership office, Invest in Kids is responsible for program development, clinical consultation and general support for agencies delivering NFP in Colorado. [www.iik.org](http://www.iik.org)



Nineteen and pregnant, Amanda had a lot on her plate, so she didn't need any aggravation—but that's just what she was getting. Her boyfriend, the father of her unborn child, got louder, wanting to argue, as he stood aggressively over Amanda who was sitting at the kitchen table. That's when Valerie stepped in.



Amanda's son, Nolan

Valerie Carberry, a nurse home visitor with Nurse-Family Partnership® (NFP), had been sitting with Amanda, offering advice for a healthy pregnancy, when the tirade began. Until now, Valerie had only seen his warm and engaging side—the side that had quickly charmed her young client and led to a pregnancy just five months later.

Valerie looked straight at the young man and asked him to step outside. "You're out of line," she said firmly before issuing a threat of her own: if he didn't calm down, she would call the police. While he stewed, Valerie, cell phone in hand, turned her attention to Amanda. "Do you want me to call 9-1-1?"

"No," replied Amanda, though she looked uncertain. Valerie was not content to leave matters where they stood. "He's just cooling off because I'm here," she said. "You have got to have a safety plan," she added, handing her phone numbers for women's shelters in this part of Colorado. Amanda jotted them down and tucked the list away. "I walked out of that visit going, 'Oh my,'" Valerie would recall later. "But at least we had something in place."

Amanda did not flee that day, but the wheels in her head had begun to turn—perhaps she could create a brand new life for herself and her unborn child, she thought to herself.

In the three months since her initial meeting with Valerie, Amanda had shared the most intimate details of her family history: her mother's periodic bouts with homelessness, how she herself had ended up living in her car after her father and stepmother were divorced, a family tree with step-siblings and half-siblings and other relationships almost too complicated to sort out. And then there were the troubling reports about her boyfriend's behavior. Not only did he regularly chastise Amanda about gaining weight, he made fun of her acne, which flared up due to stress. And he called her names.

These ongoing revelations left Valerie feeling a bit shell-shocked—but she was more than prepared. Though new to NFP, Valerie was an experienced public health nurse, and the NFP program provided her with an arsenal of proven materials to use throughout a carefully designed course of action. She began by shoring up her client's self-esteem just as a builder would reinforce a foundation before doing anything else.

Amanda, who had been concerned that she wouldn't be a good mother due to her own troubled background, slowly began to recognize the direct correlation between excellent prenatal care and successful parenting. She was diligent about her medical appointments, diet and health. "I stopped dying my hair and tanning. I didn't even microwave when I was pregnant!" Amanda says now, looking back. Valerie complimented Amanda on every positive step, and continually reminded her that these were, in fact, the very first steps in becoming a good mother.

Amanda continued to endure stress in her relationship—at one point she fled to her mother's home in Florida, only to



Amanda and her son Nolan

Through the resources made available to her, Amanda was able to enroll in college and move into her own apartment. In May 2009, she graduated with an Associate Degree in General Studies, and she plans to study speech therapy when Nolan is a little older.

return to her boyfriend when he “sweet-talked” her into coming home—but in October 2006 she delivered a healthy baby boy. Amanda’s already strong maternal instincts were further reinforced by Valerie, who complimented Amanda when little Nolan gained weight. One of the highlights of their visits was weighing the little boy on the scale Valerie brought along with her. Four ounces equaled victory, and clearly, Nolan was thriving under Amanda’s care. “She took to it like a duck to water,” Valerie says. “I was just so motivated and high on being a mom,” says Amanda. “It’s like I was born to be a mom.”

By the time Nolan was six weeks old, however, Amanda began to “crash and burn,” recalls Valerie, who saw the signs of post-partum depression during her visits. Always fastidious about her housecleaning, Amanda would let the dishes pile up in the sink. The baby’s father wasn’t helping out much, and a new cycle of violence had begun.

When Nolan was three months old, Amanda says her boyfriend choked her as he held her over their son’s crib. “I couldn’t help but think how this would have scarred him for life if he had been five years old and could remember it,” says Amanda. It was finally time to put into effect the flight plan she had developed with Valerie all those months ago.

Scared but determined, Amanda called the police, who arrested her partner. By the time he made bail and returned to their apartment, Amanda had relocated to a shelter with her son. “Before, I remember always thinking I was going to be stuck,” says Amanda. “But it wasn’t just me now. I knew I could do it—but I didn’t know how.”

Always nearby to encourage her client and affirm that she had done exactly the right thing was Valerie, who continued to meet with Amanda in the shelter. Through the resources made available to her there, Amanda was able to enroll in college and move into her own apartment. In May 2009, she graduated with an Associate Degree and plans to study

speech therapy when Nolan is a little older. Nolan’s father provides financial support and visits with him regularly, but Amanda is through with him romantically and is currently dating a man who, as she puts it, “would rather *die* than lay a hand on me.”

Today, the most challenging male in her life is little Nolan, a bright and rambunctious boy who is living his version of the Terrible Twos. “I thought I was going to get away clean with a really even-tempered baby,” laughs Amanda. She watches instructional videos about child behavior and has even been known to throw a tantrum to mimic Nolan’s own, after reading about this technique. “It really works!” she says. Of course, Valerie is still there to help. While on a recent outing with Nolan and Valerie, Amanda watched in awe as Valerie demonstrated how to keep the blue-eyed boy engaged—and calm—in a busy public setting.

“The program is awesome,” says Amanda, who graduated from NFP when Nolan turned two. “I don’t think I would have left Nolan’s father if Valerie hadn’t told me that what he was doing was wrong. She was that one voice. That’s all I needed. She never made it sound like I couldn’t do it. She used to tell me all the time I was a survivor. She really believed in me.”

Valerie tears up when told of Amanda’s heart-felt expression of gratitude, as if she had never quite realized the impact she’s had on her former client. “She did all the work,” Valerie replies modestly. “She just needed the consistency of someone saying, ‘You can do it.’”

*This Nurse-Family Partnership program is implemented through the Jefferson County Department of Health & Environment in Golden, Colorado.*



In partnership with the national Nurse-Family Partnership office, Invest in Kids is responsible for program development, clinical consultation and general support for agencies delivering NFP in Colorado. [www.iik.org](http://www.iik.org)