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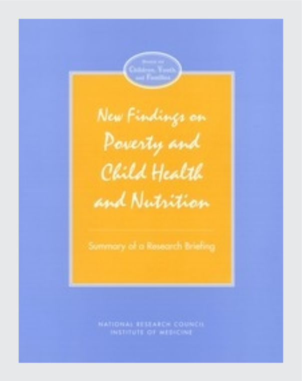

New Findings on Poverty and Child Health and Nutrition: Summary of a Research Briefing

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New Findings on Poverty and Child Health and Nutrition

Summary of a Research Briefing

Anne Bridgman and Deborah Phillips, *Editors*

Board on Children, Youth, and Families

Commission on Behavioral and Social Sciences and Education
National Research Council

Institute of Medicine

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For a list of members of the Board on Children, Youth, and Families, see page 57. For a list of participants at the research briefing on welfare and children's development, see page 58. For a list of other reports of the Board on Children, Youth, and Families, see page 60.

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Concerns about the well-being of children and adolescents who live in poverty have grown as the nation has embarked on a major restructuring of welfare, income support, health, and social service policies over recent years. As such decisions are made, it is critical that they consider the most current research regarding the effects of poverty and welfare dependency on children, and the outcomes of efforts to intervene in the lives of children and their families.

Although the attention of those who craft welfare reform proposals has been focused largely on the objectives of job training and placement of welfare clients, the new federal welfare law highlights the health and well-being of children as outcomes that warrant assessment in efforts to evaluate the effects of welfare reform. And while a growing number of interdisciplinary teams are engaged in empirical and evaluation work focused on children living in poverty and in families receiving welfare, little of this research addresses issues related to physical health and nutrition.

Furthermore, although there is a broader research literature on the links between income and health (Newacheck et al., 1994; Wise and Meyers, 1988; Wilkinson, 1996), as well as on low-income children's access to health care (Fossett et al., 1992), more information is needed about this complex relationship, including the reasons for and extent of the links. Moreover, although scientists are studying issues related to children's nutrition, their work is largely being carried out in Third World countries. Complicating efforts to assure health care for impoverished children and adolescents are difficulties obtaining accurate estimates of the number lacking health insurance.

In an effort to bring together researchers engaged in current studies of poverty and child health and nutrition, to encourage discussion of these issues, and to identify the gaps in U.S.-based research in this field, the Board on Children, Youth, and Families (of the National Research Council and the Institute of Medicine) chose this issue as the subject of its third annual research briefing on welfare and children's development. The briefing, held in May 1997, was co-sponsored by the Family and Child Well-Being Research Network (of the National Institute of Child Health and Human Development, U.S. Department of Health and Human Services).

The briefing had three objectives:

- to highlight research that bears on contemporary debates about welfare policy and health care policy for the poor,
- to bring this research—some of it preliminary—to the attention of federal and state policy makers, and
- to consider next steps for research that confirms some of these findings, and to explore areas of new research on the well-being of children and youth in the context of devolving responsibility for welfare and health care.

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This report is organized around the following three questions that emerged from the presentations and discussions at the briefing:

- How do income and poverty affect the health of children and adolescents?
- How does nutritional status affect children's development?
- How are children and youth affected by changing patterns of health insurance coverage?

Each of these questions has been the topic of research for a number of years. But as with any research, the accumulation of knowledge is incremental and new policy contexts pose new questions that can challenge prior evidence. The briefing assembled both well-known and new researchers investigating these questions to present new findings that, collectively, can expand the knowledge base. In some cases their findings were generated from reanalyses of existing datasets (e.g., the Infant Health and Development Project, the National Health Interview Survey). In other cases, new datasets were analyzed specifically for the briefing (e.g., the Add Health Study, the Iowa Youth and Family Project, the Community Tracking Study). Most of these data were collected before the enactment of major changes in federal welfare and health care policy. In every case, the researchers tried to respond to new information requirements emerging because of contemporary policy changes.

In the area of child and adolescent health, for example, there is new interest in examining neighborhood-level influences on health care and health status. The presenters at the briefing shared an interest in examining the context in which health care is sought and provided, and in understanding the family processes that may mediate the effects of both neighborhood and economic factors on child and adolescent health. In the area of child nutrition, emerging issues addressed at the briefing include the reversability of different types and degrees of early malnutrition, the differing consequences of the developmental timing of malnutrition, and how environmental factors interact with malnutrition to affect development. The briefing included presentations from new longitudinal and evaluation research designed to address these questions. Research on children's insurance coverage, as a major determinant of their access to care, is relatively new and has received focused attention in today's policy context. The research on this issue presented at the briefing comes from the new Community Tracking Study, new analyses of the National Health Interview Survey, and a new survey of state Medicaid officials.

The briefing also featured a discussion by state health administrators of data and research needs from the perspective of state and local officials. Comments from this discussion are presented in quotations that appear throughout the report. Participants' ideas about topics that warrant further research are included in a section at the end of the report.

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The research briefing also included presentations and discussions of several new child health interventions, some of which are expected to yield data in the near future. These projects are described in Appendix A. Appendix B contains a list of projects monitoring the effects of welfare reform.

The presenters were selected through a lengthy process of peer nominations, starting with calls to major experts on child poverty, health, and nutrition. The goal was to identify investigators who had new findings on the issues of concern so that the information could move quickly from researchers to policy makers. Although efforts were made to identify the most significant new research at the intersection of child poverty, health, and nutrition, some relevant areas of inquiry were not included (for example, although incidence in children of asthma and injuries can be related to poverty status—see Halfon and Newacheck, 1993, and Rivara, 1995—this report does not include literature on these areas because they were not part of the research briefing) and there is undoubtedly much more research under way than we identified in our planning process.

This summary of findings is best viewed as a supplement to the literature on child poverty, health, and nutrition, rather than a comprehensive or representative review of current research on these issues. The report offers important new incremental evidence on these topics from one of a series of research briefings of the Board on Children, Youth, and Families that present work in progress and recent findings on various aspects of welfare and children's development.

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HOW DO INCOME AND POVERTY AFFECT THE HEALTH OF CHILDREN AND ADOLESCENTS?

At a time of tightening health care budgets and enormous health system change, researchers are attempting to determine the specific ways in which poverty affects the health of children and youth, and policy makers are searching for the most effective solutions to poor children's lack of health care. Twenty-one percent of children were poor in 1995 (U.S. Bureau of the Census, 1996).[1] The association between poverty and poor child health outcomes has been well documented. For example, research has shown that low-income children were 73 percent more likely to have a severe health condition than nonpoor children (Newacheck, 1994). Further studies have found that poverty is associated with increased neonatal and post-neonatal mortality rates, higher risk of injuries from accidents or physical abuse and neglect, higher risk of asthma, and lower developmental scores in a range of tests at multiple ages (Aber et al., 1997). Less is known about the mechanisms through which poverty operates, which aspects of poverty are most damaging, and the multivariate nature of poverty and its effects on children and youth.

Longitudinal studies show that family income is more strongly associated with children's ability and achievement than emotional outcomes, and early childhood poverty may have an even larger impact (Brooks-Gunn and Duncan, 1997). Researchers studying the relation between income and poverty and the health of children and youth have found that child health varies by family income, with the percentage of children and adolescents in very good or excellent health rising as family income increases[2] (Federal Interagency Forum on Child and Family Statistics, 1997). Researchers have also shown that health problems affecting children in the United States, including iron deficiency anemia, underweight and obesity, and asthma, are more prevalent among the poor (Newacheck et al., 1994; Wise and Meyers, 1988).

Research on child health outcomes presented at the briefing addresses these issues by focusing on the context (e.g., families, neighborhoods, etc.) in which health care is provided and seeking to understand how poverty affects children's health. (The second and third sections of this report also

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[1] This statistic uses the official poverty line, which has been criticized for being too low (Betsen and Michael, 1997).

[2] About 88 percent of children and youth in families with annual incomes of $35,000 or more were in very good or excellent health in 1994, compared to 63 percent of children and youth in families with annual incomes under $10,000 (Federal Interagency Forum on Child and Family Statistics, 1997).

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explore how poverty influences child health and nutrition and health insurance coverage.)

> ***"There has been a transition away from being able to name and count the problems to wanting to know what are our strengths, what is protective of our problems."***
>
> Susan Nalder, New Mexico Department of Health

A study presented by Jeanne Brooks-Gunn of Columbia University examined the effect of family and neighborhood income on the health care use of young children who were born premature and at low birthweight (Brooks-Gunn et al., 1997). The study used data from the Infant Health and Development Program (IHDP), which includes 985 low-birthweight preterm infants and their families in eight sites across the country; the children were seen 11 times from birth to age 8 (Gross et al., 1997). A quarter of the mothers were white, half were black, and the rest were Latina. Maternal reports about health care use, family income, health insurance, and family characteristics were obtained when the children were 12, 24, and 36 months of age. Neighborhood income was based on census tract residence at time of birth. In the study, the mothers provided information on hospitalizations, days spent in the hospital, doctor visits (for well-baby care as well as illness), and emergency room visits in the past year. Data were averaged over the child's first three years of life.

Low-birthweight children from poorer[3] families were more likely to be hospitalized, to spend more days in the hospital, and to have more visits to the emergency room than low-birthweight children from more affluent families, taking into account all other variables, including public and private health insurance. Number of doctor visits was not associated with poverty status. Residence in poor and middle-income neighborhoods was associated with more visits to the emergency room than residence in affluent neighborhoods, independent of family-specific income and all other characteristics measured (a finding that has heretofore been largely linked to low-income families and low-income neighborhoods). Interestingly, the finding about middle-income families runs counter to the conventional wisdom that low-income families primarily account for

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[3] Families in the study were classified as poor or nonpoor using the 1986 U.S. poverty thresholds, based on family income and size at the 12-month assessment (conducted in 1996). Regarding neighborhood income, families living in neighborhoods in which fewer than 10 percent of neighbors earned more than $30,000 were designated as poor; families in neighborhoods in which 10 to 29 percent or more of neighbors earned $30,000 or more were designated as middle income; and families in neighborhoods in which 30 percent or more of the neighbors earned more than $30,000 were designated as affluent.

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emergency room visits. Families in middle-income neighborhoods also reported more well-baby visits than families in poor or affluent neighborhoods, controlling for health insurance coverage. The study also found that health insurance was associated with more doctor visits for the low-birthweight babies, but not with hospitalizations or emergency room use.

Based on the findings of this study, Brooks-Gunn and her colleagues concluded that among families with low-birthweight babies, not only does family income shape the pattern of health care use, but the neighborhood in which the family resides also plays a role. They called for further exploration into identifying how poverty affects children's health care use. As Brooks-Gunn noted, the study suggests that reducing family poverty might reduce emergency room use and the number of hospitalizations among low-birthweight babies. In contrast, increasing the number of children with insurance would be more likely to affect routine and well-baby doctor visits. Thus, this study suggests that a combination of economic and health care policies would be most effective in improving health care use among poor families with low-birthweight babies. As children are increasingly covered by health maintenance organizations (HMOs) and similar plans, efforts to prevent emergency room visits may increase. The ability of HMOs to offer urgent care in a variety of neighborhoods may alter the relationship between neighborhood and emergency visits.

A study presented at the briefing by Kathleen Mullan Harris of the University of North Carolina looked at the effects of poverty and welfare receipt on physical health and health risk behavior among adolescents (Harris, 1997). The study used data from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative sample of 12,105 adolescents in grades 7 to 12 in the United States in 1995. The Add Health survey, which features a school-based design, was geared to help explain the causes of adolescent health and health behavior, with special emphasis on the effects of the multiple influences on adolescent life.[4]

Among the sample, 7,644 adolescents (63 percent) were non-Hispanic white, 2,294 (19 percent) were non-Hispanic black, 1,442 (12 percent) were Hispanic, and 667 (5 percent) were non-Hispanic other. Eighteen percent of the adolescents surveyed lived below the poverty line ($16,000 in 1995) and 29 percent lived within 150 percent of poverty ($24,000); 19 percent lived in families that had received some form of social welfare within the previous month.

The study found that the effects of poverty and welfare receipt on health and risk be-

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[4] Subsequent to the research briefing, the first data from the Add Health study were released (in September 1997).

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havior were negative and consistent across a range of outcomes (see Table 1), that is, for each health outcome, adolescents who live below poverty experience poorer health than nonpoor adolescents; in most cases, the welfare poor—those receiving either Aid to Families with Dependent Children (AFDC) or food stamps—have the poorest health and engage in the riskiest health behavior. Specifically, adolescents living below the poverty line had poorer general health (as reported by the adolescents and their parents); were more likely to miss school due to health or emotional problems; were more likely to have neurological impairment, obesity, and asthma; and were more likely to engage in risky behavior[5] than nonpoor adolescents. The only negative behavior that low-income adolescents engaged in at a lower rate than or at the same rate as nonpoor adolescents was substance abuse (defined as use of drugs, alcohol, and tobacco). This finding may indicate that this behavior occurs across income lines, although different factors may account for the same rates of use within the two income groups. Furthermore, no differences on any of these outcome measures were found between adolescents who lived below the poverty line and those living in families who were also poor and received welfare.

Harris explained the study's findings by noting that access to health care and insurance coverage differs between nonpoor and poor adolescents, with poor adolescents more likely to lack insurance or have trouble obtaining medical care. Even if they are covered by Medicaid, poor adolescents can encounter difficulties obtaining high-quality care (see section on health insurance). In addition, when low-income adolescents have health insurance, they are less likely than adolescents without health insurance to report that they are in poor health, but they still report poorer health than nonpoor adolescents, according to Harris.

Characteristics associated with increased risks of poverty (e.g., family structure—living with a single mother, urban residence, minority and immigrant status) are also associated with increased risks of health problems among adolescents, according to Harris. In addition, contextual influences, such as family interaction and parenting behaviors, affect adolescents' health and risk behavior. Parents in low-income families tend to monitor their teenage children's behavior to the same extent or more than nonpoor parents, the study found, while low-income parents seem to be less involved in other dimensions of their adolescents' lives (e.g., talking to other parents; becoming involved in their children's school; and

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[5] Risky behaviors include ever having sex, lack of birth control at first intercourse, lack of birth control at last intercourse, ever having a sexually transmitted disease, excessive symptoms of depression, delinquent behavior, violence toward another, violence as a victim, and substance abuse.

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Table 1
Adolescent Health Status and Health Behavior by Poverty Status

	Percent Nonpoor[a]	Percent Poor[b]	Percent Welfare Poor[c]
Physical Health			
General health fair to poor	4.6	9.1	10.1
Missed school due to health or emotional problem	33.7	40.8	44.5
Neurological impairment	15.9	23.3	26.4
Obesity	24.5	31.2	32.0
Asthma	11.5	13.2	13.9
Health Risk Behavior			
Ever had sex	35.3	47.0	48.3
Birth control at first intercourse	66.5	58.9	55.0
Birth control at last intercourse	69.8	62.5	62.5
Ever had a sexually transmitted disease	5.7	8.4	10.0
Depression	19.8	29.5	32.5
Delinquency	21.8	25.5	25.5
Violence toward others	32.0	44.2	47.5
Violence as a victim	18.4	26.0	28.1
Substance abuse	20.0	17.3	17.9

[a] Nonpoor adolescents live in families with incomes above the poverty line for a family of four ($16,000 in 1995).
[b] Poor adolescents live in families with incomes below the poverty line.
[c] Welfare poor adolescents live in families with income below the poverty line and receipt of either AFDC or food stamps.

SOURCE: Data from Harris (1997).

communicating with their children about friends, personal problems, and school activities). The study also found that in families that ate dinner together and parented democratically,[6] adolescents were less likely to have sex, be depressed, or act violently toward others. School and neighborhood effects, which the presentation did not explore, could also play a role in explaining the findings, Harris said; among the school and neighborhood effects that research has shown as most promising are neighborhood and community resources such as youth groups and community centers, the quality of schools and teachers, levels of crime and

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[6] Shared meals, one of the measures of "family connectedness," represent parents' involvement with their children by virtue of their presence during the meal and the likely communication exchanged, according to Harris; democratic parenting represents a type of parenting behavior (which has beneficial effects on most outcomes) in which parents and adolescents jointly make decisions about the adolescent's life.

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violence in neighborhoods, and the socioeconomic status of neighborhoods.

This study suggests that adolescent health, broadly defined, is associated with poverty, and that family behavior—such as sharing meals—may contribute to improved outcomes among low-income adolescents. Additional longitudinal research is needed to uncover the causal direction of these relationships and isolate parenting behaviors that improve outcomes.

Another study, presented by K.A.S. Wickrama of Iowa State University, explored adolescent health in a rural economy, specifically the effect of family economic pressure on adolescent physical health status. The study (Conger and Wickrama, 1997) used as its sample the Iowa Youth and Family Project, which includes 350 white adolescents and their parents in a rural, predominantly agricultural, eight-county area in northern Iowa. Data were collected from 1989 to 1994.

The study considered three variables—economic pressure, parental rejection (signifying parents' feelings about their children), and adolescent physical complaints[7]—as well as changes in these variables over a period of a few years. According to the researchers, economic pressure contributes to the psychological well-being of parents, and distressed parents tend to be more irritable, more power-assertive, less tolerant, more rejecting, and more hostile toward their children. Among the questions the study asked: Does family economic pressure during early adolescence influence parental rejection? Does parental rejection influence adolescent physical health? Does growth or decline in parental rejection parallel growth or decline in family economic pressure? Does growth or decline in adolescent physical health parallel growth or decline in parental rejection? Does parental rejection during early adolescence directly influence later growth in adolescent physical health complaints?

At the outset of the study, parental rejection was higher in families experiencing high economic pressure and both of these factors were associated with more physical complaints by the adolescents. Furthermore, these dimensions of family economics and functioning interacted over time so that changes in adolescents' physical complaints co-occurred with changes in economic pressure and in parental rejection.

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[7] Family economic pressure was measured by parents' responses to questions about ability to meet their basic material needs for such items as a home, clothing, household items, a car, food, medical care, and recreational activities. Parental rejection was measured by parents' and adolescents' responses to questions about parents' feelings of trust, love, and satisfaction with their children. Adolescent physical health status was determined by responses to questions about common physical complaints over the past three months, including headaches, coughs, sore throats, diarrhea, stomach aches, and skin rashes.

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The findings presented at the workshop confirm previous findings that illustrate an association between poverty and health. They further suggest that community and family may alter the relationship between the two. As policy makers seek to improve health outcomes for children and families living in poverty, findings such as these are relevant because they suggest options for intervention. For example, the association between community income and emergency room visits for low- and moderate-income low-birthweight babies suggests that interventions targeting the individual overlook the potential value in community-level responses.

The research presented raises a diverse set of questions for study, many of which are not commonly brought up in discussions of health care among the poor. What is the role of neighborhood context in families' access to health care? How can research explore aspects of health care delivery (i.e., proximity and hours of operation of physician versus hospital services), family and community norms, and prevailing health behaviors? What are the likely consequences of improving access to insurance among children with special health risks (such as low birthweight or special health care needs), as compared to children without these special circumstances? Should differential effects on amounts and types of health care used be anticipated?

The unique health risk behaviors and needs of adolescents, which appear to be worse among the poor, raise questions about the need to adapt today's institutions and mechanisms for delivering health care for different age groups. Does the location of health care facilities and the type of professionals who provide health care affect access to and effectiveness of health care for adolescents, particularly those living in poverty? What is the role of the family—alone and jointly with health providers—in promoting health among adolescents living in high-risk communities? How will recent changes in health care delivery affect this age group, and will the effects differ by family income and economic composition of the neighborhood? Will managed care contracts for the care of adolescents take into consideration the longstanding recognition by medical professionals that special skills and knowledge are required to treat adolescents?

Furthermore, what can be learned from families that have successfully navigated their way out of poverty in crafting effective health-care programs for low-income children and youth? Does urban poverty affect the health of children and adolescents differently than rural poverty? What different challenges do the geographic location of poor populations pose to the health care delivery system? How can racial and income-based disparities in health outcomes be reduced?

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As states contend with the redesign of health-care delivery systems now under way[8] amid major health system change, how should low-income children and youth, and those with special needs, be tracked to ensure that they do not fall through the cracks? How will cutbacks in state and local funding, the diversion of Medicaid revenues to managed care organizations, and proposed reductions in disproportionate share funding under Medicare and Medicaid affect the ability of public hospitals, teaching hospitals, academic health centers, community health centers, and others who have traditionally served the poor and uninsured to continue to serve these populations?

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[8] Under the proposed Performance Partnership Grants Program, each state must negotiate a maternal and child health action plan with the U.S. Department of Health and Human Services in 1998; the plan will include performance objectives that are specific in terms of outcomes, processes, and capacity, and that can be achieved over 3 to 5 years.

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HOW DOES NUTRITIONAL STATUS AFFECT CHILDREN'S DEVELOPMENT?

Research on the effects of poverty on children's nutrition and subsequent development—much of it conducted outside the United States—has begun to reveal how these factors may interact over time to exacerbate early problems. Studies have shown, for example, that poverty affects pregnant women's nutritional status by reducing income available for food and failing to ensure that fetuses receive the nutrition essential to normal brain development. Malnutrition in young children can lead to iron deficiency and growth failure. Deficits in brain growth and central nervous system development resulting from early malnutrition can compromise early learning, which can then become a risk for decreased economic opportunities and poverty (Karp, 1993, 1996, and 1997; Pollitt, 1995). Furthermore, obesity has been found to be a serious problem among low-income populations in the United States and, combined with poor dietary patterns, can predispose children and youth to diabetes, heart disease, and other health problems later in life (Troiano et al., 1995; Schonfeld-Warden and Warden, 1997; Must, 1996).

Despite these acknowledged links, few data exist to help us understand how poverty affects American children's health and nutrition.[9] Most recent research on malnutrition has been done outside the United States in studies of how malnutrition develops and affects the growth and well-being of all children, how poverty affects specific types of nutritional deficiency in children worldwide, and what interventions are effective.[10] Research conducted outside the United States has limited applicability to poor populations in this country because of differing environmental conditions and levels of malnutrition and a dearth of information on the kinds of deficiencies that exist in at-risk U.S. populations. Moreover,

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[9] Two national surveys measure children's nutrition—the National Health and Nutrition Examination Survey, or NHANES, and the Pediatric Nutrition Surveillance System, or PED NSS—and both have some flaws, according to researchers familiar with them. The NHANES is done infrequently and does not take measurements in the northern United States during the winter months, which is when significant nutritional problems can arise among children. The PED NSS depends primarily on children already in WIC, a program that features considerable state variability in participation; moreover, the status of those unenrolled (who may be at higher risk of malnutrition) is unknown. In addition, the PED NSS does not link its findings to housing, welfare participation, or other forces that might influence children's nutritional status. Other surveys, such as the Behavioral Risk Factor Surveillance System, have been criticized by researchers for not adequately addressing pediatric undernutrition.

[10] Several studies in the United States are exceptions: For more information, see research by Rush and colleagues (Rush et al., 1988) on the effect of nutritional supplements on the health status of children in the United States, and Brown and Sherman (1995) on the effect of inadequate nutrition on cognitive development.

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"Malnutrition affects the immune system; if policy makers want to save health care costs, they must nourish kids."
Deborah Frank,
Boston Medical Center

even when the U.S. data exist, they seldom capture the multiple factors now known to influence children's nutritional status and development.

Despite these limitations, data from low-income countries can be helpful in understanding the effects of poverty on child development in the United States[11] and some malnutrition research in Third World countries offers lessons relevant to American children. Studies that examine the diet of children and adolescents in countries from which children and families immigrate to the United States have implications for the growing share of the U.S. child and youth population that is composed of immigrants. Research into the effect of food shortages among children in foreign countries may have implications for American children living in families that no longer receive food benefits and whose incomes under welfare reform do not compensate for overall benefit losses. And studies overseas of iron deficiency anemia, which affects an estimated 25 percent of infants worldwide (Florentino and Guirriec, 1984), have implications for the 9 percent of American 1- and 2-year-olds who have iron deficiency anemia (Looker et al., 1997; Federation of American Societies for Experimental Biology, 1984).

Studies presented at the research briefing examined the effect of iron deficiency anemia on the development of infants in Guatemala, Costa Rica, and Chile. According to Betsy Lozoff of the University of Michigan (Lozoff et al., 1997a; Lozoff et al., 1997b), a follow-up study in Costa Rica found that children who had iron deficiency in infancy (and also had treatment) had lower mental and motor test scores at 5 years and at 10 to 13 years, did more poorly in reading and writing at 10 to 13 years, and had more behavioral problems at 10 to 13 years than peers who had good iron status in infancy, taking into account family and environmental factors (see Figure 1). Even more than 10 years after treatment, children with severe, chronic iron deficiency in infancy were found to be at a behavioral and developmental disadvantage relative to non-iron-deficient peers. Continued fol-

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[11] Pollitt (1994) argues that despite recognition that the magnitude and degree of poverty in low-income countries are larger and more severe than those in the United States, data from these countries can be helpful in understanding three U.S. public health problems: 1) the epidemiology and developmental significance of iron-deficiency anemia, 2) the impact of early supplementary feeding on cognitive development, and 3) the correlation between common illnesses and concurrent malnutrition, on the one hand, and educational outcomes among low-income school children, on the other.

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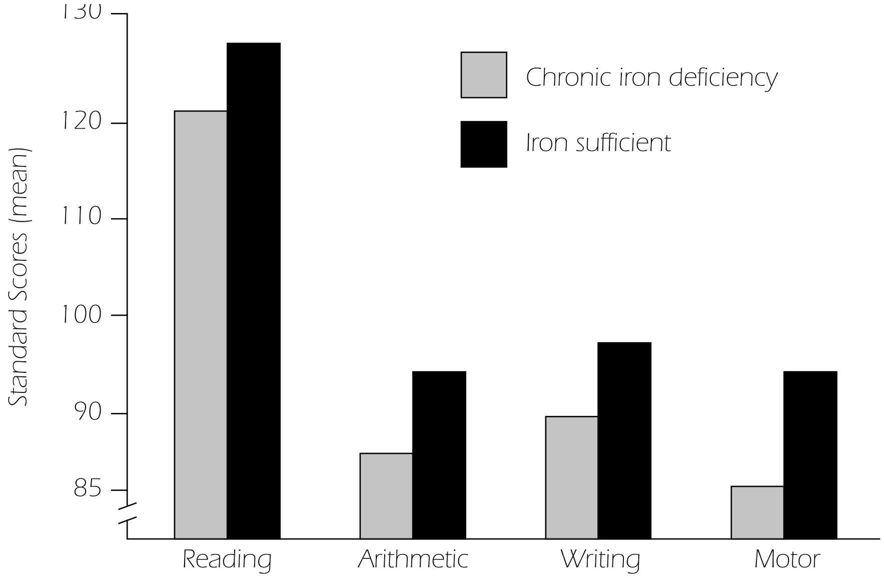
Figure 1

Infant Iron Deficiency:
Effect on Standard Tests in Early Adolescence (Costa Rica)



NOTE: All p values < 0.05 after control for background factors. Reading and arithmetic tests are the Wide Range Achievement Test; writing test is the Wechsler Individual Achievement Test; and motor test is the Bruininks-Oseretsky Test of Motor Proficiency.

SOURCE: Data from Lozoff et al. (1997a).

low-up studies will determine the ultimate educational level and career paths of children and youth in these regions with iron deficiency in infancy.

A separate study in Chile found slower nerve conduction in the auditory pathway among 6-month-old infants with iron deficiency anemia, according to Lozoff. Differences were not corrected after a year of iron therapy (Roncagliolo et al., 1996).[12] This is the first direct evidence that iron deficiency alters brain development in human infants. Earlier studies also suggested that when iron deficiency progresses to anemia, subjects perform poorly on developmental tests de-

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[12] Iron plays an important role in the creation of myelin which, in turn, affects nerve conduction. Animal studies have shown that iron deficiency during early development produces a deficit in brain iron that is not corrected by iron treatment.

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spite iron therapy (Walter, 1989), and that iron-deficiency anemia during infancy may be associated with irreversible adverse effects on cognitive performance (Walter, 1994).

In the United States, where infant formula and cereal are supplemented with iron (and sometimes ascorbic acid, which augments iron absorption), there has been a considerable increase in iron consumption among infants, according to Lozoff. However, she noted, toddlers and preschoolers still suffer from anemia (Yip et al., 1992); adolescents are also at risk due to rapid growth and poor diet (Looker et al., 1997). Because of the changes resulting from welfare reform, researchers may need to monitor populations such as the children of immigrants and the near-poor who may no longer be enrolled in entitlement programs that provide food benefits. It is also crucial at this stage to explore how iron deficiency anemia can be prevented, Lozoff said.

A separate study on nutrition in Kenya, Mexico, and Egypt underscores the importance not only of food quantity, but of food quality. The goal of the Human Nutrition Collaborative Research Support Program was to gauge the importance of the quality of children's diets for cognitive development (Sigman, 1995), according to Marian Sigman of the University of California at Los Angeles, who presented the findings.

The three-country study, which was organized in the early 1980s, enrolled about 750 families. Over the course of a year, nutritional levels were assessed in monthly two-day home observations of food consumed, interviews of all family members, and physical exams of the children. In addition, blood levels of various nutrients were assessed, social and economic conditions of the family were measured, and a weekly home visit recorded illness.

Diet quantity, as defined by adequacy of protein-energy intake, was only weakly and variably related to cognitive outcomes. In contrast, diet quality, as defined mostly by the availability of animal products, proved important for the development of cognitive abilities in the toddlers and school-age children studied in the three countries.[13]

In the Kenya sample, temporary food shortages in 1984 provided an opportunity for researchers to study the effects of a decline in food availability on the behavior of young children and their mothers (McDonald et al., 1994). Toddlers were affected the least because their food intake

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[13] Preliminary studies have been done to determine the particular micronutrients associated with scores on the developmental and cognitive scales. In general, animal products were important not so much as a source of energy or protein, but as a source of vitamins and minerals otherwise restricted in local diets. It is also important to consider factors in addition to animal product intake—such as socioeconomic status, family rearing style, parental abilities and education, and length of child's schooling—that could affect children's cognitive scores.

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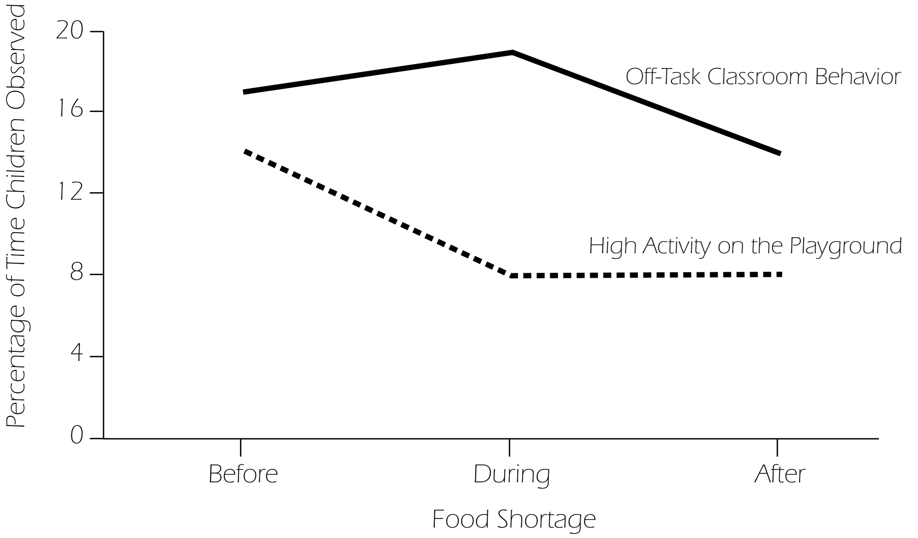
Figure **2**

Effect of Food Shortage on Schoolchildren's* Classroom Behavior and Activity (Kenya, 1984)



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*Age of schoolchildren ranged from 7 years, 1 month, to 8 years, 5 months.

SOURCE: Data from Sigman (1995).

and weight-for-age did not decline, while their mothers suffered the most—they had less to eat and less to feed the rest of the family. The temporary food shortage seemed to have a profound effect on schoolchildren, who had less to eat during the food shortage than the toddlers. As a result, schoolchildren showed a small decline in their attentiveness to classroom tasks and a reduction in activity on the playground (see Figure 2). In times of food shortage, Sigman noted, Kenyan children are affected not only by the food they eat, but also by their living environment and by how their parents distribute the food.

Studies led by Ernesto Pollitt of the University of California at Davis looked at the effects during two periods of early supplementary feeding on cognition in four Guatemalan villages. The Institute of Nutrition of Central America and Panama longitudinal study was conducted from 1969 to 1977; a cross-sectional follow-up of former participants was carried out from 1988 to 1989 (Pollitt et al., 1995).

The aim of the studies was to assess the differential effect of two dietary supplements, Atole (a highly nutritious supplement containing 163 kcal/682 kJ and 11.5 g protein per cup) and Fresco (a less nutritious supplement containing 59 kcal/247 kJ and 0 g protein per cup), which were given

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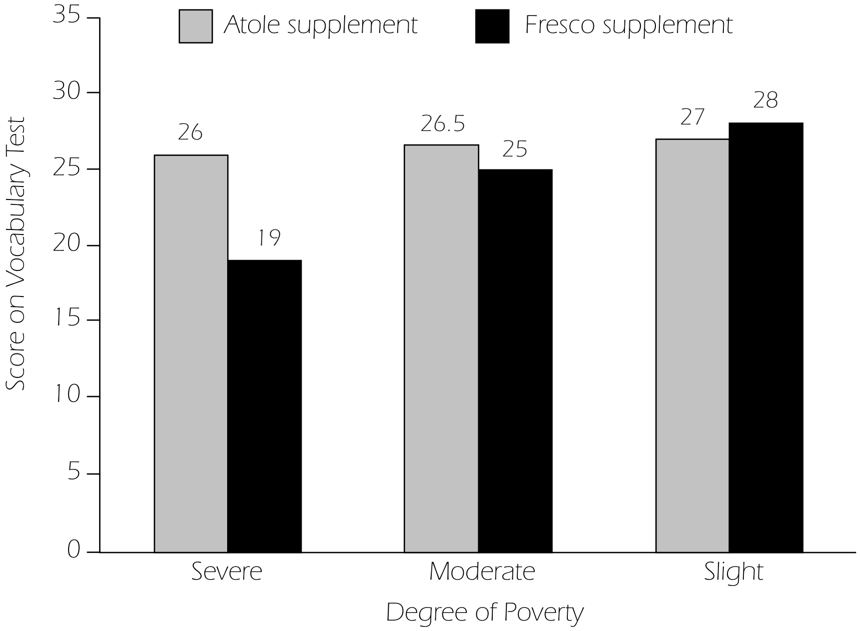
Figure 3

Effect of Supplementation on Vocabulary Scores, by Degree of Poverty (Guatemala, 1988-89)



SOURCE: *Adapted from Brown and Pollitt (1996).*

to Guatemalan mothers, infants, and young children up to age 3. When the subjects reached adolescence, they were given a battery of psychoeducational and information-processing tests.

Adolescents who as children had received Atole, the supplement higher in nutrients, scored significantly higher on tests of knowledge, numeracy, reading, and vocabulary than those given Fresco. Atole was also associated with faster reaction time in information-processing tasks. In addition, there were significant interactions between type of dietary supplement and degree of poverty: At the lower ends of the poverty scale, those who received Atole supplements performed significantly better than those who received Fresco supplements; at the higher ends of the scale, there were almost no differences between children who received the supplements (see Figure 3). From the follow-up survey, the researchers concluded that the increase in nutrients produced by the dietary supplements explain the differences in test performance of the Guatemalan children given Atole supplementation and those given Fresco.

In another study in West Java, Indonesia, Pollitt and colleagues tested how supplements affect nutritionally at-risk children of

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different ages (Jahari et al., 1996; Walka et al., 1997). Over a 12-month period, two groups of children (12 and 18 months of age) were given three different nutritional supplements: high energy plus micronutrients, skim milk plus micronutrients, and skim milk alone. The children were tested every two months to determine how they were progressing in level of activity, mental development, and interaction with their social and physical environment.

As expected, the supplements had different effects with different timetables, according to Pollitt. In most of the developmental areas that were assessed, the group that received the high energy plus micronutrient supplement benefitted more than the group that received only skim milk. With some exceptions, there were no major differences between results for the group given the energy and micronutrient supplement and the group given the supplement consisting of skim milk and micronutrients.

Although research on child malnutrition has been done primarily outside the United States, a study examining the U.S. Food Stamp Program shows how food spending and nutritional intake can vary over the month for families with children.

Parke Wilde of Cornell University presented the results of a study of the monthly cycle of food use by food stamp recipients (Wilde, 1997, and Wilde and Ranney, 1997). More than 25 million Americans used food stamps in 1996. The study, the first to measure monthly cycles nationally, used two nationally representative surveys—the Bureau of Labor Statistics' Diary Consumer Expenditure Survey (CEX), which reports spending by consumer units on food and other frequently purchased items, and the U.S. Department of Agriculture's Continuing Survey of Food Intake by Individuals (CSFII), which reports actual food intake by household members; the study used 1988-92 data from the CEX and 1989-91 data from the CSFII. About half of the food stamp households in the study received AFDC and most of the remaining households had some other source of income, such as wages or social security.

Food expenditure and food intake exhibited distinct monthly patterns among the food stamp households, according to Wilde. Mean daily per-person expenditure on food at home peaked sharply in the first three days of the food stamp month and flattened out for the remainder of the month. There was little difference in the spending cycle for families with and without children under age 18. Per-person food expenditure was lower for families with children because children consume less food than adults (teenagers excepted), so this difference does not indicate less adequate food supplies for households with children.

The monthly cycle of food intake varied less than the cycle of food spending, because food stamp families store much of the food purchased during their grocery shopping trips at the beginning of the month. Mean

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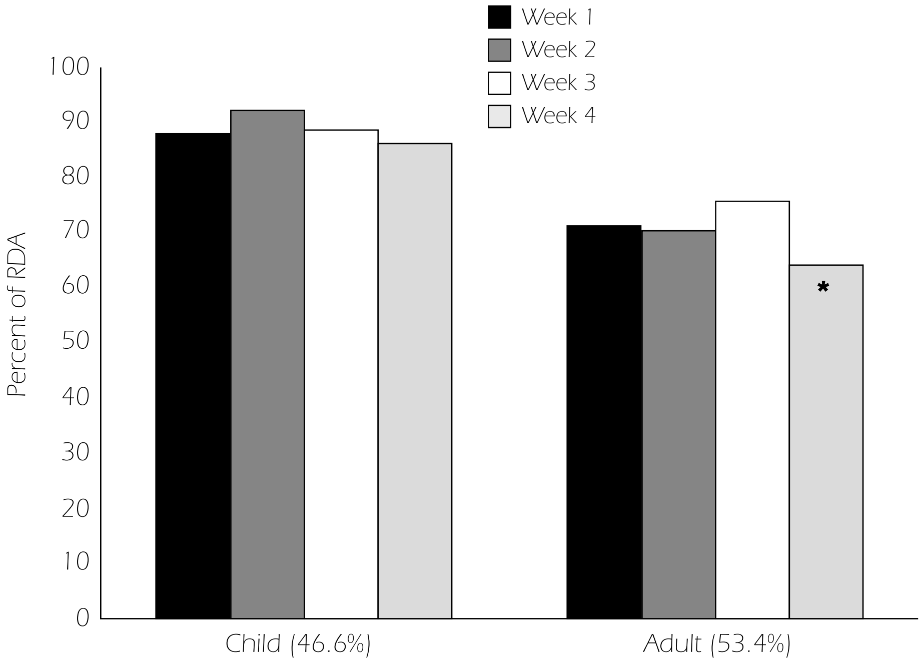
Figure 4

Monthly Patterns of Food Energy Intake of Food Stamp Recipients, by Age



* Caloric intake in week 4 is significantly less than in week 1.

NOTE: Children are defined as ages birth to 18.

SOURCE: Data from Wilde (1997).

food energy intake remained steady for the first three weeks and dipped moderately in the fourth week (see Figure 4).[14] Because food energy is so essential, even this moderate dip in food energy intake may indicate substantial stress in the household budget at the end of the month. Adults absorbed almost the full drop in food intake, eating significantly less in the fourth week than in the first. Food intake for children and adolescents remained fairly constant over the food stamp month, indicating that parents may be protecting their children from the drop in food at month's end (or may be reluctant to report that their children are going hungry).

The study found that AFDC nonrecipients

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[14] This dip was not statistically significant for the full sample, but it was significant for some foods, such as dairy products and fruit.

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experienced a significant drop in food intake in week four of the food stamp month, while AFDC recipients experienced no drop. This difference could indicate that some aspect of the AFDC program—perhaps the receipt of cash benefits twice monthly—ameliorates food shortages at the end of the food stamp month. Or other household differences between AFDC recipients and nonrecipients could be responsible, according to the study.

Wilde and his colleagues called for further research to assess the nutritional implications of the cycle of food intake, as well as for the addition to current national surveys of questions related to the time of month when households receive cash income; surveys currently ask only when households receive food stamps. Wilde's findings, coupled with the possibility that welfare reform may reduce food accessibility for low-income families (Willis et al., 1997), raise concerns that reductions in nutrition programs and decreases in welfare rolls may harm childhood nutrition.

Poverty and nutritional programs are not the only factors that influence children's nutrition. Anything that affects a family's resources—including shelter, transportation, and medical care—can affect children's nutritional status (though no U.S. nutrition monitoring system currently considers the entire picture). Deborah A. Frank of Boston Medical Center and her colleagues conducted the Nutritional Surveillance Program in the Pediatric Emergency Room to determine seasonal variations in the prevalence of low-weight-for-age among young children (Frank et al., 1996); weight-for-age is a good predictor of mortality, along with health indicators such as low birthweight, inadequate nutrition, and acute or chronic illness.

Frank and her colleagues analyzed data on 11,118 children ages 6 to 24 months who visited the Boston City Hospital Pediatric emergency room between July 1989 and June 1992. Medical diagnoses were documented on a randomly selected subsample of 1,569 children. A questionnaire about food insecurity was administered to a subsample of 269 families with children under 3.

The percentage of children visiting the emergency room with weight-for-age below the fifth percentile was significantly higher in the three months following the coldest months of the year than in the remaining months of the year, taking into account year of measurement. The questionnaire suggested a relationship between economic stress and food insecurity that might help explain the seasonal effect. Families who were without heat or who were threatened with utility turnoff the previous winter were twice as likely as other families to report that their children were hungry or at risk for hunger.

Frank and her colleagues concluded that winter and early spring constituted periods of increased nutritional risk in this sample of predominantly low-income children,

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probably due to the increased caloric need associated with cold stress and infections.[15] And they called for further research to determine whether decreased caloric availability due to high heating costs—a "heat or eat" effect in which families must choose between paying for heating or paying for food—also contributes to this phenomenon. Given the potential selection effects associated with emergency room use, it would be useful for this study to be replicated using a population-based sample (the researchers found no change in the demographics of emergency room use during the course of the study). In addition, it will be important in future studies to supplement parent reports of food insecurity (hunger or risk of hunger) with medical reports on nutritional status of the children.

In a separate study, Frank and her colleagues tested the hypothesis that poor families' receipt of housing subsidies is associated with improved nutritional status in their children (Meyers et al., 1992/93). The study was carried out in 1992 in Boston, where 70 percent of low-income renters spend at least half of their income on housing; food support programs alone do not provide an adequate diet for this population. The study sample was 203 children under age 3 and their families who were seen during one of 27 24-hour periods in the pediatric emergency room of Boston City Hospital. According to Frank, the study found that receiving a housing subsidy is associated with improved growth in low-income children, an effect that is consistent with housing subsidies having a protective effect against childhood undernutrition.[16]

It is critical to continue research that can inform efforts to intervene in the lives of children who have experienced malnutrition, particularly American children and youth. Among the questions that warrant attention: How does malnutrition affect cognitive development and school achievement? Are some of the consequences of malnutrition easier to reverse than others? Are some irreversible? How the timing of interventions affect development and the onset and duration of the nutritional deficit? What are the implications for targeting scarce funds for intervention?

What role does a child's overall health, the conditions in which he or she was raised, exposure to other risks, and community context play in exacerbating or mitigating the effects of malnutrition? Do these factors vary with child age, age of onset/exposure to poor nutrition, and length of deprivation? How can longitudinal studies of American children who have experienced differing degrees of malnutrition provide policy-relevant information?

How will changes in federal and state welfare policy affect children's nutritional sta-

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[15] Malnourished children are more likely to get sick because malnutrition affects the immune system.

[16] This effect has been replicated prenatally in a study of low birthweight in Chicago (Roberts, 1997).

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tus, and thus their development, and how will these outcomes be monitored? Will different groups of children be affected differentially (i.e., infants and toddlers versus adolescents, immigrants versus native-born children, poor versus near-poor families)?

Among families living in poverty or near poverty, to what extent is the nutritional status of children and adolescents affected by food programs at school and in other settings? Do these programs have specific effects on food intake or food quality? What are the differential effects on child nutrition of policies that use such strategies as the direct provision of food (e.g., school lunch), food vouchers (e.g., the Special Supplemental Nutrition Program for Women, Infants, and Children, or WIC, and food stamps), and nontargeted income supplements?[17] Given the research on the importance of food quality, what role can varying strategies—such as food benefits that restrict what can be purchased, as is the case with WIC, consumer education, and dietary supplements—play in improving child nutrition?

What can additional research tell us about how families package and use their resources over time and across family members (including among extended family members and “fictive” kin), and how these choices affect food expenditures, food intake, and child nutrition? How do these choices affect infants, toddlers, school-age children, adolescents, and pregnant women?

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[17] For existing research on the effects of school nutrition programs, WIC, and food stamps on children and youth, see Fraker, 1990a and 1990b; Fraker et al. 1995; Gordon et al., 1995; and Devaney et al., 1989 and 1990.

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HOW ARE CHILDREN AND YOUTH AFFECTED BY CHANGING PATTERNS OF HEALTH INSURANCE COVERAGE?

Several major policy changes affecting health insurance for children and youth have taken place in recent years. Most notably, expansions of the Medicaid program have increased the number and proportion of Medicaid-insured children (Newacheck et al., 1995). Managed care-type plans are serving a growing share of private and Medicaid-enrolled children (Rowland and Hanson, 1996). Despite these increases in Medicaid coverage, the percentage of children insured remained stable between 1988 and 1992 because of a decrease in private insurance and an increase in Medicaid (Newacheck et al., 1995). There is some evidence of Medicaid coverage "crowding out" private coverage (Dubay and Kenney, 1997; Cutler and Gruber, 1997). (For more information on Medicaid, see box on p. 24.)

A number of studies have documented the negative consequences of lack of insurance among children and youth. Using data from the 1980 National Medical Care Utilization and Expenditure Survey, Spillman (1992) found that uninsured children and adolescents were 14 percent less likely to use medical services (nonemergency ambulatory care) than insured children and youth; among those who used medical services, uninsured children had 15 percent fewer visits than insured children. Marquis and Long (1994-95, 1995), using data from the 1987 National Medical Expenditure Survey, found that uninsured children and youth received 70 percent of the outpatient visits received by similar children and youth with insurance, and about 75 to 85 percent of the inpatient days.

Furthermore, children and adolescents who lack health insurance are less likely to have a usual source of care, are less likely to be immunized and receive well-baby care or well-child care, and are more likely to be hospitalized for conditions that could be avoided (Kasper, 1987; Rosenbach, 1985; Short and Leftkowitz, 1992; Leftkowitz and Short, 1989). A Kaiser/Commonwealth Fund health insurance survey found that 34 percent of the uninsured did not receive needed care, and 72 percent postponed needed care (Davis et al., 1995).

A recent survey from the National Center for Health Statistics (NCHS) found that, compared with privately insured children from birth to age 18, children and adolescents without health insurance are six times more likely to go without needed medical care, five times more likely to use hospital emergency rooms as a regular source of care, and four times as likely to have necessary care delayed (Simpson et al., 1997); the NCHS study analyzed the Access to Care and Health Insurance questionnaires of the 1993 National Health Interview Survey, the

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What Is Medicaid?

Medicaid is the nation's largest public program for providing health care to low-income people, covering some but not all low-income Americans. It is jointly financed and administered by the federal and state governments. Medicaid provides coverage for a broad range of services. Medicaid insured 41 million people in 1995 at a cost of $151 billion (Ku and Coughlin, 1997).

Medicaid provides a comprehensive package of benefits designed specifically for children and youth, including services ranging from prevention and primary care to the more specialized care and support required by children and adolescents with special needs. The Medicaid program provides these comprehensive benefits at an average cost of $1,370 per child (for nondisabled children); administrative costs of the Medicaid program represent 4.5 percent of total program spending (Families USA, 1997b).

Before welfare reform, the rules governing Aid to Families with Dependent Children (AFDC) and Medicaid were closely tied. Under Temporary Assistance for Needy Families (TANF), the federal block grant to the states, states must use AFDC eligibility criteria of July 1996 (before the law changed) to determine Medicaid eligibility for families with children, regardless of how eligibility for TANF changed (at their option, states may instead use more stringent AFDC criteria to determine eligibility, as long as these were in place after 1988) (Ku and Coughlin, 1997). Even so, the law could alter the way poor families qualify for Medicaid since eligibility for Medicaid will no longer be automatically linked to eligibility for welfare.

For further analyses of the effect of welfare reform on Medicaid, see Center on Budget and Policy Priorities, 1996; Ku and Coughlin, 1997; and Koppelman, 1997.

first national survey to ask about unmet needs for health care.[18]

Although Medicaid coverage reduces differences in access to care, children and youth covered by Medicaid still experience barriers in obtaining care. Children and adolescents covered by Medicaid have less access to appointments (Medicaid Access Study Group, 1994) and physicians (Yudkowsky et al., 1990), compared to children and youth covered by private insurance. Low-income children with Medicaid have improved access to care compared to uninsured poor children; however, compared to children living above the poverty level, they are less likely to receive routine care in physicians' offices and more likely to lack continuity of

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[18] For further discussion of problems in access to health care and related services by adolescents, see Office of Technology Assessment, 1991.

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care between routine and sick care (Peter et al., 1992). Compared to uninsured children, Medicaid-insured children (those with a full year of coverage) are more likely to have a well-child visit; but even if all children under 200 percent of the poverty line had Medicaid, low-income children would lag behind other children in their use of preventive services (Short and Leftkowitz, 1992).[19]

Despite the expansion of Medicaid and increases in coverage over time, many children and youth lack health insurance. Kogan and colleagues (Kogan et al., 1995) found that about a quarter of children and youth lacked health insurance for at least one month during their first three years of life and more than half of these children had a gap in insurance for six or more months. Not all children who are eligible for Medicaid are enrolled in the program.

Efforts to improve health care for children and youth living in poverty have focused on improving their access to care. An Institute of Medicine report on access to health care defines access as "the timely use of personal health services to achieve the best possible health outcomes" (Millman, 1993). Access to pediatric and adolescent care is affected by factors such as income, race and ethnicity, health insurance status, geographic region, family makeup, and family values. Research has shown that children and youth in low-income families experience racial and income-based disparities in their health outcomes (Newacheck et al., 1994; Wise and Meyers, 1988). Adding to the problems of obtaining health care for impoverished children and adolescents is the difficulty of getting accurate estimates at the community and state levels of those who lack health insurance.

Several current initiatives to reform health care are focused on increasing insurance coverage among children and youth. Recent Congressional actions are likely to further increase the number of children covered.[20] Expanding coverage for this population requires programs designed to

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[19] Challenges remain for assuring that increased investments in Medicaid translate into improved care and outcomes. Piper and colleagues (Piper et al., 1990) examined whether expansion in Medicaid eligibility in Tennessee improved prenatal care and pregnancy outcomes by comparing populations before and after the policy change. Despite increased enrollment, they found no improvements in the use of prenatal care in the first trimester and very low or moderate birthweight. Hass and colleagues (Hass et al., 1993) examined a similar expansion of coverage of pregnant women (up to 185 of the poverty level) in Massachusetts. They found that although adequate prenatal care was consistently associated with reduced severity of pregnancy-induced hypertension, the rate of adverse maternal health outcomes in uninsured women, while slightly higher than that for women with private insurance, was not significant.

[20] The Children's Health Insurance Program (CHIP), an initiative created under the new Title XXI of the Social Security Act and included in the Balanced Budget Act of 1997, for example, sets aside $24 billion over five years for states to expand health coverage to uninsured children whose families earn too much for Medicaid but too little to afford private coverage.

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consider the number of uninsured children, their characteristics and those of their families, and the reasons they are uninsured.

In order to find answers to these questions, the Center for Studying Health System Change is tracking changes in the health care system and their effects on people and providers. The Center's Community Tracking Study (CTS) features national surveys of households, physicians, employers, and health plans, plus case studies in selected markets. The surveys are being carried out nationwide in 60 randomly chosen health care markets and will be repeated on a two-year cycle. The preliminary findings presented at the research briefing were drawn from the CTS Household Survey, a telephone survey with an in-person supplement for households without telephones. Interviews were conducted between July 1996 and February 1997 and involved 24,000 families (44,000 individuals), a third of which have children (Reschovsky et al., 1997). Although the results constitute only 70 percent of the ultimate sample for this survey, they fully represent the U.S. population. The study defines children as individuals under age 18.

Some 8.5 million (about 12 percent) American children were uninsured at any point in time during late 1996 and early 1997,[21] according to preliminary findings presented at the briefing by the Center's James Reschovsky. Furthermore, most uninsured children (6.7 million, or 9.4 percent of all children) were uninsured for all of that one-year time period, and 5.4 million children (7.6 percent) were uninsured for part of that year. Uninsurance rates among children vary considerably from city to city; in some localities, nearly one child in five lacks insurance, while in others, the number is much lower.

Thirty-three percent of uninsured children are under age 6, the CTS found. More than three-quarters (78 percent) live with working parents and 68 percent live in two-parent families. More than a third (37 percent) live in poverty. A majority of uninsured children are white, although minorities are disproportionately represented; this is particularly true for Hispanic children, who make up 29 percent of all uninsured children. Fourteen percent of uninsured children are African-American.

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[21] This figure is lower than the 9.8 million uninsured children that is most commonly used in the policy debate on uninsured children, and which comes from the March 1996 Current Population Survey, which asked about insurance coverage during 1995. The Center believes that although a small portion of the difference between the two numbers could be explained by the CTS data being more recent, the difference most likely reflects methodological differences in how the two surveys ask about health insurance coverage. For an updated estimate of the number of children uninsured for one month or longer during 1995 and 1996, using data from the CPS as well as the Survey of Income and Program Participation, see Families USA, 1997a.

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> ***"Our data needs reflect the agency's change from having a primary focus on regulating the health care market to simply understanding it."***
>
> James Welsh, New York State Department of Health

Reschovsky and his colleagues found that the three primary reasons children lack insurance are related to their parents' employment: job instability, employers that do not offer health benefits, and the cost to workers of employer-sponsored insurance. About 22 percent of uninsured children do not have a working parent and consequently lack access to employer-sponsored health insurance benefits. Another 15 percent of children have parents who work for companies that offer health benefits, but the parents are ineligible for benefits, usually because they have not worked for the employer long enough or do not work enough hours (see Figures 5 and 6).

About 39 percent of uninsured children have parents who are working, but their employers do not offer health insurance benefits, Reschovsky and his colleagues found. The remaining uninsured children, about one in four, have parents who refused offers of health insurance from their employers, or who work for companies that do not offer family coverage. The overwhelming reason parents gave for refusing health insurance coverage is cost.

If parents lack access to employer-sponsored insurance coverage for their children and are unable or unwilling to purchase policies individually, they can either go uninsured or seek public assistance. The CTS study estimated that about 20.3 million children are eligible for benefits through Medicaid, the primary public insurance program for children.[22] Slightly over half of these are enrolled in Medicaid, and another 6 percent have other types of public insurance. A quarter of Medicaid-eligible children (about 5 million) are covered by private insurance. Finally, CTS estimates that about 16 percent of Medicaid-eligible children (or 3.2 million) remain uninsured; this group constitutes about 38 percent of all uninsured children. Half of these children are under age 6, 82 percent live in poverty, and 39 percent are Hispanic; little is known about why they remain uninsured.

In order to learn more about children's access to Medicaid, a separate study called Medicaid and Children: A Decade of Change (Newacheck et al., 1997) explored the effect of increased enrollments in Med-

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[22] The study estimated Medicaid eligibility by applying children's ages and family incomes to the eligibility standards of the states in which they lived; these estimates should be regarded as approximate. Children who qualify for Medicaid due to medical need or other unidentifiable provisions were not included in the count.

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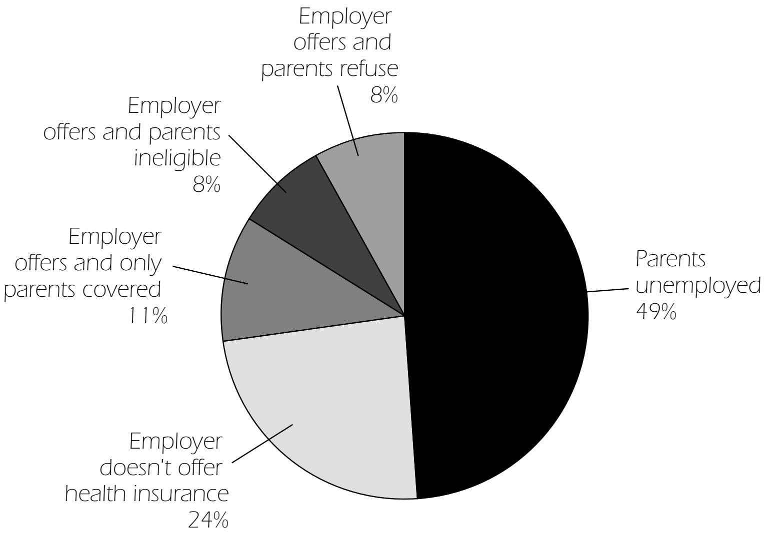
Figure 5

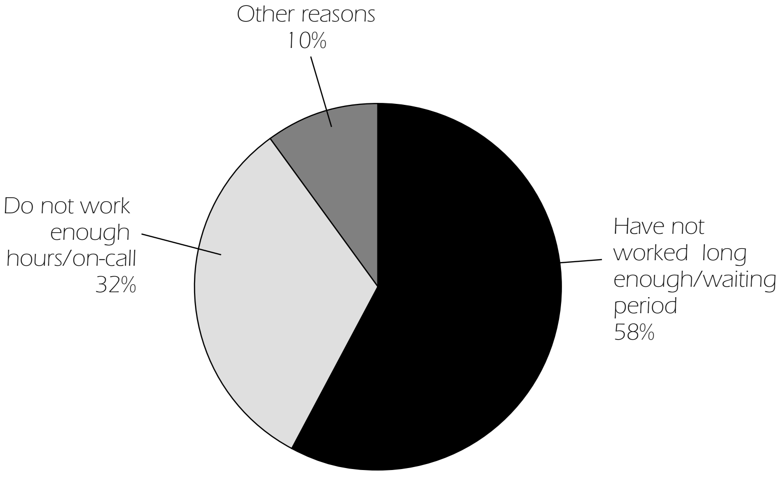
Work/Health Insurance Status of Parents of Publicly Insured Children



SOURCE: Data from Reschovsky et al. (1997).

Figure 6

Reasons Why Working Parents of Uninsured Children Are Ineligible for Employer-Offered Health Benefits



SOURCE: Data from Reschovsky et al. (1997).

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icaid on the access of low-income children and youth to health care. The study's goal was to determine whether the disparity in health care use between poor and nonpoor children has narrowed as a result of Medicaid expansion.

The number of children and youth enrolled in Medicaid has increased dramatically—from 10 million in 1985 to 18 million in 1994—as a result of a series of Congressional mandates to expand eligibility by making coverage mandatory for certain segments of the population, according to Paul Newacheck of the University of California at San Francisco, who presented study findings.

The study examined the effects of Medicaid coverage on access, using the 1993-94 National Health Interview Survey on Access. The NHIS, which is an annual survey carried out by the Census Bureau, includes 45,000 households with 30,000 children. (Unlike Medicare, the Medicaid program has no national population-based dataset.)

The study found that Medicaid is associated with improved access for poor children, as indicated by increased use of physician services, increased likelihood of having a usual source of health care, and reduced likelihood of going without needed care (see Tables 2 and 3).

Despite these advances, however, problems remain. Even with Medicaid coverage, low-income children and adolescents can have reduced access to after-hours care, reduced access to a regular provider, and higher rates of dissatisfaction with the quality of their care, compared with nonpoor children and youth. Moreover, since children and adolescents living in poverty may need more health care, it would be expected that they would actually have more physician visits than their nonpoor counterparts, according to Newacheck.

The study concluded that Medicaid is effective in increasing the access of low-income children and youth to health care and in raising their levels of use up to (but not beyond) the care of nonpoor children and adolescents. Medicaid is less effective, however, in making sure that children and youth have high-quality care once they are in the health care system.

Newacheck cautioned that the study assessed only processes of care, not outcomes, and used primarily subjective health and access measures. The analysis did not distinguish between full-year and part-year Medicaid coverage, and the data were collected prior to the widespread adoption of Medicaid managed care arrangements[23] (used increasingly by states to contain the growth in Medicaid outlays) and prior to

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[23] In 1991, 9 percent of Medicaid beneficiaries were enrolled in some type of managed care arrangement; by 1996, enrollment had jumped to 39 percent. That year, 12.8 million Medicaid beneficiaries—of whom at least half can be presumed to be children—were receiving their services through a managed care provider (Fox et al., 1997).

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Table 2
Children's Usual Source of Health Care, 1993-94

	Percent with a usual source	Percent without a usual source
Nonpoor children	95.0	5.0
Poor children		
with Medicaid	95.2	4.8
without Medicaid	83.8*	16.3

* P<.01 compared to nonpoor children

NOTE: Values adjusted by regression analysis. Poor and nonpoor children are defined based on the official U.S. definition of poverty, which classifies as poor those families and unrelated individuals with pretax money income below the applicable poverty threshold for the family size; the poverty threshold for a two-adult, two-child family in 1993 was $14,654 (U.S. Bureau of the Census, 1995).

SOURCE: Data from Newacheck et al. (1997).

the decoupling of Medicaid enrollment from welfare receipt (with the passage of the Personal Responsibility and Work Opportunity Act of 1996).

To find out more about current trends in Medicaid enrollments, specifically how Medicaid managed care policies affect children and adolescents, Fox Health Policy Consultants conducted telephone surveys of state Medicaid officials in the fall of 1996, and reviewed 1996 managed care contracts, referenced documents, and contract language revisions (Fox et al., 1997).

According to preliminary results of the survey, presented at the research briefing by Harriette Fox of Fox Health Policy Consultants, all states but one have enrolled or will enroll Medicaid-eligible children and youth in some form of Medicaid managed care. The survey found that more states will be relying on fully capitated enrollment arrangements in the future, but most will use primary care case management systems (PCCMs).[24]

The study found that not only will the number of states using managed care continue to

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[24] Under a PCCM system, primary care providers are paid a small monthly fee to gatekeep specialty and inpatient services for each of the beneficiaries enrolled with them. All primary care and other health services continue to be paid on a fee-for-service basis. Under a fully capitated arrangement, HMOs and certain other types of plans are paid a monthly per capita amount to provide or arrange for a risk-comprehensive package of Medicaid services (at least three mandatory Medicaid services or inpatient hospital services and one other mandatory service) to each enrolled beneficiary (Fox et al., 1997).

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Table 3

Inability to Obtain Needed Health Care for Children, 1993-94

	Percent unable to obtain medical care	Percent unable to obtain dental care	Percent unable to obtain medications, eyeglasses, mental health care
Nonpoor children	1.5	5.3	2.3
Poor children			
with Medicaid	0.6*	3.4*	1.7
without Medicaid	5.1**	14.0**	6.2**

* P<.05 compared to nonpoor children
** P<.01 compared to nonpoor children

NOTE: *Values adjusted by regression analysis. Poor and nonpoor children are defined based on the official U.S. definition of poverty, which classifies as poor those families and unrelated individuals with pretax money income below the applicable poverty threshold for the family size; the poverty threshold for a two-adult, two-child family in 1993 was $14,654 (U.S. Bureau of the Census, 1995).*

SOURCE: *Data from Newacheck et al. (1997).*

grow, but also the proportion enrolling children and youth statewide will continue to rise. In the future, 43 states—86 percent of those that expect to use managed care for children and adolescents—will have managed care options in place statewide; in 1996, only 58 percent of those with managed care reported enrolling children and youth statewide. For the most part, those with statewide managed care will be more likely to use both PCCMs and fully capitated plans in the future.

It is likely that Medicaid managed care enrollment for children and youth may in the future be mandatory, the study found. Of the 50 states that will be using some form of managed care, 94 percent expect enrollment to be mandatory for at least some eligibility groups. A mandatory managed care enrollment policy will be applied to children and youth in all 47 states who were eligible for AFDC, to children receiving Supplemental Security Income (SSI) in 35 states, and to foster care children in 26 states.

Fox reported that the transition of Medicaid children and adolescents into fully capitated arrangements is occurring without ample data on how their access to care is affected. Her study called on states to monitor the effect of managed care on children and youth to use in structuring their managed care contracts, and suggested that states would benefit from more information about effective strategies for meeting the needs of

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children and adolescents, especially those who have or are at risk for various chronic conditions.

The Fox study concluded that states need to be able to assess plan capacity adequately and, in order to determine how much to pay plans for children's services, should gather more information about the effect of demographic and diagnostic risk adjustors and how they affect access and quality. Finally, the report called for greater investment in the design and evaluation of specialized managed care arrangements for children and adolescents with complex physical, developmental, emotional, or behavioral conditions.[25]

In a related presentation, Peggy McManus of McManus Health Policy, Inc., spoke about the factors that contribute to innovative managed care plans. Managed care plans, with their strong focus on preventive and primary care, are well positioned to identify infants and young children who are at risk for health or mental health programs, and to refer them and their parents for enhanced care, McManus said.

Among the strategies managed care plans might consider to improve the delivery of preventive and primary care for families with at-risk infants and young children are improved screening and risk assessment, multidisciplinary teams for evaluation and diagnosis, and outreach and home visiting. Among the strategies managed care plans might consider to address adolescents' needs are improved screening and risk assessment, specialty consultation for primary care providers, and co-location of mental health and primary care services.

Based on a national review of innovations in managed care, two plans were identified as exemplary for their initiatives targeted to parents with infants and young children and four plans were identified for targeting the unique problems of adolescents. The plans include a program that identifies high-risk mothers and offers enriched preventive and primary care, health education activities, and family support services, and a program that operates an adolescent center, which serves as a multidisciplinary clinic, providing comprehensive health care services to teenagers.[26]

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[25] For more information on managed care for families living in poverty, see Mathematica Policy Research, Inc., 1996a and 1996b, and National Health Law Program, 1997. For a General Accounting Office report on the challenge of holding managed care plans accountable, see GAO, 1997.

[26] For a full list of strategies to enhance preventive and primary care services for high-risk children in HMOs—based on a review of the literature, a survey of HMOs, a review of Medicaid-HMO contracts, and site visits—see McManus Health Policy, Inc., and Fox Health Policy Consultants, 1995. For more information on how the identified strategies are carried out in specific programs, see Fox Health Policy Consultants, 1996, and McManus Health Policy, Inc., 1996.

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It is unclear whether the increase in the use of managed care by state Medicaid plans will alleviate some of the problems faced by low-income children and youth because little is known about how Medicaid-insured children enrolled in managed care plans fare. One study with random assignment of children found that prepaid plan members received the same number of checkups, but fewer acute care visits, than fee-for-service members (Mauldon et al., 1994). Another study found that managed care plans selected and served healthier children (Scholle et al., 1997); if this phenomenon is widespread, fee-for-service Medicaid may experience increased problems as it serves a population with poorer baseline health.

The research presented on changing patterns of health insurance coverage raises a number of questions, including: How can accurate counts of the number of uninsured children and youth be obtained? Why do families whose children are eligible for Medicaid fail to enroll? What kinds of outreach efforts would most effectively encourage enrollment? Since some children and adolescents have full-year Medicaid coverage, while others have part-year, are there differences in health outcomes for populations that are enrolled continuously over a period of time? Why do rates of Medicaid coverage vary so much from region to region, with some geographic areas much lower than others?

What are the most effective strategies for meeting the needs of children and youth through managed care, especially disabled children and youth, those with chronic conditions, and other special-needs groups? How can problems among Medicaid-insured populations, such as reduced access to after-hours care and regular providers, be addressed? How can the medical care of children and adolescents enrolled in Medicaid be improved?

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RESEARCH CHALLENGES AND NEEDS: A STATE POLICY PERSPECTIVE

In addition to serving as a forum for the presentation and discussion of new findings on poverty and child health and nutrition, the research briefing provided an opportunity for state health officials to identify and discuss research needs from a state and local perspective. As states pay increasing attention to data as a guide in making decisions about policy, a number of challenges appear, including the following:

- Although states generate a considerable amount of data from a range of sources, many lack skilled researchers who can analyze and interpret the data.
- As some states build integrated data systems linking information from separate agencies on health, education, and other areas, questions remain about how to obtain data from private physicians and HMOs, how to make such systems available to researchers, and how to ensure confidentiality.
- Current indicator and outcome measures for children are inadequate for all children, but especially for special-needs populations such as disabled children; there are also questions about which measurement strategies best evaluate children's access to and quality of health care. For example, current tools that measure quality of care in managed care plans, such as the Health Plan Employer Data and Information Set (HEDIS), do not even distinguish children with special needs from other children. Similarly, with the possible exception of immunization rates, measures that are used in evaluating access and quality are often designed around the needs of adults and are not sensitive to children's particular needs.
- Although there is a high level of interest in comparing indicators of health delivery and health outcomes across states, many questions exist regarding the comparability of data across states.
- There is no standard way to measure nutritional status, a factor that complicates assessing how nutrition affects children's development.
- State officials lack a reliable estimate of the number of uninsured children and youth, making it difficult to identify and provide coverage to those children and adolescents.
- States often have difficulty collecting data across states and tracking children and adolescents as they move.
- Because each state has its own definition of minority populations and these differ from survey and census definitions, it is difficult to gather vital statistics on minorities as well as on immigrant children and youth and children of immigrants.
- Due to staffing, confidentiality, and access issues, states sometimes have trouble releasing data in a timely manner to researchers, policy makers, and the public.
- Educating the public and other stakeholders about the importance of data needs and ensuring that funding for research does

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not lose out to more visible and compelling needs for services are crucial issues at the state level.

- Monitoring efforts do not always focus on what is happening to the most vulnerable—children and youth who are sick and living in low-income families.
- Communities and states do not always work together on issues of access to health care and use of data, identifying the effective elements of community coalitions so that community members' concerns and suggestions are incorporated into policy.

In the context of these challenges, state officials highlighted the need for research that:

- is longitudinal, with a focus on how a wide array of factors affect child health, starting in the prenatal period or even prior to conception;
- assesses the differential effect of health care for families with different levels of income (by studying families in poverty as well as those newly out of poverty) amid changes in the welfare law, and assesses the differential effect for families with special health care needs amid changes in SSI eligibility;
- considers the many influences affecting the health of children and adolescents;
- considers the health and nutritional deficiencies of at-risk children in the United States, in order to better understand the relevance to American children of studies carried out in developing countries;
- focuses not only on access to care, but also continuum of care, prevention, and collaboration among different medical specialties, and examines outcomes of care, not just processes;
- identifies not only health problems, but strengths of communities' populations as well as behaviors that protect health—information that is increasingly being requested by local communities seeking a proactive agenda with which to move forward;
- promotes access to health care that meets the needs of minority populations; and
- can be presented clearly with research representing other perspectives and disseminated to policy makers.

> ***"We're often faulted for not having data, but there are a lot of data, just no one to analyze them, and no one knows that the data are there."***
>
> Kathy Wibberly,
> Virginia Department of Health

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APPENDIX A
NEW CHILD HEALTH PROJECTS/INTERVENTIONS

The research briefing featured presentations and discussions of a number of new child health interventions, several of which seek to promote family-centered, community-based care for children and youth. Some of the projects are expected to yield data that could play a role in informing public and private health care on such issues as cost effectiveness and performance indicators.

Healthy Start

Healthy Start is a five-year, 15-site, community-based demonstration program to reduce infant mortality rates by 50 percent (Mathematica Policy Research, Inc., and Harvard School of Public Health, 1997). The project was launched in 1992; the evaluation started in 1993 and a final report is expected in 1998. Federally funded, the project's investigators are Mathematica Policy Research, Inc.; Harvard School of Public Health; Health Systems Research, Inc., and RIVA Market Research, Inc.

Communities chosen to participate in the project had infant mortality rates greater than 50 percent of national rates and had to show they could organize a community-based response to the problem. Community involvement included creating consortia, instituting contracts with grassroots organizations, employing residents, reaching out to mothers, and coordinating mothers' care. Sites were also required to develop public information and education programs, service interventions, fetal-infant mortality review panels, and management information systems.

Based on preliminary analysis of linked birth and infant death records from a subset of sites through 1994 only, controlling for time trend and other variables, the investigators found Healthy Start had little effect on infant mortality rates in 1992, 1993, and 1994 when compared to similar sites without funding. Infant mortality rates declined in all the sites, but went down in comparison sites as well.

Investigators also found that Healthy Start appeared to reduce the likelihood of preterm delivery rates in some sites. And in one of the sites, there appeared to be an effect on mortality for births in which the baby weighed more than 500 grams at birth.

The investigators found a variety of results between sites and over time. Program implementation was gradual, with full implementation until, at best, late in the observation period. Therefore, they note, preliminary estimates are likely to understate the effects of full implementation. These findings could change once data from 1995 and 1996—when the project was fully implemented—are analyzed.

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Healthy Steps for Young Children

The Healthy Steps for Young Children program is a multi-site, national initiative to help parents foster the healthy growth and development of their young children (Commonwealth Fund, 1997). Sponsored by the Commonwealth Fund in partnership with national and local foundations and with health care providers, the program was launched in 1994 and operates at about 21 sites nationwide. A national evaluation has just begun.

Healthy Steps calls itself a new and expanded approach to pediatric care that goes beyond monitoring physical health to include child development and family nurturing. Through Healthy Steps specialists who work in traditional pediatric primary care practices, families are offered expert advice, time, and personal support to facilitate the healthy growth and development of their children from birth to age 3.

The Healthy Steps approach is based on the belief that the first three years are critical for both child and family, and that relationships are the key to development. Healthy Steps expands traditional medical boundaries beyond monitoring physical health, to include the promotion of child development and family nurturing. The program has eight components: Enhanced strategies in well-child care, periodic home visits, a child health and development record, parent handouts, a telephone information line, parent groups, child development assessment every six months, and efforts to connect families to community resources.

One of the goals of Healthy Steps is to test the effectiveness of the approach. A three-year, national evaluation, which has just begun, will try to determine how the program was successfully implemented; how and to what degree services are used; and how parental knowledge, attitudes, and behavior affect use of the program. The evaluation will also assess the effects of Healthy Steps on child health and development indicators, the program's cost effectiveness, and the potential for replication and institutionalization of Healthy Steps in pediatric practices. Because the program is being carried out at a range of sites (including clinical hospital settings, private-practice group settings, and managed care), the findings are expected to yield answers to some key questions.

Among the lessons learned since the program was implemented are that team-building takes time, clinicians are not administrators, and system change is difficult. Furthermore, the project has learned that ongoing contact and technical assistance are crucial. Biweekly technical assistance teleconference sessions are held to answer questions, reinforce training, and troubleshoot issues within sites; annual monitoring site visits are also scheduled.

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Pathways Intervention

The Pathways Intervention is a multi-site, 8-year study of obesity prevention in American Indian schoolchildren (Davis et al., 1997). By promoting physical activity and healthy eating in a culturally appropriate elementary school and family-based intervention, the project seeks to positively influence risk factors thought to be related to obesity. Pathways is being carried out through a cooperative agreement with five universities, seven Indian nations, and the Heart-Lung Institute. Launched in 1994, the project was piloted in four schools and is now in place in 20.

Pathways grew out of a concern about the increased prevalence of obesity, heart disease, and diabetes among American Indian children and adolescents, as well as decreased physical activity and increased consumption of calories and high-fat foods, as these populations become acculturated into the mainstream. The intervention targets a number of risk factors for obesity, including excessive television watching, little encouragement to engage in physical activity at home, low consumption of fruits and vegetables at home, high consumption of sugar drinks at home and in the community, and few family-based physical activities. At school, food service personnel encouraged children to finish their food and there were too few physical activities in which students could take part.

The Pathways curriculum incorporates Native American tradition and values into 24 lessons over a 12-week period to promote health-related behavioral changes and a healthful lifestyle. The curriculum incorporates cultural concepts that include American Indian customs and practices such as learning through observation and practice, learning from story-telling, learning metaphorically, holistic learning, learning by trial and error, learning through play, learning cooperatively, and learning through reflection. The training for the curriculum establishes a new school environment in which classroom teachers join with food service personnel, physical educators, and the students' families to implement the new behavioral skills.

Start Healthy, Stay Healthy

Millions of young children and adolescents from low-income working families lack health insurance and are missing out on benefits available to them through Medicaid. The Start Healthy, Stay Healthy program is a national outreach campaign initiated by the Center on Budget and Policy Priorities to improve children's access to health insurance (Center on Budget and Policy Priorities, 1997). The initiative is not a research project and does not include an evaluation.

Launched in 1994, the campaign uses early

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childhood programs and other community-based organizations to identify children eligible for Medicaid but not enrolled in the program. The campaign also trains staff of community-based organizations in helping families overcome barriers to Medicaid application and enrollment. By facilitating the enrollment of these children in Medicaid and similar state-funded programs, Start Healthy, Stay Healthy seeks to reduce the number of children who are uninsured or underinsured.

The problem of uninsurance or underinsurance becomes increasingly significant under welfare reform, as fewer children are expected to qualify for cash assistance programs. More families are likely to be working in low-wage jobs without insurance. Strict new rules may disqualify other families from receiving aid through their state's TANF block grant program. The delinking of cash assistance and Medicaid, as well as other changes in welfare, place children at risk of losing Medicaid even though they are likely to remain eligible based on July 1996 rules or poverty level coverage. Questions remain about whether these children will find their way into the Medicaid program.

Eligibility for other benefit programs (such as child and adult care food programs, subsidized child care, Head Start, WIC, food stamps, energy assistance, and the school lunch program) can signal Medicaid eligibility. Start Healthy, Stay Healthy trains staff of community-based organizations to recognize such signals and incorporate Medicaid-eligibility screening into their routine intake procedures. Families with children likely to be eligible are referred to Medicaid or given direct help in applying for the program.

As the project is being carried out nationwide, those involved say that providing information about Medicaid to low-income families is not sufficient. Establishing an easy, accessible application process is key to facilitating enrollment in the program. The project encourages state Medicaid agencies to facilitate the enrollment of children by eliminating assets tests, shortening and simplifying applications and verification requirements, instituting mail-in applications, and "outstationing" (processing applications at sites other than the Medicaid office).

The Start Healthy, Stay Healthy project is funded by the Ford Foundation, the Annie E. Casey Foundation, the Freddie Mac Foundation, and the Packard Foundation.

Opening Doors on Chicago's West Side

The Westside Health Authority, a consortium of community organizations on the west side of Chicago, in collaboration with university sociologists, conducted research on the sociocultural barriers to health care for low-income, minority women and their children living on Chicago's west side. During the project, conducted from 1995 to 1997, trained community residents observed

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sociocultural barriers to providing and receiving good care that face clinics and patients in the Austin and West Garfield Park communities of Chicago (Kohrman, 1997). The project was funded by the Robert Wood Johnson Foundation's and the Kaiser Family Foundation's initiative, Opening Doors: Reducing Sociocultural Barriers to Health Care.

Using observation, interviews, and focus groups, the trained community residents documented barriers created by the clinics and by patient beliefs and behaviors, including: Clinics provided inadequate privacy, time, information, and facilities for waiting children. Parents often failed to keep appointments—coming only when children had symptoms—did not understand how to give medications, misunderstood and misused generic drugs, and failed to tell medical providers all the symptoms and their concerns.

Researchers made a number of recommendations, including training health educators and advocates from the community to reduce misunderstandings.

Healthy Communities

In more than 1,200 locations in the United States, communities are addressing issues of how to get well and stay healthy through a movement called Healthy Communities (also known as Healthy Cities). The goal of these local multi-sector partnerships is to build healthier communities based on a vision of well-being for the total community (Coalition for Healthier Cities and Communities, 1997; Flower, 1995). Those involved in the initiative believe a healthy community is not an outcome, but a process that accommodates changing conditions and promotes improvement in the quality of life of its members.

A key element of the Healthy Communities concept, which was pioneered in Europe in the 1980s, is the use of a collaborative problem-solving process. That process allows a broad spectrum of stakeholders—including citizens and representatives from the private, public, and nonprofit sectors—to create a vision of well-being and implement a plan to turn the vision into reality. Using collaborative approaches, communities involved in the project work to improve education, housing, job transportation, environment, health, and quality of life in a manner that benefits all segments of society. Each community's process is unique and is affected by the particular character of the community, local priorities, the resources available, and the participants.

A patchwork of local public and private monies funds most of the work of Healthy Communities. Some of the communities have begun to engage in informal and formal evaluations.

Interest in the initiative has been driven by a number of forces, including a reduction in fee-for-service health care, rising competi-

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tion in both pricing and quality, a shift toward wellness and preventive care, and a recognition of the need to change behaviors linked to health outcomes. Those involved with the initiative believe these pressures will focus attention on areas outside the traditional realm of health care, such as education, the environment, and the economy.

The Asset-Based Community Development Institute

Established in 1995, the Asset-Based Community Development Institute (ABCD) seeks to disseminate two decades of research on capacity-building community development (Asset-Based Community Development Institute, 1997). A major focus of the program, which is located at Northwestern University's Institute for Policy Research, has been to produce resources and tools for community builders involved in capacity-based initiatives, helping them identify, nurture, and mobilize neighborhood assets. The Institute works on several health-related projects.

Rather than focusing on neighborhoods' needs and deficiencies, the Institute's founders use research showing that the resources of individuals, associations, and local institutions are the most effective tools for regenerating both urban and rural communities. The Institute is funded by grants from the Chicago Community Trust and the W.K. Kellogg Foundation.

Current projects include advising Healthy Communities initiatives and working with Grantmakers in Health in Chicago and in South Bend, Indiana. The Institute also conducts research on how local associations affect economic development, how local governments can assist asset-based initiatives, new media standards in neighborhood coverage, and evaluation approaches appropriate for community-building efforts. The institute holds conferences and publishes material for practitioners, and holds training programs for targeted constituencies.

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APPENDIX B
MONITORING THE EFFECTS OF WELFARE REFORM

The Personal Responsibility and Work Opportunity Act of 1996 replaced the entitlement status of Aid to Families with Dependent Children (AFDC) with the TANF (Temporary Assistance to Needy Families) block grant, providing states an annual lump-sum payment and a maximum five-year limit on benefits. The new law changes not only the principles and policies of the country's welfare system, but also the nature of efforts to evaluate the new programs and services.

Under the new law, the Secretary of the U.S. Department of Health and Human Services (HHS) is directed to encourage states to continue evaluating their waivers through random sampling, control groups, and other accepted experimental methods; the law also authorizes $15 million annually for research activities (from fiscal year 1997 through fiscal year 2002), half of which HHS is to allocate for federally initiated research and half for state-level evaluations. Thus, the quality, scope, and existence of welfare reform research and evaluation efforts are left to the discretion of individual states, researchers, and advocates.

A number of projects are monitoring the effects of TANF on low-income children and youth and their families (few monitor or measure child health and nutrition outcomes related to welfare reform). They include the following (all sponsoring organizations or agencies are located in Washington, D.C., unless otherwise indicated):

- *Assessing the New Federalism, the Urban Institute and Child Trends, Inc.*: One of the largest monitoring projects, this three- to five-year initiative seeks to document, analyze, and report on changes in the social safety net resulting from the decentralization of social programs in this country and their effects on the well-being of children and families. The project will also attempt to measure links between changes in government programs and changes in a set of indicators of well-being. Funding is from the Annie E. Casey Foundation and a consortium of other foundations.

- *JOBS Child Outcomes Study, Child Trends, Inc.*: Since 1989, Child Trends has conducted a study of the impact of the federal JOBS program (a welfare-to-work program) on children's health, cognitive development, adjustment, and school outcomes in three sites across the country. (The study is part of a larger evaluation of the economic impact of JOBS being carried out by the Manpower Demonstration Research Corporation under contract with HHS.) In a separate but related work, Child Trends is directing in Atlanta an in-depth, multi-year study on how mandatory maternal participation in JOBS affects mother-child interactions.

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- *Monitoring Child and Family Social Program Outcomes Before and After Welfare Reform in Four States, Chapin Hall Center for Children, University of Chicago*: This project will create a multi-state database to track and analyze the ways children and families use social services in California, Illinois, Massachusetts, and North Carolina. Initial funding is from the Edna McConnell Clark Foundation; the first of a series of five annual reports is anticipated in late 1998.

- *Monitoring Project, Children's Defense Fund*: This project encourages community-level information-gathering and monitoring of how the welfare law affects the well-being of families and children. The Children's Defense Fund (CDF) hopes to collect baseline information about families and children on welfare to compare with information on the status of children after the implementation of TANF. The Coalition on Human Needs is working with CDF in distributing client survey packets to national groups.

- *Multi-City Study of the Effects of Welfare Reform on Children and Families, Johns Hopkins University* (Baltimore, Md.): A multidisciplinary study of the effects of welfare reform on children and youth, this five-year project is gathering and analyzing longitudinal data in Baltimore, Boston, and Chicago. The study is funded by the Robert Wood Johnson Foundation, the Annie E. Casey Foundation, and others.

- *Project on Child Care Employment and Training Programs for Welfare Recipients, National Center for the Early Childhood Workforce:* As states and communities develop or consider programs to encourage welfare recipients to become child care providers, this survey aims for a better understanding of the conditions under which such programs can create good work opportunities and good child care, and how different models achieve or fail in these goals. The survey is supported by the Carnegie Corporation of New York.

- *Project on Devolution and Urban Change, Manpower Demonstration Research Corporation* (New York City): This project will examine how states, urban counties, and large cities restructure social welfare programs over the next five years, and determine what difference these policies make in the lives of low-income Americans. Research is being conducted in Cleveland, Los Angeles, Miami, and Philadelphia. The project is funded by a number of foundations.

- *Project on State-Level Child Outcomes: Enhancing Measurement of Child Outcomes in State Welfare Evaluations, U.S. Department of Health and Human Services (HHS) (Administration for Children and Families/Office of the Assistant Secretary for Planning and Evaluation):* HHS has added child well-being measures to several existing impact evaluations required by the federal government as part of the welfare waiver process. In addition, the National Institute of Child Health and Human Development (NICHD) Family

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and Child Well-Being Research Network (with Child Trends taking the lead) is working with a number of states to research how welfare reform has affected children and youth.

- *Projecting outcomes from state welfare plans, Mathematica Policy Research, Inc.:* Mathematica is creating a dynamic microsimulation model to project costs, caseloads, distribution impacts, employment, and other outcomes of state welfare plans. The model will build on the Simulation of Trends in Employment, Welfare, and Related Dynamics (STEWARD) model; the database will be prepared from Survey of Income and Program Participation (SIPP) data. The project is funded by the Smith Richardson Foundation and the U.S. Department of Agriculture's Food and Consumer Service.

- *Research Forum on Children, Families, and the New Federalism, National Center for Children in Poverty, Columbia University* (New York City): This project will coordinate a range of research projects, program evaluations, and assessment efforts, and function as an information clearinghouse for such programs as welfare reform. Using 81 studies related to devolution, the Forum and the Institute for Research on Poverty produced a list of involved states and major areas of investigation. The project is funded by the Annie E. Casey, Edna McConnell Clark, and Russell Sage Foundations.

- *State Documentation Project, Center for Law and Social Policy and Center on Budget and Policy Priorities:* Using "reporters" at the state level, this project will monitor, document, and analyze how the 50 states restructure their welfare policies, cash assistance programs for poor families, and food stamp and Medicaid programs, and assess policy trends around the country. The project, which was expected to yield data in early 1998, is funded by the Annie E. Casey Foundation.

- *A Study of State Capacity, Rockefeller Institute of Government, State University of New York at Albany* (Albany, N.Y.): This study examines the management systems states use to carry out their welfare, Medicaid, and workforce development programs to determine what policies are being implemented. The project, which will continue through 2000, is funded by the W. K. Kellogg Foundation, the Edna McConnell Clark Foundation, St. Luke's Charitable Health Trust, the Flinn Foundation, the Gund Foundation, the Fund for New Jersey, and the Schumann Fund for New Jersey.

- *Survey of Program Dynamics, Census Bureau, U.S. Department of Commerce:* This survey is designed to help policy makers evaluate the effect of welfare reform by examining the long-term effects of the reforms on the U.S. welfare system as well as on families, adults, children, and youth. HHS has asked the NICHD Network to assist the Census Bureau in identifying child and family outcomes to be added to this longitudinal study.

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- *Testing welfare demonstration projects, Abt Associates* (Besthesda, Md., and Cambridge, Mass.)*:* This private consulting firm is currently testing separate welfare demonstration projects for Arizona, Delaware, Indiana, and Michigan, and recently completed similar studies of projects in Alabama, Illinois, New York, and Ohio. The projects compare the performance of those participating in the welfare demonstration projects with those who remain on the regular welfare plan on measures such as employment and earnings, welfare participation and payments, child support payments, and participation in employment and training.

- *Welfare Information Network:* A national consortium for state and community-based welfare reform, this project serves as an information clearinghouse, gathering and disseminating information on research and evaluation activities. The Welfare Information Network is a special project of the Finance Project, a national initiative to improve the effectiveness, efficiency, and equity of public financing for education and other services for children and youth.

- *Welfare Policy Center, Hudson Institute* (Indianapolis, Ind.): This project conducts research and provides technical assistance on welfare reform, including a Milwaukee survey to determine what has happened to welfare recipients who have left the program after reform was initiated there. The project is supported in part by the Lynde and Harry Bradley and Charles Stewart Mott Foundations.

- *Welfare reform analysis, Center for Child and Family Policy Research, School of Public Policy and Social Research, University of California at Los Angeles:* This center, which conducts and promotes research, training, and community service programs to inform policy and develop programs for children and families, has is analyzing two welfare reform programs in California.

- *Welfare Reform Research Coordination Project, Institute for Women's Policy Research:* This project, which uses state-level researchers to develop a consistent set of indicators to assess the effects of welfare devolution on the well-being of low-income women and their children, aims to produce a model research and education program for welfare practitioners, advocates, and researchers. The project is funded by the Joyce Foundation, the Charles Stewart Mott Foundation, and the John D. and Catherine T. MacArthur Foundation.

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