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The Center for Research on Children in the U.S. (CROCUS), Center for Juvenile Justice Reform & Georgetown Public Policy Institute

Home Visitation Programs as an Early Intervention Strategy

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Home Visitation Programs as an Early Intervention Strategy

The panel features the following speakers:

- Dr. David Olds, Professor of Pediatrics, University of Colorado-Denver
- Dr. Bill Gormley, Interim Dean, Georgetown Public Policy Institute
- Shay Bilchik, J.D., Director, Center for Juvenile Justice Reform, Georgetown Public Policy Institute
- Nicholas Gwyn, Senior Staff Member, Income Security & Family Support Subcommittee, Ways and Means Committee, U.S. House of Representatives

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Barack Obama's Speech to the Hampton University

Annual Minister's Conference, June 5, 2007

We need to start supporting parents with young children. There is a pioneering Nurse-Family Partnership Program right now that offers home visits by trained registered nurses to low-income mothers and mothers-to-be. They learn how to care for themselves before the baby is born and what to do after. It's common sense to reach out to a young mother. Teach her about changing the baby. Help her understand what all that crying means, and when to get vaccines and check-ups. 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.

This works and I will expand the Nurse-Family Partnership to provide at-home nurse visits for up to 570,000 first-time mothers each year. We can do this. Our God is big enough for that.

Introduction

In reaction to the conditions Dr. David Olds saw in Baltimore, Maryland daycare centers during his undergraduate education, he and his colleagues developed and piloted a home visitation program in Elmira, New York starting in 1977. After two more trials, the Nurse-Family Partnership (NFP) was launched in 1996, and today the program exists in 25 states around the country.

While research has shown for years that early intervention can and does have long-term social and monetary benefits, the issue of home visitation programs specifically has come to the forefront as health care practitioners and politicians realize an opportunity for funding to be linked with the health care reforms occurring today.

Even though other home visitation models are in practice, the Nurse-Family Partnership is the most visible and has been proposed by President Obama as the model to be funded and replicated. Despite NFP's success and documented positive effects, some have argued that the NFP is not the only viable model for promoting maternal and child health.

New Political Interest in Home Visitation Programs

Following up on a campaign promise, President Obama proposed a Federal Home Visitation Program in his Fiscal Year 2010 Budget that was released in May 2009.[i] Citing the Nurse Family Partnership as the model, Obama sought to provide the program with $8.5 billion dollars over 10 years.[ii] As a result of his proposal, there was renewed political interest in home visitation programs and Congress began to take notice.

Because of President Obama's request that the Home Visitation Program be a "mandatory" program, rather than one subject to the yearly appropriations process, a home visitation program provision was added as a part of H. R. 3200, "America's Affordable Health Choices Act of 2009."[iii] Introduced on July 14, 2009 and referred to the Energy and Commerce, Ways and Means, and Education and Labor committees, H.R. 3200 is the main vehicle for health care reform in the House. The section related to home visitation programs was incorporated from an earlier House Bill, H.R. 2667, "Early Support for Families Act," which had been introduced by Representative Jim McDermott (D – Washington) on June 2, 2009 and was also referred to the Ways and Means Committee.[iv] There were few changes from the original bill, with the notable exception that the new version was authorized as a five-year, $750 million program rather than the $2 billion program that H.R. 2667 originally authorized. By July 31, 2009, all three committees had passed their portions of the bill. It is currently awaiting action from the full House.

In the Senate, the home visitation program remains a stand-alone bill. Though the Health, Education, Labor and Pensions Committee passed a health care bill on July 15, 2009, it did not include a provision for home visitation programs. There is a bill, however, moving through the Finance Committee. S. 1267, "Evidence-Based Home Visitation Act of 2009," was introduced by Senator Robert Menendez (D – New Jersey) on June 16, 2009.[v] Similar to H.R. 2667, it appropriates $2 billion dollars to home visitation programs. However, it has additional requirements, requiring the funding of models with the "strongest evidence of effectiveness" as defined by evaluations which demonstrate success along a number of child and family outcomes. The Finance

Committee's plan (specifically, the Chairman's mark, presented by Committee Chair Max Baucus) includes a provision for home visitation programs by grants to states. The grantees would be "required to use an evidence-based program model" that has "been in existence for at least three years and is research-based, grounded in empirically-based knowledge, linked to program determined outcomes…and has demonstrated significant and sustained positive outcomes."[vi]

Because of the interest in home visitation programs as a result of the health care reform debate, much more focus and attention has been given to these programs, and in particular, the Nurse-Family Partnership.

The Importance of Early Intervention

Notwithstanding the current focus, early intervention has long been a subject of interest to practitioners and politicians alike. Research in the area of early childhood development has identified several risk factors that are correlated with delays in developmental benchmarks. A recent report by Child Trends found that for infants born to families with low incomes, racial and ethnic minorities, mothers with low maternal education or non-English speaking homes, statistically significant differences in cognitive development, health and socio-emotional development can be seen as early as 9 months. By 24 months, nearly all of the toddlers along these sociodemographic risk factors showed significant disparities. [vii]

In addition to early deficits, these same socioeconomic characteristics have been linked to the short-term effects of child abuse and neglect as well as longer term effects like juvenile delinquency and adult criminal history.[viii] One study found that youth who

were maltreated in childhood self-reported significantly more delinquent behavior than those who were never maltreated.[ix] Another study found that early child abuse increased the risk of being arrested for a violent crime as a juvenile by 96%.[x]

In the face of this knowledge, researchers have looked for ways to intervene early in a child's life to improve the chances for positive outcomes. Looking at preschool programs, a significant amount of recent research suggests that high quality pre-K programs can enhance school readiness.[xi] Participation in preschool programs for low-income children has also been associated with better educational and social outcomes as much as twenty years later. For example, children who participated in a Chicago preschool program for one or two years had a higher rate of high school completion, completed more years of education, and had lower rates of juvenile arrests, violent arrests and school dropout.[xii] Benefits from a cost-benefit perspective are also positive. In Wisconsin, preschool programs saw returns between $2.02 and $17.07 per dollar invested.[xiii]

Nurse-Family Partnership: An Overview

Recognizing that gains could be realized in preschool, Dr. Olds and his colleagues hypothesized that an intervention need not wait until the child was three. Interventions could begin before the child was born. By improving parenting skills and the life-directions of at-risk parents, the outcomes for their children could also be improved. After the trials showed that home visitation programs did improve outcomes for children and their families, in 1996 a small multi-disciplinary team began replication. In 2000, the team grew and became part of the National Center for Children, Families and

Communities (NCCFC) at the University of Colorado Health Sciences Center. In 2003, the Nurse-Family Partnership National Service Office incorporated as a non-profit organization.[xiv]

The Nurse Family Partnership program has three main goals: 1) to improve pregnancy outcomes by improving prenatal health; 2) to improve children's health by teaching parents to provide more sensitive and appropriate care; and 3) to improve parental life-courses by helping them plan future pregnancies, complete education, and find employment.[xv] The program also had secondary goals of encouraging positive relationships between family and friends and of enhancing support that families receive by introducing them to community health and social services.

The Philosophy: Focus on First-Time Mothers

The initial three clinical trials were done in Elmira, New York, Memphis, Tennessee, and Denver, Colorado and focused on first-time mothers. In Elmira, any woman bearing her first child could register for the program, but the other trials actively recruited women who were low-income, unmarried, and adolescent. This group of women was targeted because the issues NFP was designed to address are more highly concentrated in this segment of the population.[xvi]

The designers believed that first-time mothers would be more open to home-visitation services for pregnancy and raising a child than women who already had children. They also posited that the residual effect of the program would be greater as women continue to utilize the skills they learned in raising future children. Additionally,

the program was designed to help parents complete their education and find a job by helping them plan their timing for future children.[xvii]

The Theories: Human Ecology, Self-Efficacy and Attachment

NFP is a theory-driven program. The first theory that drives NFP is human ecology theory, which emphasizes the influence of social networks in human development. Based on this theory, the nurses aim to enhance the material and social environment of the family by involving family members, especially the father, in the home visits and to link family members with the necessary health and human services in the community.[xviii]

Self-efficacy theory suggests that an individual's perception of control and differences in motivation influence the choices they make. To provide encouragement, the nurses help participants start by setting smaller, reachable goals. Once those are achieved, parents experience success and increase their belief that they can also reach other goals. These achievements supply women with a framework of success based on effort that they can use to make decisions about their health care during pregnancy, in raising a child, and in attaining their life goals.[xix]

Finally, the program is based on attachment theory, which hypothesizes that a caregiver's responsiveness to her child is based on how she was raised and her own attachment experiences. Nurses try to build empathic and trusting relationships with the participants in order to help them see themselves as women deserving support, attention, and love who can then provide the same support and attention to their children.

The Results: Elmira, Memphis and Denver

In Elmira, nurse-visited women smoked less by the end of pregnancy, families had fewer hazards in the home,[xx] and children had 40% fewer injuries or ingestions and 45% fewer notations of child behavioral problems.[xxi] Among low-income, unmarried women, participants spent less time on food stamps, less time on Aid to Families with Dependent Children, had fewer pregnancies, and longer intervals between births than similar women in the control group.[xxii] After fifteen years, children that were nurse-visited had fewer arrests, convictions, violations of probation, runaway instances, sexual partners, and consumed less alcohol than the children of women in the comparison group.[xxiii]

In Memphis, nurse-visited women attempted breast-feeding more often, and children of the participants had fewer injuries and ingestions, and children spent less time in the hospital. Participant women held fewer beliefs about childrearing that are associated with abuse and neglect, and also had fewer subsequent births than the comparison women.[xxiv] In the long-term follow-up visits, nurse-visited women had fewer children, were less likely to have a child die from preventable causes, spent longer periods of time in their current relationships, and spent less time on welfare and food stamps. Their children had higher intellectual functioning, higher vocabulary scores, higher GPAs, higher math and reaching achievement scores, fewer behavioral problems, and lower levels of aggression.[xxv]

In Denver, nurse-visited women smoked less by the end of pregnancy. Children that were nurse-visited exhibited less vulnerability, had fewer language delays, superior language skills, superior mental development, and were more responsive in their

interactions with parents. After four years, participant women continued to have greater time intervals between children and fewer cases of domestic violence. To answer the question of whether the program effects varied by nurse-visited participants and families visited by paraprofessionals, Dr. Olds randomly assigned participants to one of three groups: nurse-visited, paraprofessional-visited, or control. They found that the effects with paraprofessional visits were about half those of nurse visitors,[xxvi] but they found that paraprofessional visits had no effects on women's prenatal health.[xxvii]

The Program: Design and Funding

Mothers are enrolled through the end of the second trimester of pregnancy. The frequency of visits varies by family and changes as the pregnancy progresses, with families in crisis receiving more frequent visits. The nurses follow specific visit-by-visit guidelines, with the content designed to be in line with the challenges the parents are likely facing at that point in the pregnancy or the baby's development. For the first six months after birth, families receive weekly visits. The visits become bi-weekly until the child is 20 months old, then monthly until the child's second birthday.

Funding for the program is provided through a combination of private, local, state and federal funds. The Robert Wood Johnson, Edna McConnell Clark, Bill & Melinda Gates, Kellogg, Picower, and Kresge Foundations made substantial investments in 2008 to support pilot sites. The program also receives funding from federal sources like Medicaid, Temporary Assistance for Needy Families (TANF) and Healthy Start as well as juvenile justice and child abuse prevention funds from the Administration for Children and Families, and state and local general revenue.[xxviii]

Effectiveness: A Cost-Benefit Analysis

The RAND Corporation and Washington State Institute for Public Policy have both performed a cost-benefit analysis of NFP and have found that benefits outweigh costs, with savings seen through increased maternal employment creating tax revenues, lower use of public welfare, reduced spending on health costs and other services, and decreased involvement in the criminal justice system. The savings were far larger for the higher-risk group, with a savings of $5.70 per dollar invested.[xxix] RAND found that this amounts to a savings of $18,611, or over four times the cost of the program.[xxx] In contrast, they found that the savings for the lower-risk group was still positive, but only $1.26 per dollar invested.[xxxi] The Washington State Institute for Public Policy found a slightly lower but still positive savings of $18,045 for the program for low income mothers. Their calculation found that the savings amounts to a $3.02 benefit per dollar of cost.[xxxii] In a recent report, the Coalition for Evidence-Based Policy has identified NFP as the only program in the early childhood range that meets its top tier of evidence.[xxxiii]

Other Home Visiting Programs[xxxiv]

Though well-known, the Nurse-Family Partnership Program is not the only home visitation model. There are a number of programs that have been developed to deliver services to families in the home. Many, but not all, of these programs focus on families that are considered high-risk, though the programs differ in both their goals and how participants are chosen. These programs vary slightly in their goals, but in general they aim to enhance children's development, improve parental skills, decrease parental

isolation, and reduce child abuse and neglect. The professional who visits the home varies by the program. Some programs utilize nurses, while others use paraprofessionals, psychologists, family support workers, or college graduates with home visiting experience.

Hawaii Healthy Start Program (HSP)

The goal of HSP is to prevent child abuse by identifying high-risk families early, teaching parenting skills, preventing child abuse and neglect by providing home-based support by trained paraprofessionals. It serves families with newborn children and continues for three to five years. The families receive training in parenting skills and connect families with other community supports available. At-risk families are screened, and those identified receive training. HSP is currently operating in ten sites within Hawaii. The most comprehensive evaluation of HSP took place on Oahu, which hosts six of the ten HSP sites.

Healthy Families America (HFA)

HFA is modeled after HSP and has similar goals of identifying risks early, improving parenting skills, and preventing child abuse through support from paraprofessionals. The program serves disadvantaged women and starts prenatally or shortly after the birth of the child and continues for three to five years. HFA operates in twenty-two states and DC, but only three have conducted rigorous evaluations (San Diego, Alaska, and New York State).

Comprehensive Child Development Program (CCDP)

CCDP is a federally funded program designed to enhance children's development, support parents, and assist families with economic self sufficiency. Families are assigned a case manager who is a paraprofessional and are linked to community resources. Additionally, home-visits are used for teaching parenting skills. Families receive visits bi-monthly for the first year of a child's life that continue until the child enters school. Evaluations of the program consist of annual assessments on the child's birthday for ages two through five and smaller assessments at 18 and 30 months.

Infant Health and Development Program (IHDP)

IHDP is targeted towards families with premature infants with low or very low birth weights. Families are visited by college graduates with home visiting experience weekly during the first year and then bi-weekly for the second and third years. Additionally, during the second and third years, children receive high-quality full-day child care, and parents are encouraged to attend bi-monthly parent group meetings. Outcomes are assessed for children at one year and at the end of the program.

Early Head Start (EHS)

EHS is federally funded and is aimed at children who are not yet old enough to qualify for the regular Head Start Program. The goal of EHS is to enhance children's development and support and strengthen the families. Only low-income families are eligible and are recruited during pregnancy or the first year of a child's life. The program includes parent education as well as high-quality care and education for children. Home-

visiting is a component of EHS, but many of the services are delivered via centers. Paraprofessionals serve in both the home visiting role and in the centers. An evaluation has been done at 17 sites which uses baseline assessments as well as follow-up assessments when the child is fourteen, twenty-four, and thirty-six months of age.

Table 1 below summarizes the program design of the different home visitation programs.

Table 1. Home-Visiting Programs and Their Characteristics

Program	Stated goals	Frequency and duration of home visits	Population served	Background of
Nurse-Family Partnership	Improved pregnancy outcomes Parenting skills Maternal life course	Prenatally through 24 months	Low-income, first-time mothers	Public health nurse
Hawaii Healthy Start	Early identification of risks Improved parenting skills Prevent child abuse and neglect	Birth to 3 to 5 years	Families identified as at-risk using a screening tool	Paraprofessionals
Healthy Families America	Early identification of risks Parenting skills Prevent child abuse and neglect	Prenatal or birth until school entry	Low-income families with children	Paraprofessionals
Comprehensive Child Development Program	Enhance children's development Support parents Assist families with economic self-sufficiency	Biweekly hour-long visits beginning in the first year of life until school entry	Low-birthweight infants and their families	Paraprofessionals
Infant Health and Development Program	Enhance the development of premature, low-birthweight babies	Weekly until 12 months, then biweekly until 36 months	Low-income families with children	College graduates experience
Early Head Start	Enhance children's development Support and strengthen families	Weekly for the first month, then varied based on family risk. Average duration is 24 months	Families identified as at-risk using a screening tool	Trained paraprofes

Howard & Brooks-Gunn, 2007

Characteristics of Effective Home Visitation Programs

Table 2 below summarizes the effects of the programs based on the results they generally hoped to achieve. Overall, home visitation programs show a mixed ability to achieve their goals. In every domain, some programs were effective while others were not. Furthermore, some programs show mixed effects, with positive results only seen for

certain subgroups or at some sites but not others. In these cases, the findings cannot be generalized. Additionally, most studies of home-visiting programs have found it difficult to measure child abuse and neglect or gauge if programs have any effect. Nonetheless, these studies have found benefits for parenting attitudes and behavior and children's cognitive development in some of the programs.[xxxv] Given these findings, certain features of an effective program emerge. Specifically, having nurses as home visitors, targeting intervention and providing a sufficient amount of care are all associated with better outcomes for children and families.

Table 2. The Effects of Home-Visiting Programs on Child Abuse, Health, Parenting, and Depression

Program	Substantiated child abuse and neglect	Parent-report child abuse and neglect	Child health and saftey	Home environment	Parenting responsivitity and sensitivity	Parenting harshness	Depression and parenting stress
NFP - Elmira	Yes		Yes	No	Yes	Yes	No
NFP - Memphis			Yes	No	Mixed		No
NFP - Denver				Yes	Yes		No
Hawaii Healthy Start	No	No	No	No	No		Mixed
HFA - San Diego		Yes	No	No	No	Yes	Mixed
HFA - Alaska	No	Yes	No	Yes	No	Mixed	Mixed
HFA - New York	No	Yes	No			Yes	Mixed
Early Head Start			Yes	Yes	Yes	Yes	Yes
Infant Health and Development Program				Yes	Yes	Yes	Yes
Comprehensive Child Development Program			No	No	No	No	No

Mixed indicates that the findings were isolated to specific sites or subgroups.

A blank box indicates that the outcome was not examined for a particular program.

Howard & Brooks-Gunn, 2007

Home Visitor Credentials

According to Dr. Olds, the expertise that nurses offer is crucial to program success. Both Hawaii Healthy Start and the Comprehensive Child Development Program used paraprofessionals and found no benefits. In contrast, HFA-New York used

paraprofessional home visitors, not all of which had college degrees and still found it produced some positive benefits. To test the theory that nurses are superior to paraprofessionals, NFP Denver families were randomly assigned to three groups: a nurse-visited group, a paraprofessional group, and a control group and reported that the positive effects seen in paraprofessional-visited homes were about half those seen in the nurse-visited homes.[xxxvi]

Targets of Intervention

Most programs offer only services for mothers deemed at risk because of their age, socioeconomic status, educational attainment, or mental health status. However, benefits can also be conferred on more advantaged families, and programs targeted towards only lower socioeconomic groups tend to be less popular among taxpayers. Elmira and Memphis NFP enrolled mostly adolescent mothers, but Denver NFP was more diverse. NFP found the greatest effects among low-income, first-time adolescent mothers, especially for those of low socioeconomic status or with poor mental health.[xxxvii] Similarly, HFA New York targeted a group similar to the participants of NFP and found that it had more positive effects than Healthy Start despite having a similar program model.

Service Delivery

The effectiveness of the programs is strongly associated with the number of visits that take place. Families that receive the highest amount of the intervention benefit the most. The programs that only offer a few visits may show few positive effects because

the families were not exposed to enough of the treatment.[xxxviii] Additionally, program staff must be highly trained and implement the program with fidelity to the model. For instance, the practitioners of Hawaii Healthy Start rarely referred families to community services. This is evidence that the program was not administered with efficacy.[xxxix] Finally, the program should be implemented consistently if it is to be evaluated properly. To qualify as a program that has only the strongest evidence of effectiveness, the implementation sites must be consistent in their models. HFA and Early Head Start services vary by family, leading to great variation and inconsistent results across different sites. In contrast, NFP has a very formal structure, leading to some of its successes in new sites.[xl]

Criticisms

Since being highlighted as a model for home visitation programs in President Obama's 2010 Budget, the NFP model has come under some criticism. Some feel that President Obama as well as the House and Senate, through their endorsement of NFP and its philosophy, unnecessarily limit the number of families that can be reached through home visitation programs. NFP focuses exclusively on low-income, first-time mothers. This is reasonable because cost-benefit analysis demonstrates that focusing on these populations find the largest gains. In Elmira the savings for lower-risk groups were $1.26 per dollar invested while the savings for the higher-risk groups were $5.70 per dollar invested.[xli] However, serving solely first-time parents would mean that 60% of infants would be ineligible for the home visitation program.[xlii] Likewise, families that wanted the services but are not low-income would also not be eligible. Under Congress' plan,

Durham Connect, a home visitation that is available to every family with children in Durham County, North Carolina, may not be provided federal funding should the county decide to continue this program.[xliii]

Moreover, President Obama's budget proposal, H.R. 3200, and S.1267 all require that the majority of funds be distributed to programs that are evidence-based, i.e., proven effective through clinical, randomized trials. While these controlled trials are important to determine if investments in early interventions will have the desired effects, some argue that they cannot speak to how effective the programs will be when they are implemented more widely.[xliv] What has worked under ideal conditions and consistent implementation may be less effective as a large-scale program.[xlv]

Responses to the Criticisms

Although taxpayers may not want to fund a program that only serves certain subgroups, the argument can be made, from the cost-benefit analysis, that implementing these programs with the target population saves taxpayers money. Independent evaluations of NFP clearly support the cost effectiveness of the program for taxpayers.

For a program to be replicated effectively, the model must be followed faithfully. NFP offers a theory-based model with specific instructions on what should be covered in each visit. Because it is so structured, the model is more easily replicated than those programs that vary by location or by family.

Conclusion

Starting as a clinical trial in Elmira, New York, the Nurse-Family Partnership has grown into a successful, thriving program. Republicans and Democrats alike have shown support for the program on the federal and state level in the past. Senator Christopher Bond (R-MO) began championing home visitation programs while Missouri's governor and introduced legislation in the Senate in support of them in 2006 and 2007.[xlvi] In Pennsylvania, both Republican Governor Tom Ridge and Democratic Governor Ed Rendell have supported funding the NFP.[xlvii] Though home visitation programs have been criticized since becoming a part of health care reform debate[xlviii], they constitute a sound, cost-effective means to achieve many of positive outcomes that we want for America's children and families.

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[ii] Ibid.
[iii] H.R. 3200, 2009
[iv] H.R 2667, 2009
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[vi] Senate Finance bill (Chairman's mark) released on September 16, 2009
[vii] Howard & Brooks-Gunn, 2009
[viii] Widom, 2003 and Currie, 1998
[ix] Thornberry, Huizinga & Loeber, 2004

[x] Widom, 2003
[xi] Henry et al. 2003; Gormley & Gayer 2005; Gormley, Phillips & Gayer 2008
[xii] Reynolds et al. 2001
[xiii] Small, Reynolds, O'Connor, & Cooney, 2005
[xiv] Nurse Family Partnership, 2009a
[xv] Olds, 2007
[xvi] Ibid.
[xvii] Ibid.
[xviii] Ibid.
[xix] Ibid.
[xx] Olds, et al, 1986
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[xxv] Olds et al, 2007
[xxvi] Olds, 2007
[xxvii] Ibid.
[xxviii] Nurse-Family Partnership, 2009b
[xxix] Howard & Brooks-Gunn, 2009
[xxx] Karoly, et al, 1998
[xxxi] Ibid.
[xxxii] Lee et al., 2008.
[xxxiii] Coalition for Evidence-Based Policy, 2009
[xxxiv] Information on all other home visiting programs from Howard & Brooks-Gunn, 2009
[xxxv] Howard & Brooks-Gunn, 2009
[xxxvi] Ibid.
[xxxvii] Ibid.
[xxxviii] Ibid.
[xxxix] Ibid.
[xl] Ibid.
[xli] Ibid.
[xlii] Calculations made by author based on CDC Preliminary Birth Data 2007. Hamilton et al, 2009.
[xliii] Daro, Dodge, Weiss, & Zigler, 2009
[xliv] Ibid.
[xlv] Currie, 2001
[xlvi] Child Welfare League of America, 2007.
[xlvii] Stavrakos, Summerville & Johnson, 2009
[xlviii] Some have criticized home visitation programs as leading to more government intrusion into parent's lives as well as increasing abortion counseling. Ferrechio, 2009.