



Healthy Generations

Maternal & Child Health Program
School of Public Health

Childhood
Poverty

UNIVERSITY OF MINNESOTA

The Impact of Childhood Poverty on Health and Development

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Charles Oberg, MD, MPH
Chair, Maternal and Child Health Major
Division of Epidemiology
School of Public Health
University of Minnesota

In his 1960 book, *The Other America*, Michael Harrington helped launch the “war on poverty” when he spoke of the persistence of poverty despite our generally affluent society. He called our attention to the need to open our eyes to the plight of the “invisible poor” and the impact of poverty on their lives.¹ Twenty-five years later, Jonathan Kozol again awakened us to the issue of poverty in his book, *Rachel and Her Children: Homeless Families in America*. In the chapter titled, “The Road to Potter’s Field,” Kozol documented the lament and sorrow of a poor family with an infant who dies in her first year of life from a presumed perinatal infection. Rachel’s baby was born at a low birthweight, visually and hearing impaired, hydrocephalic, developmentally delayed and with a seizure disorder.² Behind the statistics on childhood poverty, there is a face to family impoverishment and the lost potential of our children.

Official Definition of Poverty

The Census Bureau uses a set of money income thresholds that vary by family size and composition to establish the official measure of poverty in the U.S. (see Figure 1). For example, the poverty threshold was \$9,214 in 2001 for a single person, increasing to \$18,022 for a family of one adult and three related children under 18.³

In Figure 2, trend analyses of the overall poverty rate in the U.S. from 1959 to 2001 are shown by age group. The poverty rate for selected age groups has changed substantially over the past four decades since data were first



David Parker, photographer

collected and analyzed. In 1960, 35% of the population—over 5 million people—were poor, with the elderly comprising the largest segment. Since then, there has been a significant reduction in the number of elderly persons living in poverty to a rate of 10.1% in 2001. After 1975, the rate continued a steady decline for those over 65 years, while it increased for children. The poverty rate for children rose to an all time high of 22% in 1982 and again in 1993 equaling the rates observed in the 1960s. Despite a reduction in the childhood poverty rate since 1993, in part due to the strong economy of the 1990s, children remain disproportionately represented among poor Americans, with a rate of 16.3% in 2001.³

This intergenerational comparison reveals the differential policy response to poverty for the two most vulnerable populations since 1959. While we have been able to reduce the poverty rate for senior citizens down below the national average, child poverty remains significantly higher than both the senior population and adults 18-64 years of age.

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We are pleased to present this issue of *Healthy Generations* on childhood poverty. Poverty contributes immensely to the persistence of health disparities in the United States. For the last quarter century, children have had the highest poverty rate compared to either working adults (18-64 years) or senior citizens over 65 years of age. It is no surprise then that children, disproportionately represented among the poor, continue to experience less than optimal health outcomes.

This issue features a number of articles exploring the inter-relationship of childhood poverty and the milieu in which children grow and develop. It also describes successful programs designed to assist families overcome poverty’s grip. We wish to thank the authors for sharing their insights and for their commitment to help families and children get off to a strong start.

- Charles Oberg, MD, MPH and Erica L. Fishman, MSW, MPH



The Impact of Childhood Poverty on Health and Development

Continued from front page

Figure 1. Poverty Thresholds in 2001 by Size of Family and Number of Related Children Under 18 Years (U.S. Dollars)

Size of Family Unit	Related Children Under 18 Years									
	None	One	Two	Three	Four	Five	Six	Seven	Eight +	
One person (unrelated individual)										
Under 65 years.....	9,214									
65 years and over.....	8,494									
Two people:										
Householder under 65 yrs.....	11,859	12,207								
Householder 65 yrs & over....	10,705	12,161								
Three people.....	13,853	14,255	14,269							
Four people.....	18,267	18,566	17,960	18,022						
Five people.....	22,029	22,349	21,665	21,136	20,812					
Six people.....	25,337	25,438	24,914	24,411	23,664	23,221				
Seven people.....	29,154	25,336	28,271	28,271	27,456	26,505	25,462			
Eight people.....	32,608	32,894	31,783	31,783	31,047	30,112	29,140	28,893		
Nine people or more.....	39,223	39,889	31,449	38,449	37,726	36,732	35,833	35,610	34,238	

Source: U.S. Census Bureau

Poverty by Race and Ethnicity

In Figure 3, the poverty rates for children in 1993 and 2001 are shown by race and ethnicity. Although the poverty rate has been reduced for children from all races and ethnicities, a rather dramatic disparity persists in the rate between non-Hispanic White children and children from communities of color including Black, Asian/Pacific Islanders and children of Hispanic origins. Whereas the poverty rate for non-Hispanic Whites is at 10%, the rate for Black and Hispanic children is three times higher at 30%.

Impact of Poverty on Health and Development

Poverty is a complex issue and cannot be treated as a one-dimensional phenomenon.⁴ It directly influences the ability of families to meet their children's basic needs and provide societal minimums such as shelter, nutrition, and health care. In addition, it has a negative influence on family functioning, increasing the likelihood of marital conflict, psychological distress, depression, and loss of self esteem. According to Urie Brofenbrenner, understanding human development requires an ecological approach that views the child in a home environment duly placed in a community context, where the family strives to meet their needs and obtain long-term resources.⁵ Therefore, the impact of childhood poverty should be examined epidemiologically from the perspective of adverse health, developmental, social, and educational outcomes.⁶

A seminal study from the early 1970s demonstrated the effect of both family functioning and income on child outcomes. The National Collaborative Perinatal Project followed 26,700 infants from birth. The two factors most predictive of intellectual performance at 4 years of age were family income and maternal education.⁷ Children born at low birth weight (less than 2500 grams) who lived in poverty for their first five years of life had IQs that were 9.1 points lower than IQs of low-birthweight infants never subjected to poverty.⁸ A 1988 study by Zill

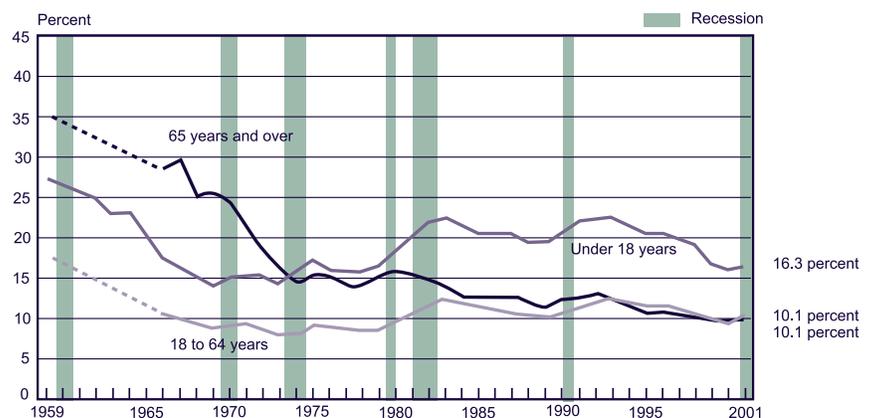
and Schoenborn found that children living in families with annual incomes below \$10,000 had a 25% higher rate of emotional and behavior problems than their counterparts from families with annual incomes over \$40,000.⁹ Werner and her colleagues have conducted one of the longest longitudinal studies examining the impact of perinatal and environmental factors on developmental outcomes from childhood through adulthood. They have followed the 6,987 children born on the island of Kauai, Hawaii, in 1955. These children, exposed to significant perinatal stress, experienced an increased incidence of neonatal health problems, learning disabilities, and mental retardation; later, they showed increased rates of delinquency and teen pregnancy. However, the effects of the family environment and the long-term impact of the family's care were more powerful than the residual effect of perinatal complications. Families with higher SES provided an enriched caregiving environment for their children, which blunted the perinatal risks.¹⁰

Homelessness: The Quintessential State of Impoverishment

In a study comparing homeless preschoolers to equally poor children who had housing in the Boston area, half (51%) of the homeless preschoolers had at least one major developmental lag as measured by the Denver Developmental Screening Test, compared to only 16% of similarly poor but housed children. This interplay between poverty and homelessness had a significant developmental impact on the lives of these preschoolers.¹¹

Examining the competencies, achievements, and adjustment capabilities of a cohort of homeless children ages 3 to 12 years, Rescorla found that the most severely affected homeless preschoolers exhibited slower development in receptive language and visual-motor capabilities.¹²

Figure 2. Poverty Rates by Age: 1959 to 2001

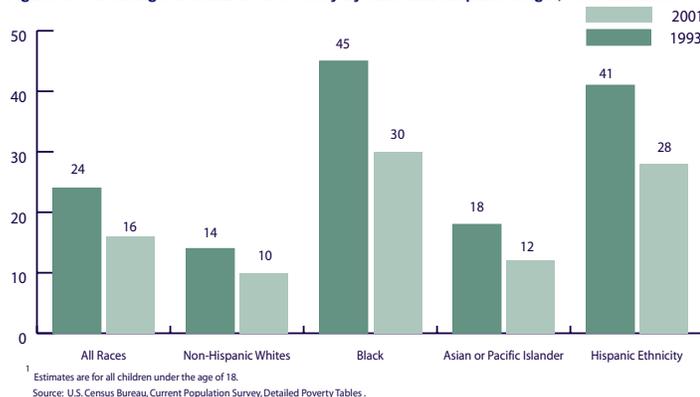


Note: The data points represent the midpoints of the respective years. The latest recession began in March 2001. Data for people 18 to 64 and 65 and older are not available from 1960 to 1965. Source: U.S. Census Bureau. Current Population Survey, 1960-2002. Annual Demographic Supplements

Similarly, Fox reported poor developmental outcomes for a group of 4 to 10 year old homeless children: 75% had moderate to severe impairment as measured by the Children's Global Assessment Scale; 60% had significant impairment in receptive verbal functioning; 38% had either emotional and/or behavior problems; and 29% had psychomotor delays.¹³

The state of homeless children provides a snapshot of the quintessential risk of poverty to children. However, the impact of childhood poverty is also evident in an increasing proportion of children who come from homes facing hunger and micro-vitamin malnutrition such as iron deficiency anemia. The Community Childhood Hunger Identification Project surveyed families at or below 185% of the poverty threshold with at least one child under the age of 12. They found that 5.5 million children

Figure 3. Percentage of Children¹ in Poverty by Race and Hispanic Origin, 1993 and 2001



under the age of 12 suffered from hunger and lived in homes with inadequate food, and an additional 6 million children were at risk of hunger.¹⁴ In an experimental study of the immediate effects of hunger on learning, Pollitt demonstrated that when well-nourished middle class, 9–11 year old children who could successfully perform problem-solving tasks were deprived of breakfast, their speed and accuracy in responding to the same tasks declined significantly.¹⁵

Conclusion

The disproportionate representation of children living in poverty and its interplay with inadequate nutrition and housing places our children in peril and at risk. The deleterious impact on their growth and development places poor children in a position where they may not be able to achieve their full potential. Even though poverty's adverse effects may be counterbalanced for some children by exposure to protective factors and children's inherent desire to explore, learn, and achieve what life has to offer, the prevalence and persistence of poverty will require a new social will and a renewed commitment to change. Only then, will we realize that caring for our richest natural resource—children—is an investment we can ill afford to neglect.

References

- Harrington M. *The Other America*. New York, NY: Macmillan Company; 1962.
- Kozol J. *Rachel and her children: homeless families in America*. New York, NY: Crown Publishers, Inc; 1988.
- Proctor BD, Dalaker J, U.S. Census Bureau. *Current Population Reports, Series P60-219, Poverty in the United States, 2001*. Washington DC: U.S. Government Printing Office; 2002.
- Huston AC, McLoyd VC, Coll CG. Children and poverty—issues in contemporary research. *Child Dev* 1994;65(2):275-82.

- Brofenbrenner U. Toward an experimental psychology of human development. *Am Psychol* 1977;32:513-31.
- Oberg CN, Bryant NA, Bach ML. A portrait of America's children: the impact of poverty and a call to action. *J Soc Distress Homeless* 1995 Jan;4(1):43-56.
- Werner EE, Smith RS. An epidemiologic perspective on some antecedents and consequences of childhood mental health problems and learning disabilities. *J Am Acad Child Psychiatry* 1979;18(2):292-306.
- Duncan GJ, Brooks-Gunn J, Klebanov PK. Economic deprivation and early childhood development. *Child Dev* 1994;65(2 Spec No):296-318.
- Zill N, Schoenborn CA. Developmental, learning, and emotional problems. *Health of our nation's children, United States, 1988. Advance Data* 1990 Nov 26;190:1-18.
- Werner EE. Risk and resilience in individuals with learning disabilities: lessons learned from the Kauai Longitudinal Study. *Learning Disabilities Research and Practice* 1993;8:28-34.
- Bassuk EL, Rosenberg L. Psychosocial characteristics of homeless children and children with homes. *Pediatrics* 1990 Mar;85(3):257-61.
- Rescorla L, Parker R, Stolley P. Ability, achievement, and adjustment in homeless children. *Am J Orthopsychiatry* 1991 Apr;61(2):210-20.
- Fox SJ, Barnett RJ, Davies M, Bird HR. Psychopathology and developmental delay in homeless children: a pilot study. *J Am Acad Child Adolesc Psychiatry* 1990 Sep;29(5):732-5.
- U.S. Congress. House. Committee on Agriculture. Subcommittee on Domestic Marketing Consumer Relations and Nutrition. *Hunger in America: its effects on children and families, and implications for the future*. 102nd Cong. 1st sess. May 8. Serial No. 102-13. Washington, DC: Government Printing Office; 1991.
- Pollitt E, Leibel R, Greenfield D. Brief fasting, stress, and cognition in children. *Am J Clin Nutr* 1991;34:1526-1533.

Join the Social Epidemiology Workgroup and Listserv

Dr. Michael Oakes, Division of Epidemiology, UMN School of Public Health, has created a Social Epidemiology Workgroup. Fundamentally interdisciplinary, social epidemiology blends conventional epidemiology and social science in order to better understand how society and social institutions affect the public's health. The goal is to enhance scholarly communication between researchers interested in substantive and methodological issues related to health and social factors. The Workgroup is comprised of faculty, researchers, students, and activists from many disciplines and organizations. The group meets monthly to discuss research papers, which range in topic from social capital to health disparities, from racism to genetic research. Associated with the Workgroup is an email listserv for discussion and dissemination of articles and events related to the Workgroup and social epidemiology more generally. Both the Workgroup meetings and the listserv are open to everyone. To obtain more information about these activities, see www.epi.umn.edu/research/socialepi.



How is Poverty Defined in America?

Diane Benjamin, MPH
Director
Minnesota Kids Count
Children's Defense Fund Minnesota

The current poverty measure used by the federal government is seriously out of date. The official U.S. poverty standards were developed in the early 1950s by the Social Security Administration to facilitate the collection of information and its eventual analysis and dissemination. The methodology was based on information obtained from food and income data. After examining the Department of Agriculture's food plans, it was determined that expenditures for food represented approximately one-third of a family's income in 1955. Thus, the U.S. Department of Agriculture's Economy Food Plan is simply multiplied by three to derive the national poverty threshold. The poverty level is then adjusted for family sizes and updated each year to account for inflation.^{1,2}

Limitations of the Definition

There are several limitations to the current poverty measure because it does not take into consideration many changes that have occurred in the U.S. since the 1950s:

- The proportion of the family budget needed for food has declined significantly since 1955, but costs for other needs, such as housing, are much higher.
- Childcare is a significant expense for many families when all adults in the household work outside the home, and the number of families utilizing childcare has increased dramatically since the 1950s.
- Cost of living variations across geographic areas are not taken into account, with the exception of Alaska and Hawaii, which are given higher thresholds.
- Policies that affect disposable income have changed, such as increases in the Social Security payroll tax, the Earned Income tax credit, and food support (formerly food stamps).
- The overall standard of living in the U.S. has changed, leaving the current poverty levels quite low in relation to what most people experience as adequate income.

The low poverty thresholds are the measure's greatest weakness. Families earning far above these thresholds would still not be well off financially.

Why Hasn't the Definition Been Changed?

One potential reason the measure hasn't been changed is because a new definition of poverty will change who is defined as poor. Some people who currently fit the definition will become statistically "un-poor" and some people currently defined as "above poverty" will become officially "poor." Distributions of large amounts of federal money, for many different programs, are based on the number of people in a geographic area at specific federal poverty levels. Thus, making any changes in the official measure of poverty will change the distribution of funds. This makes any changes in the official measure of poverty a long and difficult political process.



Recommendations

An expert panel convened by Congress and working under the aegis of the National Research Council of the National Academy of Sciences made extensive recommendations in 1995 on how to revise the federal poverty definition. They suggested changes such as incorporating the actual costs for food, clothing, and shelter; adjustments for geographic differences in housing costs; incorporation of non-cash and tax-related benefits; and other changes to make the poverty level more accurate.³

One practical method for using the official poverty measure helps address its weakness. People's income can be measured as a percent of the official poverty line, i.e., 150% of poverty (one and a half times the poverty line), 200% of poverty (twice the poverty line), etc. This eliminates some of the difficulty of the poverty line not keeping up with changes in the overall standard of living. Many state and federal programs use this method.

An alternative strategy for measuring how well off people are is to develop an estimate of the actual minimum cost of basic necessities such as food, housing, clothing, etc., and compare disposable income to that total cost. An example of this is the "basic needs budget" measure developed by the Jobs Now Coalition in their *Cost of Living In Minnesota, 1999-2000* report.⁴ This strategy eliminates some of the weaknesses of using only food expenses to calculate income needs.

References

1. Oberg CN, Bryant NA, Bach ML. A portrait of America's children: the impact of poverty and a call to action. *J Soc Distress Homeless* 1995 Jan;4(1):43-56.
2. Porter K. Proposed changes in the official measure of poverty. Center on Budget and Policy Priorities, November 15, 1999. Available at: <http://www.cbpp.org/11-15-99wel.htm>. Accessed May 7, 2003.
3. Citro CF, Michael RT. *Measuring poverty: a new approach*. Washington, DC: National Academy Press; 1995.
4. Jobs Now Coalition. *Cost of living in Minnesota, 1999-2000*. Available at: <http://www.jobsnowcoalition.org>. Accessed May 3, 2003.



Arturo Sesma, Jr, PhD
Applied Developmental Researcher
Search Institute

Hundreds of books, articles, and studies have investigated the role of poverty on child development outcomes, often showing the pervasive and ubiquitous effects that living in poverty produces. Thus, numerous studies show that poverty is associated with:

- Poor health outcomes (low birth weight, high lead levels, growth stunting);^{1,2}
- Poor cognitive functioning (lower IQ scores, learning disabilities);³⁻⁵
- Low academic achievement (grade retention, special education placement, dropout);³
- Poor socioemotional functioning (acting out, depression, anxiety);^{6,7}
- Risk behaviors (teen pregnancy, delinquency, substance abuse).^{3,8}

Knowing the correlates of poverty, however, tells us very little about *how* poverty exerts its influence on development. This is because poverty is a *distal* factor, or a factor whose effects are largely indirect and work through a number of intervening mediating processes (see Figure 1). Because much of the action between poverty and child outcomes is presumed to work through these mediating processes, most of the recent work in this area has focused on identifying the significance and magnitude of various intervening factors. In the sections below, a brief description of these mediators is provided, followed by a discussion of various approaches used to mitigate the effects of poverty on development.

Mediators of Poverty

Nutrition and health. Although these mediating factors can be considered effects of living in poverty, they also play a significant role in the kinds of problems seen later in development. For example, prematurity, especially extremely low birth weight (less than 1,250 grams), greatly increases a child's risk for learning disabilities and mental retardation.⁹ Additionally, other reports suggest that the effects of persistent malnutrition (e.g., lethargy, less sensitivity) affects the nature of the parent-child relationship, and this altered interpersonal dynamic between parent and child can then have consequences for other negative psychosocial outcomes such as insecure attachment, negative affect, and limited mastery motivation.¹⁰

Home environment. Another mechanism through which poverty affects development is in the absence of cognitively stimulating materials and resources—toys, books, other learning opportunities—in the home.^{3,11} Bradley has argued that low SES, as well as other factors related to low SES such as parental education, reduce the number and quality of resources. This is significant because enriching and stimulating resources in the home have been consistently associated with children's IQ and achievement test scores in elementary school,^{6,9} and with behavior problems among children.¹²



Parent-child interactions. Perhaps the main pathway implicated in the socioemotional health of children living in poverty is via the parent-child relationship. Empirically-supported conceptual models of this mechanism seem to follow a similar chain of events: parents living in poverty are more likely to endure stress, evince mental health problems (e.g., depression, anxiety), and experience heightened marital/partner conflict.¹³⁻¹⁵ All of these factors, in turn, adversely affect the quality of parenting and subsequently, the parent-child relationship.⁷

Neighborhood conditions. Recently, the effects of neighborhood conditions have been considered as potential mediators of the poverty-child outcome link.¹⁶ Children living in poverty are more likely to be exposed to both environmental hazards, such as high lead levels, unsanitary living conditions, as well as high levels of “social toxicity,” defined by Garbarino as “the social context [that] has become poisonous to development... violence, poverty, disruptions of relationships, nastiness, despair, depression, paranoia and alienation...”¹⁷ A synthesis of recent analyses on the effects of neighborhood poverty suggests the following: (a) negative effects seem to be stronger for school-age children than for preschool children; (b) cognitive and academic outcomes seem to be more strongly related to neighborhood influences than to socio-emotional indicators; and (c) African-American children seem to be less affected by neighborhood conditions than White children. To be sure, these are still preliminary findings on the mediating role of neighborhood conditions. Curiously enough, one of the more robust findings to come out of the neighborhood work is the protective role of high SES neighborhoods for children living in poverty. In one study, the percentage of families with incomes over \$30K was positively related to five-year-olds' IQ scores and negatively related to the probability of dropping out of school or having a teen pregnancy.⁵ These effects remained after controlling for family income and parental education.

Strategies Employed to Mitigate the Effects of Poverty

There is no dearth of approaches that have been tried to combat the effects of poverty on development. Many of these are federally funded programs, such as the Special Supplemental Food Program for Women, Infants, & Children (WIC), Head Start, Medicaid, and Food Stamps. Two approaches are described below; one venerable strategy and another that has emerged over the last 15 years.

Child-centered approaches. Early-childhood programs and enhanced preschool experiences represent perhaps the most widely recognized intervention strategy employed for children living in poverty.¹⁸ Ranging from small-scale demonstration programs (e.g., Abecedarian Project,¹⁹ Perry Preschool Project²⁰) to large federally funded projects (e.g., Head Start), this intervention strategy is predicated on the assumption that providing enriching experiences relatively early in development will help prepare the child for school entry. Evaluations of these early-enriching experiences indicate the following:²¹

- Short-term gains in cognitive functioning (i.e., IQ) are found, but these gains largely decline over time;
- Academic achievement outcomes, such as reduced grade retention, fewer special education placements, and higher graduation rates persist;
- Programs with continued follow-up throughout child and youth development are more likely to produce long-term benefits than programs that end in early childhood.²²

Two-generation programs. While programs that focus on children's social and cognitive competence do show salutary effects, there has been a growing recognition that simultaneously addressing both the child and parent's needs may prove to be a better approach to counteracting the effects of living in poverty.³ These "two-generation programs" typically provide high-quality child care and health services for children, while also providing parents with parenting education, job and vocational training, as well as case-management and counseling services.²³ Only short-term evaluations of these two-generation programs have been conducted, because at the time of evaluation, children in these programs were five years old or younger. However, results to date suggest modest effects at best. This has led some researchers to abandon this multigenerational approach,¹⁸ while others acknowledge that the relative infancy of these programs, in conjunction with the systemic nature of poverty, warrants a little more time to ascertain the benefits of targeting both child and parent.²⁴

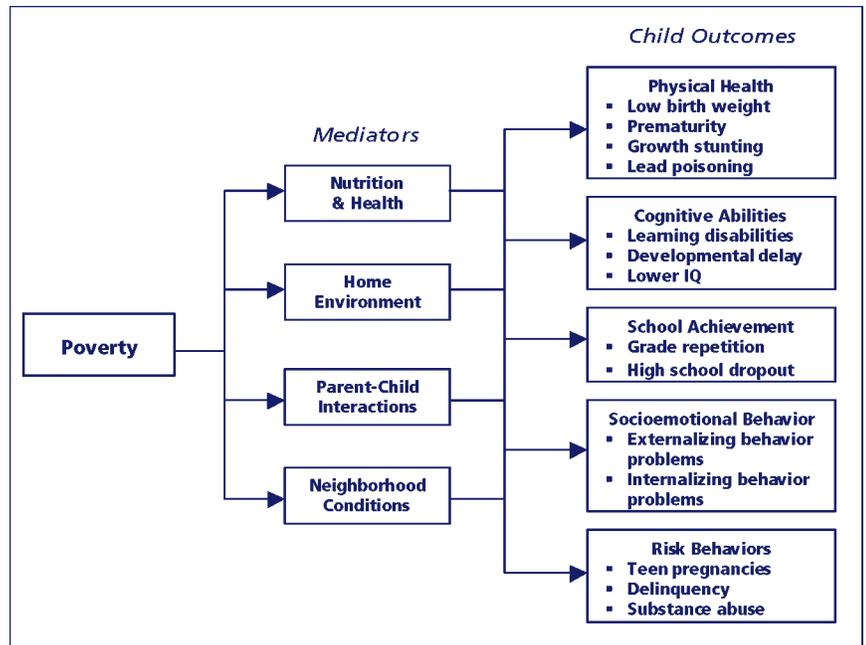
Summary and Comment

To be sure, the role of poverty in the lives of children is far more complex and dynamic than described in this paper. Issues such as the timing of poverty (when it occurs during the course of a child's life), the persistence or transitory nature of poverty, as well as how all of these factors interact over time are also important in understanding how these processes play out. Our level of understanding, however, has not led to wildly or even appreciably successful approaches designed to mitigate the effects of poverty on development. This is due, in part, to the multiple-risk nature that comes with living in poverty (i.e., poverty is often accompanied by minority status, single parenthood, parental mental illness, etc.), as well as to larger societal factors such as inequality and labor conditions.³

However, one factor that often does not receive the attention it should focuses on building informal supports and community cohesion to make significant differences in communities of poverty. Building informal supports and community cohesion has been shown to make significant differences in communities of poverty. There is evidence that even in a poor neighborhood, there can be a supportive community organization with social capital.²⁵ Where present, social capital contributes to collective socialization whereby adults informally look after each other and their children.²⁶ For example, in a classic study, Garbarino found that in two communities that were matched along poverty dimensions (e.g., percent unemployed, percent on welfare, etc.), one community had higher than expected cases of child maltreatment, while the other community had rates of maltreatment far lower than would be expected. What accounted for the difference? The latter community was more socially integrated, had more positive neighboring, and had fewer stressful day-to-day interactions among community members.²⁷

Thus, as we think about the effects of poverty, and programmatic approaches designed to combat these effects, we would also do well to think about how we, as both professionals and neighbors, can help build the kinds of informal social networks and relationships that can often sustain a neighborhood, and its children, even in conditions of poverty.

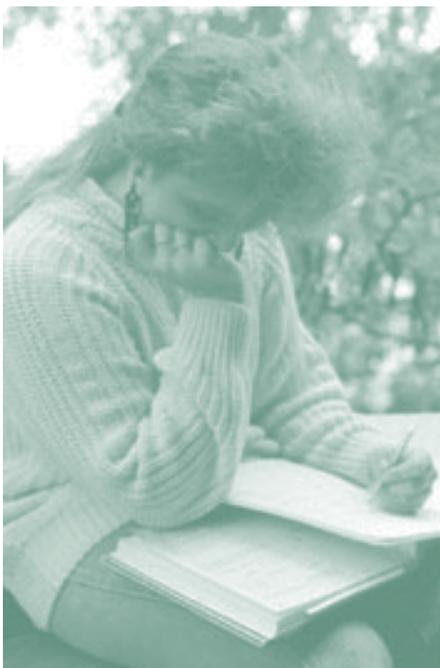
Figure 1. General Model of How Poverty Influences Development



References

1. U.S. Department of Health and Human Services. Healthy People 2010. 2nd ed. 2 vols. Washington DC: U.S. Government Printing Office; 2000. Available at: <http://www.healthypeople.gov/>. Accessed April 17, 2003.
2. Brody DJ, Pirkle JL, Kramer RA, Flegal KM, Matte TD, Gunter EW, et al. Blood lead levels in the US population. *JAMA* 1994 Jul 27;272(4):277-83.
3. McLoyd VC. Socioeconomic disadvantage and child development. *Am Psychol* 1998 Feb;53(2):185-204.
4. Smith JR, Brooks-Gunn J, Klebanov P. The consequences of living in poverty for young children's cognitive and verbal ability and early school achievement. In: Duncan GJ, Brooks-Gunn J, editors. *Consequences of growing up poor*. New York, NY: Russell Sage Foundation; 1997. p. 132-89.
5. Duncan GJ, Brooks-Gunn, Klebanov PK. Economic deprivation and early childhood development. *Child Dev* 1994;65(2 Spec No):296-318.
6. Bradley RH, Corwyn RE. Socioeconomic status and child development. *Annu Rev Psychol* 2002;53:371-99.
7. McLeod JD, Shanahan MJ. Poverty, parenting, and children's mental health. *American Sociological Review* 1993 June;58:351-66.
8. Brooks-Gunn, J, Duncan, G. The effects of poverty on children. *The Future of Children* 1997;7(2):55-71. Available at: http://www.futureofchildren.org/usr_doc/vol7no2ART4.pdf. Accessed April 17, 2003.
9. Bradley RH, Whiteside L, Mundyfrom DJ, Casey PH, Kelleher KJ, Pope SK. Early indications of resilience and their relation to experiences in the home environments of low birthweight, premature children living in poverty. *Child Dev* 1994 Apr;65(2 Spec No):346-60.
10. Valenzuela M. Maternal sensitivity in a developing society: the context of urban poverty and infant chronic undernutrition. *Dev Psychol* 1997 Sep;33(5):845-55.
11. Bradley RH, Whiteside-Mansell L. Children in poverty. In: Ammerman RT, Hersen M, editors. *Handbook of prevention and treatment with children and adolescents*. New York, NY: Wiley and Sons; 1997. p. 13-58.
12. Brooks-Gunn, J, Duncan G, Klebanov P, Sealand N. Do neighborhoods influence child and adolescent behavior? *American Journal of Sociology* 1993;99:335-95.

13. Aber JL, Bennett NG, Conley DC, Li J. The effects of poverty on child health and development. *Annu Rev Public Health* 1997;18:463-83.
14. Conger RD, Conger KJ, Elder G. Family economic hardship and adolescent academic performance: mediating and moderating processes. In: Duncan GJ, Brooks-Gunn J, editors. *Consequences of growing up poor*. New York, NY: Russell Sage Foundation; 1997. p. 288-310.
15. McLoyd VC, Jayaratne TE, Ceballos R, Borquez J. Unemployment and work interruption among African American single mothers: effects on parenting and adolescent socioemotional functioning. *Child Dev* 1994 Apr;65(2 Spec No):562-89.
16. Brooks-Gunn J, Duncan G J, Aber JL, editors. *Neighborhood poverty: contexts and consequences for children*. Vol 1. New York, NY: Russell Sage; 1997.
17. Garbarino J. *Raising children in a socially toxic environment*. San Francisco: Jossey-Bass; 1995.
18. St. Pierre RG, Layzer JL. Improving the life chances of children in poverty: assumptions and what we have learned. *Social Policy Report* 1998;12(4):1-25.
19. Ramey SL, Ramey CT. Early childhood experiences and developmental competence. In: Danziger S, Waldfogel J, editors. *Securing the future: investing in children from birth to college*; 2000. p. 122-50.
20. Schweinhart LJ, Barnes HV, Weikart DP. Significant benefits: the High/Scope Perry Preschool Project study through age 27. (Monograph10). Ypsilanti, MI: High/Scope Educational Research Foundation; 1993.
21. Zigler E, Hall NW. *Child development and social policy: theory and applications*. Boston, MA: McGraw-Hill; 2000.
22. Wasik BA, Karweit NL. Off to a good start: effects of birth to three interventions on early school success. In: Slavin RE, Karweit NL, Wasik BA, editors. *Preventing early school failure: research, policy, and practice*. Boston, MA: Allyn and Bacon; 1994.
23. Smith S, Zaslow M. Rationale and policy context for two-generation interventions. In: Smith S, editor. *Two-generation programs for children in poverty: a new intervention strategy*. Norwood, NJ: Ablex Publishing; 1995. p. 1-33.
24. Tout KA, Sesma A Jr. Building strong foundations in early childhood: a developmental approach to human capital. *Chicago Policy Review* 1997;1(2):51-64.
25. Aber MS, Nieto M. Suggestions for the investigation of psychological wellness in the neighborhood context: toward a pluralistic neighborhood theory. In: Cicchetti D, Rappaport J, Sandler I, Weissberg RP, editors. *The promotion of wellness in children and adolescents*. Washington DC: CLWA Press; 2000. p. 185-219.
26. Sampson RJ, Raudenbush SW, Earls FE. Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science* 1997;277:918-24.
27. Garbarino J, Sherman D. High-risk neighborhoods and high-risk families: the human ecology of child maltreatment. *Child Dev* 1980;51:188-98.



Interested in making a difference?

Consider a Master's of Public Health (MPH) Degree in Maternal and Child Health (MCH)

What is the MCH Program? It is a training program for MPH students who are interested in promoting and preserving the health of families, including women, children, and adolescents. The Program is in the Division of Epidemiology in the School of Public Health at the University of Minnesota.

Who are the faculty? The MCH staff and faculty are multidisciplinary with expertise in epidemiology, medicine, nursing, psychology, nutrition, family studies, health education, social work, and program administration. MCH faculty focus their research, teaching, and community service on reproductive health and family planning; pregnancy outcomes; social inequities in health; women's health; infectious diseases; substance use; child, adolescent, family, and community health promotion; risk reduction; resiliency; and child and family adaptations to chronic health conditions.

Who should apply? People who care about vulnerable populations and want careers in program planning and development, evaluation, surveillance, assessment, teaching, or research. The program offers a special emphasis on MCH epidemiology for interested students. Clinical professionals, and others with advanced degrees who are interested in administering MCH-related health programs or conducting research projects are also encouraged to apply. Individuals with advanced degrees may have the option of completing the two-year MPH Program in one year.

For further information about the MCH Program. Call 612-626-8802 or 1-800-774-8636; email gradstudies@epi.umn.edu; or visit <http://www.epi.umn.edu/mch> and <http://www1.umn.edu/twincities/>.

“MCH training gave me a real edge in the field of public health.”

“MCH training helped me understand how policy, programs, and individual needs must be integrated.”



Who Will Care for the Kids? Child Poverty on the Great Plains

Kerstin Gorham, MA
Community Liaison
Northwest Area Foundation

In small farming communities on the Great Plains, poverty usually means having *too* many jobs. Few families can make a living from farming any more, so many parents must take several low-paying jobs to make ends meet. This phenomenon, called “multiple job holding,” makes childcare a critical issue for low-income families. “The situation of working families is dramatically changing,” says Kathy Callies of Miner County Community Revitalization (MCCR), a nonprofit community development organization in Miner County, South Dakota. “Even the grandmothers of this generation are all working. That means the back-up systems just aren’t there.”

In South Dakota, 73% of children under 6 years old have both parents in the labor force. In the small community of Miner County, population 2,800, low-income parents could not access federal subsidies for childcare because the county had no registered providers. Daycare was limited to a half dozen home providers who offered services from 8:00 a.m. to 5:00 p.m. This option was of little use to families working 12-hour shifts, including evenings and nights, at the largest employer in town, a game-card packaging plant. It also didn’t help many of those who traveled outside the county to jobs in larger towns. Childcare quality was another issue. “Many people had little or no understanding of early childhood education in Miner County,” remembers Callies. “A listing of care providers for the county cited “watching Barney tapes” as one of the educational opportunities offered.

In 1994, a group of citizens formed a volunteer daycare committee, with a vision of developing a licensed Childcare Center that would provide subsidized childcare to low-income families. Over the next eight years, they not only created the Center, but also managed to save and expand the local Head Start Program, which was in jeopardy of closing due to low enrollment.

Steps in Building the Childcare Center

First, the committee conducted a needs assessment by surveying parents, employers, and local daycare providers. Through a strategic planning process, another volunteer association in the county launched a 10-year community venture partnership between Northwest Area Foundation—a regional philanthropic organization based in St. Paul, MN—and created a new nonprofit, Miner County Community Revitalization (MCCR). The development of the Childcare Center became one of the strategic activities identified in MCCR’s community plan and received some of the financial resources provided by the foundation to the community.¹

By leveraging foundation funds with scholarship funds from the state, the daycare committee provided free licensure training to anyone in

the county who wanted to become a licensed childcare provider. This helped create a pool of potential center staff. The committee formed an advisory group with parents of children in Head Start, a representative of a regional community action program, local experts in the areas of healthcare, education, economic development, and nonprofit management, and a representative from the South Dakota Department of Childcare Services. This group developed a curriculum for the Head Start, preschool, and infant/toddler programs.

The group was also instrumental in the facility design. Unable to find a licensed local contractor to build the center, the group helped a local heating/plumbing contractor gain his general contractor’s license. They worked with the city council to rezone the parcel of land chosen from residential to commercial use while educating them that the economic benefits the center would bring would far outweigh the taxes lost because of the center’s nonprofit status.

The Center became a nonprofit in August 2002. Successful grant proposals brought them \$150,000 from MCCR to build the Center. They received \$13,515 from the state Department of Childcare Services and the U.S. Department of Agriculture for equipment. The Center is sustained by private pay sources, state reimbursement for income-eligible families, contract agreements to provide Head Start services, and fundraising. The Center staff includes a licensed director and six community members who are teachers or aides.

The advisory group formed a collaborative partnership with Inter-Lakes Community Action, its regional Community Action Program, to provide Head Start services. The Center first fills slots with children of low-income families, then opens those remaining to families of any income level. The center also participates in the U.S. Department of Agriculture meal reimbursement program and the state childcare services program.

Opening the Doors

In December 2002, Children’s Care Corner opened its doors. Four months later, the combined Head Start/preschool and infant-toddler care center was nearly full. The next stage of Miner County’s childcare initiative will be to make in-home licensed childcare available for low-income families in the county who do not live or work near the center. Through efforts such as these, working families struggling to make ends meet will know their children are in a nurturing, stimulating environment while they are away at work.

For further information contact Kathy Callies, development director for Miner County Community Revitalization, at calliesk@alliancecom.net or 605-772-5153 or Kerstin Gorham, community liaison at Northwest Area Foundation at kgorham@nwaf.org or 651-225-3862.

References

1. Northwest Area Foundation. The Miner County and Northwest Area Foundation Partnership. http://www.nwaf.org/ventures/ventures_minercounty.htm. Accessed April 26, 2003.

Miner County Community Plan

The community plan outlines how Miner County will effectively identify, build, and use community resources to achieve its vision of becoming a stable, cooperating community that creates and sustains quality life opportunities for all who live, work, or go to school, or church in the county.

How are the Children?

Five Action Areas to Promote Healthy Communities



Luanne Nygerg, MPA
Senior Policy Analyst
Hennepin County Health Policy Center

Minh Ta,
Legislative Director
Children's Defense Fund Minnesota

Being poor robs children of life chances and sometimes their very lives. Poverty is a significant contributor to health disparities, with poor children of color frequently experiencing the worst health outcomes. National data indicate that poor children are almost twice as likely to be born too soon and too small and almost three times as likely to have no regular source of health care. They are eight times as likely to live in a family that had too little food at some point in the last four months. They also are more likely to score lower on standardized tests, to repeat a grade, to be expelled from school, or drop out all together.¹ Despite this kind of compelling evidence about the lost potential of children who grow up poor, current political leadership in our nation is one that favors tax cuts, tax rebates, and a consequent reduction of investment in social programs for needy children. For example, the money saved on the \$1.3 trillion national tax cuts signed into law in 2002 could have paid for:

- Health insurance for every child,
- Quality childcare for every child and full funding for Head Start and other preschool programs,
- An expansion of the food stamp program to serve 10 million needy Americans, mostly families with children,
- Housing vouchers for the 3.6 million children in families at greatest risk of homelessness, and
- Services to protect millions of abused and neglected children.¹

A Minnesota Perspective

Minnesota has a long history of being a progressive state and at the forefront nationally in developing programs and providing basic services for vulnerable citizens. However, this Minnesota tradition appears to be eroding, with State data mirroring the national trends. In 2001, one in 10 children lived in families with inadequate financial resources to make ends meet, one in 10 received food support, one in four received free/reduced-price school lunches, and one out of 16 babies were born at low birth weight.² Minnesota taxpayers need to ask themselves if their best interests are being served with a promise of no new taxes at the same time that state general funds are being cut for the Women, Infant, and Children's (WIC) nutrition program, after-school programs, child abuse prevention programs and other supports designed to offset deficits caused by poverty.³ The long-term consequences of these policies will move Minnesota further and further away from the State legacy we have been so proud of: a commitment to assuring the well-being of our most vulnerable citizens.

There is no question that most families—including middle and

United States Ranking on "Key" Indicators¹

- 1st in military expenditures
- 12th in percent of children living in poverty
- 17th in low-birthweight babies
- 21st in eighth grade math scores
- 23rd in infant mortality
- Last in protecting our children from gun violence

upper income families—have felt the impact of the recession. However, it is questionable whether the voters who supported a gubernatorial candidate with a “no new taxes” platform realized that the consequences of this tax policy would be that nearly 50,000 children and adults will lose health

insurance; or that “at risk” children will have no after-school programs leaving thousands of families with no affordable childcare options, and disadvantaged children without programs to help them succeed in school.³ In addition to families living in poverty, families with disabled or other special needs children, and those with moderately low incomes (for example, \$30,000–\$42,000 for a family of three or \$36–\$50,000 for a family of four) are affected by cuts in health and human services. If we continue on the pathway of no new taxes, Minnesota's leadership on children's issues will be dismantled and needy children will slide backward.

Things You Can Do to Help Needy Children

Understand trends in child health indicators for your community.

In *your* community, do you know the percent of uninsured children, low birthweight babies, children having children, students not graduating on time, students eligible for free or reduced lunch, and youth using tobacco, alcohol and drugs? Do you know if these percentages are rising or falling? This information is important for program planning and policy formation and can be used to advocate for programs that support children, youth and families. Indicators like these can be accessed through the Kids Initiative at <http://www.mnkids.org> or the Kids Count Initiative found on the Children's Defense Fund of Minnesota website at <http://www.cdf-mn.org/kidscount.html>.

Know the voting records of your elected officials. Leaders' actions all too often do not match their words. Children can't eat promises, be sheltered by photo-ops, and/or escape poverty through speeches about compassion. Policy makers repeatedly speak of their commitment to poor children and the importance of “leaving no child behind.” Do the voting records of your state and national representatives match their words? Leaders must be elected and held accountable for making just choices that help rather than leave children behind. Minnesota legislators' voting records on children's issues can be found at [http://](http://www.cdfactioncouncil.org/mndel2001.htm)

www.cdfactioncouncil.org/mndel2001.htm and http://www.cdfactioncouncil.org/CDF_scorecardMN.02.pdf.

Engage your community locally. The public health community, businesses, faith communities, and families must

Continued on page 10

The Cost of Doing the Right Thing¹

- 2 cents a day could provide all recommended vaccines for every newborn child to their 2nd birthday.
- 4 cents a day could lift more than 300,000 children out of poverty through the earned income credit (EITC) for working families.
- 14 cents a day could fully insure all of the 9.2 million children without health insurance.
- 26 cents a day could provide childcare subsidies to all families in need while increasing the quality of care.

Continued from page 9

speak out for children. A broad-based movement for children that cuts across traditional boundaries of race, gender, social class, age, faiths, and disciplines must be mobilized to have the transforming power of other social movements that have changed America. Activities that strengthen communities and support the families that live or work in them must be supported. The Annie E. Casey Foundation describes a number of community coalitions for children at <http://www.aecf.org/rci/>. Information on an innovative community program in South Dakota can be found on page eight.

Promote activities that support children. Research by the Search Institute in Minnesota has identified 40 concrete, positive experiences and qualities—developmental assets—that help young people choose positive paths and grow up to be competent, caring, and responsible. Everyone—from business people to grandparents, to caring neighbors—should assist in building these assets for our young people. To find out more about the 40 assets all children need and how you can grow the asset base in your community, go to www.search-institute.org/assets/.

Advocate for social justice. Charitable acts are noble and valuable, but they do not reach every child, and they can end at any time. In a democratic society, we value justice as a right. Justice means that every child has a right to food, housing, health care, and a quality education regardless of the political and economic winds that are blowing at any given time. We must insist that our leaders redefine national and homeland

security not just as military security, but also as securing human capital by having healthy, educated children living in strong, economically sound families and communities. Public health, education, and social service providers must stand up for social justice. For information on social justice activities of the public health community go to www.mpha.net/advocacy.html or <http://www.cdf-mn.org>.

Conclusion

If we do not stand up for children, who will? Keep speaking up, trying new strategies, and working with coalitions and networks that have children as a priority. Keep “walking the talk” until truly, no child is left behind.

References

1. Children's Defense Fund. The state of the children in America's union: a 2002 action guide to leave no child behind. 2002. Available at <http://www.childrensdefense.org/pdf/minigreenbook.pdf>. Accessed May 8, 2003.
2. Children's Defense Fund – Minnesota. Minnesota kids: a closer look. 2003 data book. 2003. Available at <http://www.cdf-mn.org/kidscount.html>. Accessed May 12, 2003.
3. Children's Defense Fund – Minnesota. A child's voice: February 2003. Available at <http://www.cdf-mn.org/kidscount.html>. Accessed May 12, 2003.
4. Children's Defense Fund – Minnesota. Addressing the 2004-2005 deficit: how Minnesota children and families will pay. 3 May 2003. Available at <http://www.cdf-mn.org/PDF/BudgetAnalysis.pdf>. Accessed May 12, 2003.

Making a Social Investment in Children Saves Money as Well as Lives¹

- Every \$1 we spend vaccinating children against measles, mumps, and rubella saves \$16 in medical cost to treat these illnesses.
- Every \$1 invested in quality early childhood care and education saves \$7 by increasing the likelihood that children will be literate, employed, and enrolled in post secondary education and reducing school dropout and arrest for criminal activity and/or delinquency.
- Every year a child spends growing up in poverty will cost an estimated \$11,800 in lost future productivity over their working life.
- The lifetime cost of allowing one child to drop out of high school and into a future of crime can total between \$1.3 to \$15 million.



Baby Steps: Helping Children in Poverty Get Off to a Strong Start

Barbara Huus, MS, BSN
Director of Healthy Children and Families
Olmsted County Public Health Services

In a prosperous state like Minnesota, it may be hard to picture the life of a child living in poverty. Some may think it means a baby's clothes are bought at Wal-Mart instead of Baby Gap, or an old crib is used instead of a new one. But for the mothers enrolled in Baby Steps, the picture is much bleaker. These women and their families struggle every day just to provide the basics, such as housing and transportation.

Poverty and its effect on children's growth and development was one of the problems identified in the Olmsted County Community Health Services Plan.¹ Baby Steps, a program offered by Olmsted County Public Health Services, was designed to address this problem by improving the lives of children who are living in poverty. It is an evidence-based home visiting program with 10 measurable outcomes focused on mothers learning to help themselves and their children. Program goals include

increasing the mother's self-sufficiency by improving her education, work skills, income, housing, self-esteem, and confidence.

Components of Baby Steps

Baby Steps integrates components from two evidence-based programs, the Early Childhood Home Visitation model developed by Dr. David Olds^{2,3} and the Steps Toward Effective, Enjoyable Parenting™ model developed by Drs. Byron Egeland and Martha Erickson.⁴ The components of Baby Steps include:

- Serving families with the greatest needs (low-income, first-time mothers who have multiple risk factors and are at risk for child maltreatment);
- Voluntary participation by the mothers until their children reach 2 years old;
- Utilizing experienced professional home visitors who make regular home visits; and
- Using family group activities, early childhood education, and videotaping each mother interacting with her baby.

Guiding Principles of Baby Steps

Collaborative practice

Shared resources and responsibilities between public health, social services and early childhood family education.

Comprehensive and intensive

Regular home visits by a public health nurse and social worker with links to other needed community services.

Relationship based

Connection between the home visitor and mother.

Strength based

Builds on the mother's existing skills and protective factors.

Empowering self-sufficiency

Belief that meeting basic needs of mother will empower her to meet her infant's needs.

Dynamic and flexible

Continuous re-evaluation and refinement of program.

The guiding principles of the Baby Steps program emphasize collaborative practice that is intensive, comprehensive, dynamic, and flexible (see box). The model is unique in its use of both public health nurses and social workers that function as a team with each mother-infant dyad.

Attention to the mother's personal development. The public health nurse/social worker teams who visit the mothers and their infants focus simultaneously on the mother's personal development and the quality of care given to her infant. When mothers must spend all their energy on survival, as many of those living in poverty often do, they have little energy left to focus on their child's emotional and social needs. It is difficult for many poor mothers to access the resources they need because of complex rules and paper work that must be completed and because many of these mothers lack the skills to keep up. Without the education, guidance, and support of their home visitors, many of these mothers would be on their own trying to figure out a way to meet their baby's basic needs, to say nothing of considering how to improve their own life course.

Assistance with positive parenting. A baby's need for attention and positive interaction is often not adequately met by a mother. Although giving positive attention doesn't cost money, when a mother is worrying about receiving an eviction letter, having her phone disconnected, and trying to find transportation to get her baby to the doctor, she can lose sight of this basic emotional need of her baby. A key outcome of the program is to strengthen the responsive, positive interaction between mother and baby so the baby will develop a secure attachment, which is the critical foundation for the baby's subsequent development. The mother's ability to "keep her baby in mind" is enhanced when she has the support, assistance, and encouragement of a home visitor either at her home or at supervised parent/child group family events.

Each mother is videotaped interacting with her baby, and the tape is later reviewed with the mother so the home visitor can draw the mother's attention to her positive and sensitive responses to her baby's cues. This is done at regular intervals for the two years that the mothers are enrolled in Baby Steps; the videotape is given to parents at close of services. Regular case consultation is also provided for the home visitors by an infant mental health consultant from the Harris Center who helps the staff recognize and build on the strengths in each mother-infant dyad.

Program Outcomes

After two years of offering the Baby Steps program, results show that 89% of the mothers completed their high school education and 97% increased their income to an adequate level. Their average monthly income increased from \$453 at intake to \$1251 at exit from the program. This success is tempered by the fact that the increase only lifted them to 125% of the poverty level. Outcomes related to parenting indicate that 94% of the mothers demonstrated positive and nurturing interactions with their babies. In addition, 100% of the children received timely immunizations, well-child care visits, and had a medical home.⁵

Conclusion

Children who grow up in poverty face a multitude of disadvantages. They are more likely to have a low birth weight, be anemic, be injured, have delayed immunizations and have poor academic success. Furthermore, girls from low-income families are twice as likely to become single mothers. Children whose parents are experiencing a financial crisis are also at higher risk for abuse and neglect. Many of these difficulties affect children well into adulthood. Preventing the accumulation of risks from

several sources is possible through a comprehensive program like Baby Steps. By attending to health, social, and environmental issues all at once, the family can get off to a strong start.

References

1. Olmsted County Community Health Services Plan: 2002-2003. <http://www.olmstedcounty.com/publichealth/images/Microsoft%20Word%20-%20OLMSTED%20COUNTY%20CHS%20Plan%202000-2003.pdf> Accessed April 14, 2003.
2. Olds DL, Eckenrode J, Henderson CR Jr, Kitzman H, Powers J, Cole R, et al. Long-term effects of home visitation on maternal life course and child abuse and neglect: 15-year follow-up of randomized trial. *JAMA* 1997;278:637-43.
3. Olds DL. Prenatal and infancy home visiting by nurses: From randomized trials to community replication. *Prev Sci* 2002;3(3):153-72.
4. Egeland B, Erickson MF. An evaluation of STEEP: a program for high-risk mothers. U.S. Department of Health and Human Services, Public Health Service, National Institute of Mental Health. 1993.
5. Olmsted County Database. 1995-2001.

"Baby Steps has seen us through raising our first child. Their home visits uplifted my spirits and gave us hope when the valley just seemed dark. Good job and God bless you all..."



Photo courtesy of Olmsted County Public Health Services

Healthy Generations Videoconference

Childhood Poverty
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1-3 pm

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 Alexandria

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 MN Dept. of Health
 Chesley Room
 717 Delaware St. SE
 Minneapolis

Itasca County
 Courthouse, Room J135
 123 NE 4th St.
 Grand Rapids

Lyon County
 Courthouse
 Human Services, First Floor
 607 W. Main Street
 Marshall

Nobles County
 Courthouse, 3rd Floor
 315 10th Street
 Worthington

Olmstead County
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 Admin. and Vets. Services Area
 151 4th Street
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Ramsey County
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 3rd Floor, Metro Annex
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Stearns County
 Human Services, Room 21
 705 Courthouse Square
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Registration is limited by site. To register, please contact Jan Pearson by email (pearson@epi.umn.edu) or phone 612-626-8644. Please visit: <http://www.epi.umn.edu/mch/mchsite/events.html> for any changes to these sites.

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 School of Public Health
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 University of Minnesota
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