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I. EXECUTIVE SUMMARY

The Demographic and Behavioral Sciences Branch (DBSB) brings a unique perspective and unique resources to the National Institute of Child Health and Human Development (NICHD) and the National Institutes of Health (NIH) at large. Our mission is to provide a better understanding of populations - how populations change in size, composition, and distribution; the complex social, economic and cultural factors that cause populations to change; and the consequences of population change for health and well-being at the individual and societal levels. The central foci of the DBSB program - fertility, reproductive health, mortality and morbidity, migration, family and household structures, and population distribution and characteristics - are integrally intertwined with population health and well-being. This report highlights the scientific activities and accomplishments of our program during the period 1995-1999, using as an organizing framework a set of six strategic goals developed during a 1996 long-range planning activity.

The Branch's program on *parenting and partnering* supports studies of fertility, family formation, family structure and the status of children as well as studies that highlight the interrelationships among these topics. Recent research on fertility includes studies of the causes and consequences of unintended pregnancy, early and delayed childbearing, and childbearing motivation. Research on families and children examines trends in cohabitation and marriage, the impact of nonmarital childbearing and divorce on children, and the impact of child support policies and father involvement on child well-being. Research on child care focuses on the choices parents make about child care providers and quality of care, and how these choices affect their children. Studies of nonmarital childbearing and the determinants of father involvement highlight the interrelationships between parenting and partnering. Activities such as the NICHD Family and Child Well-being Research Network and the Science and Ecology of Early Development 2000 promote policy-relevant research on families and children.

The DBSB program on *immigration* developed out of the recognition that large and diverse flows of immigrants to the U.S. have important demographic, social, and economic implications for our country. Recent research has studied determinants of legal and illegal immigration between Mexico and the U.S., the movement and naturalization of migrants after arrival in this country, and the health and well-being of new immigrants and their children. Already, a number of research projects are beginning to repudiate conventional thinking about the changing quality of immigrants over time and the process of immigrant adaptation and assimilation. A recently completed pilot study demonstrated the feasibility and potential usefulness of a full-scale longitudinal study of U.S. legal immigrants.

Recent research on *internal migration* has focused on population redistribution associated with welfare programs and immigrant streams, the 20th century movement of African American populations between the North and South, and the more recent movement of African Americans out of distressed inner city neighborhoods. Studies of *population and environment* have examined how population movement impinges on the environment in the Florida Everglades, the Great Plains of the U.S., the rain forests of Brazil, a rural province of Nepal, the forests of India, and an agricultural area in Thailand.

DBSB-supported research on *demography and health* seeks to understand how changing social, economic, and demographic conditions affect health and health behavior. A number of studies take advantage of unique economic and social transitions in particular countries in order to study their health and demographic impact. For example, research in several lower income countries shows that rapid changes in diet and activity associated with economic development and urbanization have been instrumental in promoting obesity.

Research on socioeconomic status (SES) and health seeks to understand the causal processes that link these outcomes by studying the influence of health on SES as well as that of SES on health over the life course. Studies identifying social, behavioral, and environmental factors that contribute to racial and ethnic differences in infant health and survival point to the importance of social support and health-promoting behaviors during pregnancy but do not fully explain racial and ethnic disparities.

Basic research on *sexual behavior* contributes to our understanding of fertility and the spread of sexually transmitted diseases (STD). DBSB-supported research has focused on understanding the factors that influence sexual behaviors and the use of contraceptive methods. In recent years, the Branch has expanded its effort to understand social and cultural factors in sexual behavior. Areas of current interest include the structure and dynamics of social and sexual networks, the concept of a "sexual marketplace" and its implications for the spread of STD, issues of sexual trust and sexual jealousy that influence risk and protective behaviors, and the factors that contribute to early sexual involvement among adolescents.

Prevention research seeks to inform the development of prevention strategies and develops and evaluates intervention programs to reduce HIV infection, STD, and unintended pregnancy. This includes research to understand the acceptability of barrier methods, the obstacles to "dual" method use, the levels of desired and unwanted fertility among HIV+ women, and the association between HIV infection and fertility. It also includes the development and testing of programs to increase the prevalence of dual method use among sexually active, at-risk couples, and to encourage health-protective behaviors.

Theory and methods for demographic research are critical building blocks of the DBSB program. Among the recent theoretical developments motivating demographic research are social capital theory and theories of the role of social interaction in bringing about population change. One of the Branch's MERIT awardees received the Nobel Prize in Economics in 1992 for developing microeconomic theories of the family. Methodological innovations supported by the Branch include computer-based approaches for improving the validity and reliability of self-report data; methods for integrating biological measurement, network data, behavior genetic designs, and satellite images in demographic studies; and new methods for modeling population processes and analyzing multi-level data.

In the context of the demographic and behavioral sciences, *collection of population-based data* is an essential element of the infrastructure needed to advance knowledge. The Branch invests about 25 percent of its funds in the development of large-scale demographic surveys that are used by the field at large for research on population. In 1996-97, Branch staff led a comprehensive review of needs for data and research relating to fatherhood, resulting in the development and enrichment of several

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new studies within the federal statistical system. DBSB has evolved a set of principles and practices to guide our investments in data collection activities and to monitor their productivity. The Branch also supports the archiving and dissemination of data for population research.

In the immediate future, the directions of the DBSB program will be guided by the strategic goals reviewed in this report. Forthcoming program announcements will invite research on internal as well as international migration and demography and health. New Requests for Applications (RFAs) are soliciting research on the development, evaluation, and replication of HIV prevention programs for youth. New national studies will be investigating the sexual and family behaviors of men and women alike, tracking the health and development of adolescents making the transition to young adulthood, and studying the health and development of a cohort of births. Plans for a new national study of legal immigrants are underway. As we approach our next scheduled planning process in 2001, new opportunities and challenges will inevitably arise as demographic research and methods continue their rapid evolution.



II. OVERVIEW OF THE DBSB PROGRAM

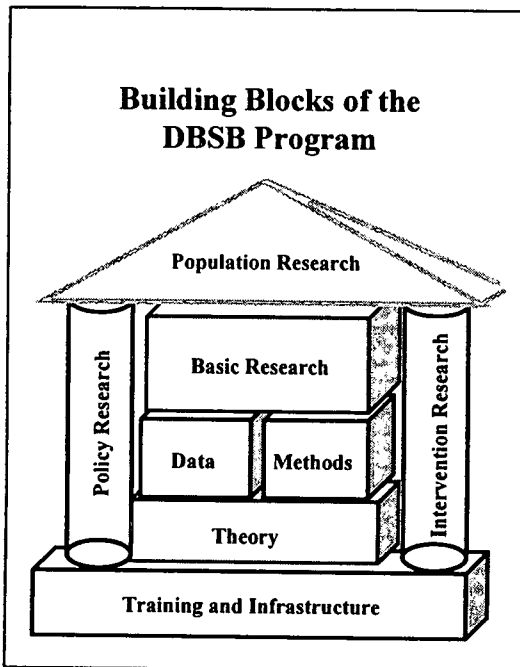
The NIH exists to improve the health of our nation's people. Although we often think of this mission in terms of medical intervention in individual lives --a diabetic child treated; a stroke victim rehabilitated -- the mission also requires that we understand how such *individual* successes promote the overall health and well-being of the *population*. A population perspective provides insights that can motivate investments in research on health and social problems, inform strategies for improving health, and contribute to understanding how broad social, economic, and cultural forces affect and are affected by the health of our population.

The Demographic and Behavioral Sciences Branch brings unique perspectives and resources to NICHD and the NIH at large. Our mission is to provide a better understanding of population dynamics -- how populations change in size, composition, and distribution, the complex social, economic and cultural factors that cause populations to change, and the consequences of population change for health and well-being at the individual and societal levels. While NICHD intramural researchers develop new vaccines, DBSB supports research to tailor immunization programs in developing countries to the realities of rapid population growth. While National Heart, Lung, and Blood Institute (NHLBI) researchers study the cardiovascular responses to stress associated with low socioeconomic status, DBSB researchers examine the demographic and societal processes that create and maintain inequalities in our population. While studies supported by NICHD's Child Development and Behavior Branch examine the impact of parent-child interaction on cognitive development, those supported by DBSB study the changes in the family that have profoundly altered children's experience of parenting and provide information to policy makers seeking to soften the negative effects of family change on the well-being and development of children. The central foci of the DBSB program - fertility, reproductive health, mortality and morbidity, migration, family and household structures, and population distribution and characteristics - are integrally intertwined with population health and well-being. Because the program brings a population-level perspective, it can serve as a complement to research programs that focus at the individual and cellular levels, and as a bridge to the needs of public policy related to health and well-being.

DBSB accomplishes its mission by stimulating and supporting what was referred to in the last Council presentation (June, 1995) as the “building blocks” of the DBSB program. The most fundamental of these is *training and infrastructure*. The vitality of population research depends on the interplay of many contributing disciplines, including economics, demography, sociology, anthropology, public health, psychology, history, and, increasingly, geography, medicine, and biology. Population centers and training programs provide a necessary complement to the discipline-oriented structures of universities. Centers furnish and coordinate research infrastructure, promote the cross-fertilization of ideas, and provide an institutional home for population research. Center-based training programs foster the development of new generations of population scientists positioned to take advantage of multi-disciplinary perspectives and tools. DBSB supports 12 population centers and 11 institutional training programs (see Appendix B). In addition, we provide support for individual pre- and post-doctoral training in population research.

A second set of building blocks necessary for population research includes the development of a strong *theoretical foundation* and the *data* and analytic *methods* needed to test hypotheses suggested by theory. Theoretical development is a key ingredient of most DBSB-funded research, and, occasionally, the focus of such research. The data used in population research derive from censuses, surveys, vital registration and other administrative record systems, observational studies, experimental and quasi-experimental studies, and computer simulations. Because demographic data are expensive to collect, the Branch emphasizes the use and leverage of existing data systems, and the sharing of all data collected with our support. The Branch also supports research to improve

methodologies for measuring key concepts, collecting data, conducting analyses and developing inferences. Specific activities of the Branch with respect to theory development, data and methodology are discussed further in sections III.E and III.F of this report.



The largest share of the Branch’s effort and funds - roughly \$17.7 million in FY1998 - is directed toward supporting *basic research* on population processes and their social, economic and cultural determinants and consequences. Section III of this report details highlights of these research investments. It also highlights two additional types of research that apply the findings of basic population research to improving lives. Our program in *intervention research* focuses mainly on the development and evaluation of theory-based behavioral interventions to reduce the risk of HIV infection and other sexually transmitted diseases. Our program in *policy research* supports research that informs public policy

through scientific studies of demographic change as well as research that assesses the impact of public policies on demographic behavior and population change.

DBSB has been fortunate to collaborate with many other NIH and federal programs in pursuing its goals. Within NICHD, we have fostered joint activities with seven other extramural and two

intramural programs. We have collaborated with the Behavioral and Social Research Program at the National Institute on Aging (NIA), the Office of AIDS Research at the National Institute of Mental Health (NIMH), and programs in at least 13 other NIH Institutes, Centers and Offices. Activities have included the co-funding of grants, co-sponsoring of program initiatives, and organization of conferences and workshops. We organized a consortium of 17 institutes, offices and agencies to co-fund a large national study of adolescent health, and an NIH-wide consortium to develop health content for a new national birth cohort study.

Collaboration with federal statistical agencies such as the Census Bureau, the National Center for Health Statistics, the Bureau of Labor Statistics, the Department of Education, and the Immigration and Naturalization Service has promoted the collection of cutting-edge data for demographic research, while collaboration with the Office of the Assistant Secretary of Planning and Evaluation, the Administration of Children and Families, and the Office of Population Affairs have facilitated the translation of demographic research for policy-making and planning. Branch staff have played leadership roles in interagency efforts such as the Federal Forum for Child and Family Statistics, the Federal Fatherhood Initiative, the Federal Forum on Immigration Statistics, the Science and Ecology of Early Development, the National Strategy to Prevent Teen Pregnancy, the Report to Congress on Out-of-Wedlock Childbearing, the Title V evaluation program, and the follow-up to the Cairo Conference on Population and Development. Many of these activities are described in greater detail in later sections of this report, and Appendix I provides a full list of staff involvement in activities within and outside the NIH.

A final hallmark of the DBSB program has been its emphasis on outreach and planning. We believe strongly that our investments in science are most effective when guided by plans developed with input from the scientific communities involved in population research. DBSB staff monitor scientific advances and new opportunities on an ongoing basis by staying abreast of published literature, attending scientific meetings, and communicating with population researchers. We conduct outreach activities in a diverse set of scientific communities (see Appendix H), and have recently developed a new website to reach a broader pool of potential applicants. Every five years, we initiate a formal planning process in which top scientists from diverse disciplines are invited to participate in a workshop to discuss the state of our science and promising directions for new research. The last such process took place in the fall, 1996, and resulted in the development of six strategic goals for the branch:

- Encourage research on fertility and family issues that develops an integrated approach recognizing that “partnering and parenting” are fundamentally interrelated.
- Strengthen the Branch’s involvement in research on population movement, including immigration, internal migration, and interactions with the environment.
- Encourage research that examines the interrelationships among health, socioeconomic status, and demographic processes over the life course.
- Encourage research to improve both the understanding of social, interpersonal and cultural influences upon individuals' and couples' sexual behaviors and the capability to apply research findings in programs for the prevention of unintended pregnancy and STD/HIV infection.

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- Encourage the broadening and cross-fertilization of theoretical and methodological approaches to pursuing the substantive aims of the program.
- Coordinate needs for NICHD-supported data collection to advance demographic research.

This report highlights the scientific activities and accomplishments of our program during the period 1995-1999. The six strategic goals listed above serve as an organizing framework, and each of the chapters in Section III describes scientific developments, research findings and initiatives that have contributed toward formulating and addressing a specific goal. The report is not an exhaustive accounting of program activities and accomplishments, but, rather, a sampling of highlights.

Detailed listings of program activities are included in the appendices and a list of all funded projects active in FY1998 is available on our web site, <http://silk.nih.gov/silk/dbsb>. Appendix A provides a summary of budgetary information for the Branch.

The Branch's central mission—to understand population dynamics—has remained unchanged since its inception. The DBSB program, however, has evolved markedly as social scientists have striven to understand how demographic change intersects with change in other domains, and as the tools of demography have proven their utility in addressing a broad range of social and health issues. This evolution has fueled the collaborative partnerships noted above and elsewhere in this report, and has greatly enriched our science. As we move into the future, we look forward to discovering new opportunities to contribute to the NIH mission of improving the health of our nation's people, and of the world.



III. RESEARCH HIGHLIGHTS

III.A. FAMILY AND FERTILITY

Encourage research on fertility and family issues that develops an integrated approach recognizing that “partnering and parenting” are fundamentally interrelated.

Studies of fertility and the family have dominated demographic research for decades, reflecting the centrality of these issues to key global and domestic issues. Reducing high rates of population growth has been almost synonymous with reducing fertility in the minds of policy makers and program planners; the goal of empowering couples to “make every child a wanted child” is widely viewed as essential to improving the well-being of families and children as well as integral to women's rights. The ways in which families and households are formed, maintained, and dissolved have critical implications across many domains, from the development of children and the health and economic security of adults to policy and economic issues affecting the larger society.

Traditionally, fertility, family structure, and the status of children each have been treated as separate research areas within the DBSB program and within population research in general. However, in searching for explanations of why families, child well-being, and fertility have changed, we have come to realize that the reasons for having children, subsequent living arrangements, and parenting

practices are closely associated and must be understood together if any one aspect is to be fully understood. Hence, the separate programs have given rise to a new focus that highlights the interrelationships of parenting and partnering. In this section, we discuss the research that has unfolded recently within each of these areas, as well as recent progress towards understanding how fertility, family, and child welfare intersect.

FERTILITY

Within the United States, fertility has remained remarkably stable since the early 1970s. However, the timing of fertility has become increasingly variable among different population groups. Although the average age at first birth has increased across the population, the shift to delayed childbearing has been most dramatic among well-educated women, most likely because of the increasing access of such women to career-type jobs. In such jobs, the steep costs of leaving the work force to raise children motivate women to delay childbearing until they are able to afford adequate day care. The increasing divergence in the timing of births may have amplified the effects of income disparities for the well-being of children. Differences in the circumstances of children born into families with more or less education are larger now than when most women had their births in their late teens or early twenties.

Delay of childbearing by educated women has thrown the early childbearing of disadvantaged women into sharper relief. Although rates of teen childbearing reached an all-time low in the mid-1980s and are decreasing once more after a significant rise at the end of that decade, rates in the U.S. remain higher than in other industrialized countries. DBSB has supported research on the causes and consequences of early childbearing since the 1970s, producing results that have led to efforts such as the private National Campaign to Prevent Teen Pregnancy and the Federal National Strategy to Prevent Teen Pregnancy. Among the key findings of this research effort were:

- Early pregnancy and birth are most likely among adolescents from disadvantaged family backgrounds, and are strongly influenced by poverty, school failure, lack of opportunity, and family disruption;
- Few unmarried teens get pregnant intentionally. The sexual behavior of teens tends to be sporadic, making it more difficult to use contraception effectively and consistently. Despite recent decreases in the proportion of teens who have had sex, the percent beginning sex before age 15 is still increasing.
- Early childbearing is associated with adult poverty, welfare dependency, high school dropout, and poorer developmental outcomes for the children, even after statistically controlling for the disadvantaged backgrounds of teen mothers.

Section III.D discusses recent DBSB research focused on issues related to the prevention of teen pregnancy. Other recent research has focused on the methodological challenges of developing robust estimates of the causal effects of teen childbearing on later life outcomes. While different methodologies and data yield estimates that vary, these studies tend to agree that early childbearing does have adverse effects, but for many outcomes the effects are weaker than originally suggested.

In recent years, the effect of early childbearing on high school completion has lessened, although the effect on college attendance remains large.

About half of pregnancies to U.S. women in 1994, and one third of all births, were reported by the mother as unwanted at the time of conception or as conceived at an undesired time. Rates of unintended pregnancy are highest for unmarried women and women in their early twenties. DBSB research funded through a 1994 RFA has studied the meaning of the behavioral events that result in unintended pregnancy among young white, Hispanic, Black and Native American couples. These studies are showing that ambivalence about childbearing is a common antecedent to unintended pregnancy and that unintended pregnancies, more often than not, result in wanted babies if they are carried to term. However, other research documents that women who have unwanted births are less likely to receive adequate prenatal care, more likely to smoke during pregnancy, and to have babies whose health is compromised. Children born as a result of an unwanted pregnancy are also likely to experience poorer cognitive development and lower self-esteem as adults.

An increasing body of evidence is suggesting that fertility is responsive to public policies that influence economic incentives or affect access to reproductive services. One project has mapped the pattern of abortion for poor women in North Carolina as a function of the availability of state funding for abortion. The state provided funds for a limited period during each year, providing a natural experiment to estimate the short-term effect of changes in the cost of abortions on the number of abortions and births to poor women. When funds were not available, approximately 3 in every 10 pregnancies that would have resulted in an abortion, had state funds been available, were carried to term. Another study demonstrated that expanding Medicaid eligibility for poor pregnant women and children in 15 states between 1987 and 1992 resulted in a 5 percent increase in the birth rates of unmarried nonblack women with less than a high school education, and corresponding declines in abortion rates among a subset of the states in the study. Other research has demonstrated that restrictive state abortion policies and lower access to providers reduce the incidence of abortion, while reduced access to gynecological and family planning services increases births.

Given the high direct and indirect costs of having and raising children in modern times, many demographers are now asking why people choose to have children at all. These questions take on special significance in the light of the extremely low fertility now observed in many European countries. One grantee has recently completed an in-depth study of fertility motivation among middle-class U.S. couples. He found that personality traits, childhood experiences within the family, and exposure to educational, religious and economic institutions all contributed to predicting motivation to have children in adulthood. He also found suggestive evidence that there may be a biological (genetic) basis for fertility motivation and is currently exploring several competing hypotheses regarding the mechanism of such effects. Another investigator has proposed that the "social capital" value of children may be a previously neglected motivation for fertility. His research suggests that fertility intentions are higher among individuals who view children as a means to greater connectivity to others and increased social rewards.

FAMILIES, HOUSEHOLDS, AND CHILD WELL-BEING

During the 1970s, it became apparent that the American population was changing in novel ways. The number of households was increasing at a rapid rate. More importantly, households were changing in size, composition and relationship structure. Recognizing that existing demographic measurement schemes and analytic techniques were not well suited to studying these changes, DBSB created an emphasis area in family and household structure to develop the scientific capability to understand their magnitude, causes, and consequences. The research funded through this program has documented both the transformation of the family and the links between family change and children's life chances.

The measurement and analytic concepts used in previous demographic research tended to assume that family and fertility events followed an orderly and undisrupted process in which people courted, married, created a joint household, had children and remained married while raising their children to adulthood. The National Survey of Families and Households (NSFH) was specifically designed to measure a wide variety of relationship structures in addition to the "normal" ones usually thought to occur in traditional American households. Analysis of the NSFH has revealed that our traditional concepts of family life were seriously limited. Cohabitation has emerged as an antecedent or alternative to marriage, coinciding with falling rates of first marriage, delays in marriage and remarriage, and high rates of marital instability. The impact of these changes on children's family experience has been dramatic. The majority of children who are born today will grow up in a household that is missing at least one biological parent for an extended period of time.

Rips in the intergenerational family fabric can affect family members both economically and by affecting the attitudes, values and motivation of family members. A large body of research has been supported to identify the pathways through which family instability, single-parent households, and remarried households affect the development and well-being of children. Results documenting the impact of growing up in a single parent household on future academic achievement, economic success, early childbearing, and family stability have been very useful in informing public policy concerned with our most vulnerable households.

It makes a difference how a single parent household is created. In the 1970s and 1980s, it was most likely created by a divorce. Longitudinal studies supported by the Branch have demonstrated that while the experience of divorce does have small adverse consequences on children's mental health and behavior well into adulthood, many of the problems experienced by the "children of divorce" can be traced to conditions and characteristics that preceded the divorce. This evidence suggests that conflict among divorcing parents may be an important cause of adverse effects on children, pointing the way to an important lesson for public policy: try to reduce the conflict between parents during and after divorce.

The mechanisms through which children are affected by exposure to a single parent household can include reduced income, parenting behaviors and supervision, the child's modeling of parental behavior, and the stress created by conflict and frequent changes in household composition. A DBSB grantee has demonstrated that income reductions alone account for about one half of the impact on the chances of a child's high school graduation. Another grantee compared socialization, supervision, and family instability as competing explanations for high levels of early nonmarital

childbearing among children raised in single-parent families. He found that family instability—the sheer volume of changes in living arrangements that children experienced—was the most powerful predictor.

What happens after divorce is also important for children. Research suggests that remarriage after divorce does not ameliorate the adverse effects of divorce on children despite the higher incomes found in stepfamilies. Other research shows that improving non-custodial parents' control over and access to their children promotes child support payment and improves outcomes for children. Similarly, joint legal custody results in higher child support payments and better child outcomes.

During the 1990s, single parent households have been increasingly formed not by a divorce but by a birth outside of marriage. Our public welfare programs have become dominated by nonmarital childbearing, which has increased from 5 percent of all births in 1960 to about one-third of births today. Evidence seems to suggest that single parent households produced in this way are the most problematic for children and many investigations are now underway to understand why this is so.

Theories that conceptualize the family as an economic institution have contributed significantly to our understanding of family behavior and change. Several DBSB grantees have led the way in developing an intergenerational framework in which the family adapts to the changing fortunes and needs of its members by moving resources up and down the generational ladder. This perspective helps to explain how families respond to, and, in some cases, frustrate, public policies. For example, when welfare payments are given to a mother for the benefit of her children, the family may divert other resources to family members who are not eligible for public assistance. Attempts to lift poor families out of poverty may be frustrated because an increase in resources can be stretched to the vanishing point when shared broadly within the family. Similarly, cutbacks in social security payments to the elderly may actually have the effect of diverting resources from the family's children, because of the propensity for economically secure older people to shift resources to younger members of the family. Studies testing these theories of family behavior in Thailand, Indonesia and Malaysia have shown that in these countries the family behaves as an economic institution much as it does in the United States, although cultural and religious traditions greatly condition the behavioral response. Within the U.S., newly funded studies examining the adaptation of poor families and communities to new welfare policies will add to our understanding of how public policies affect families' investments in adults and children.

Another important change affecting the family has been the widespread participation of mothers in the labor force. DBSB grantees have documented how working parents have adapted by seeking day care for their young children. The use of family, friends and home-based care and other "informal" types of care are prominent features of the child care revolution. Frequent changes in arrangements are typical as the children grow older and school based alternatives increase. Researchers studying child care markets find that supply seems to keep pace with increasing demand. However, they also find that parents typically demand a rather low level of "quality" in child care arrangements and are quite sensitive to changes in the cost of child care. These findings imply that mandates requiring centers to provide child care of high developmental quality would not necessarily improve the overall child care context. In fact, children might very well be left worse off if parents choose to switch to arrangements of lower quality in response to a price increase. Parental education and better market information seem to be more effective ways of improving child care quality.

IMPACT: Child care for low-income families. Child care research funded by NICHD pointed to unmet needs for child care among low-income families, especially those just above the poverty line which are not served by either programs for the poor or programs and subsidies for the middle class. This research was featured in Congressional Hearings in 1993 and legislation over the past several years has increasingly targeted this group of families.

Development of a new type of information base that combines the demographic and child development sciences has vastly improved our ability to understand how events in the lives of parents affect the development of children. A battery of child assessments in the domains of cognitive, social, and affective behavior, assembled by a panel of developmental psychologists, has been fielded within the 1979 cohort of the National Longitudinal Survey of Youth (NLSY79) since 1986. The NLSY79 is a national survey that documents the economic and demographic life course of young people who came of age in the 1980s. The developmental assessments were done on the children of the female members of this cohort. This study has spawned a large volume of research, much of it reflecting collaboration between demographers and developmental psychologists. This strategy has been replicated in the National Child Development Study in Great Britain and in subsequent U.S. studies.

The NICHD Family and Child Well-being Research Network was created to facilitate multi-disciplinary research on family and child well-being and to make research findings in this area accessible to the public policy process. The Network has helped the Census Bureau and other federal and state agencies develop research tools for measuring the impact of Welfare Reform, partnered with hundreds of university and governmental colleagues to raise the issue of fatherhood as a high profile topic for public policy, and produced research findings that point to the pre-school and late adolescent years as the periods in a child's life when poverty has the greatest impact on developmental outcomes. Work pointing to the early years of a child's life as an important period for public intervention programs and highlighting the lack of information about developmental outcomes for poor and minority children also led to a new initiative called The Science and Ecology of Early Development 2000 (SEED 2000).

SEED 2000 seeks to establish an integrated research agenda that focuses on the effects of poverty on the development of children. SEED is designed as a collaborative effort within NICHD, across other federal agencies as well as other public and private institutions. The overarching goal of SEED 2000 is to foster integrated research on the multiple contexts of development—family, child care settings, schools, communities, and broader cultural and policy contexts—to improve outcomes for children from low income families. Part of this goal is to bridge the gap between researchers and policy makers by fostering activities that not only translate research for policy makers, but also serve to guide and inform the questions that researchers are seeking to answer. SEED has fielded a project to determine how poor fathers bond to their children within the context of the Early Head Start program, partnered with the Ford Foundation, to add an in-depth study of newborns to this project, and conducted workshops on the problem of making childcare available to poor families. A major research initiative will be launched in FY2000.

INTEGRATING PARTNERING AND PARENTING

The need for integrated models of fertility and family change evolved from changing demographic patterns that undermined traditional assumptions about the unfolding of the family life course. Sharp increases in nonmarital childbearing could not be understood without understanding the factors driving marriage and nonmarriage as well as the sexual and reproductive behaviors of unmarried individuals. Research has demonstrated that both delayed marriage and increased rates of childbearing outside of marriage have driven increases in the proportion of births that occur to unmarried women among non-black women, whereas increases among black women have been attributable almost entirely to lower rates of marriage and marriage delay. The decline in the propensity of unmarried pregnant women to marry before a birth occurs has played a major role in the increase in the proportion of births born out of wedlock, as has the more recent increase in the propensity of cohabiting couples to have children.

Understanding the economic, social, and cultural forces that drive decisions about childbearing, cohabitation and marriage is an essential next step for research. Although much is known about factors influencing the timing of childbearing, much less is known about the timing of marriage or the occurrence of childbearing outside of marriage. Some evidence suggests that marriage delay and nonmarriage is a response to the increased difficulty young men with poor educational backgrounds have in establishing steady employment with an adequate income, factors still essential in family formation. However, other factors, such as changing gender roles, attitudes, and values, were also implicated in a recent NICHD conference focused on changing marriage patterns. While most studies conclude that public welfare is not a major factor in promoting non-marital childbearing, there is some evidence that poor mothers may be more influenced by the existence of public welfare supports than others. Other studies have suggested that welfare generosity may have a stronger influence on marriage than on childbearing.

An integrated understanding of fertility and family also improves our ability to study the role of men in creating and nurturing families. DBSB research on fertility decision-making demonstrates that the interactions between spouses play an important role in influencing the intention to have a child and subsequent childbearing. Among unmarried women, sexual and contraceptive behaviors and pregnancy outcomes are affected by the nature of the relationship with the baby's father. In Ghana, adoption of contraception is more strongly affected by the husband's support and communication than by the woman's own personal preference.

The roles that fathers play in the lives of their children are strongly affected by the father's relationship to the mother: the access of fathers to their children is highest when parents are living with each other. Nevertheless, a DBSB grantee has shown that divorcing fathers have a high degree of motivation in maintaining contact with their children and with some helpful intervention can be major influences in the lives of their children even after divorce. Other research shows that when non-custodial fathers pay child support, they are also involved in their children's lives, and that both types of support have mutually reinforcing benefits for child well-being. Preliminary results from a new study of families formed by nonmarital childbearing in poor minority communities indicate that there is considerable interaction and involvement between nonresident fathers and their children.

A joint focus on fertility and family also leads naturally to another central focus for the Branch, the status and well-being of children. Demographic information on the economic, educational, developmental, health, and family status of children is essential for monitoring the future of our population and for informing policy. The Family and Child Well-being Research Network's contribution to a benchmark series of indicators of child well-being, now published on an annual basis in *America's Children: Key National Indicators of Well-Being*, is an important highlight of this emerging program.



III.B. POPULATION DISTRIBUTION AND MOVEMENT

Strengthen the Branch's involvement in research on population movement, including immigration, internal migration, and interactions with the environment.

The movement and distribution of populations within and across national boundaries affects population growth rates, the diversity of local and national populations, and the pressure of population on local environments. Migration also has important influences on the well-being of individuals and families, as well as that of sending and receiving communities. Despite its importance, of the three components of population growth – fertility, mortality, and migration – research on migration has been the least developed within the DBSB program. DBSB undertook to redress this disparity in the early 1990s with a series of strategic investments in data on migrants and program initiatives to stimulate research. The initiatives included an RFA on Hispanic Child Health: Social, Behavioral and Cultural Factors (see Section III.C), a program announcement for Research on U.S. Immigration, and identifying population movement as an NICHD Area of High Program Relevance (FY1996-98) and as a Special Emphasis Area (FY1999-). As a result, the number of DBSB-supported investigator-initiated research projects has more than tripled since FY1993.

IMMIGRATION AND IMMIGRANTS

In the United States, the relatively large flows and wide diversity of immigrants have both short- and long-term impacts on population size, composition, and growth, as well as broad social and economic implications. In fact, immigration will play the dominant role in America's future population growth, through the combined effects of adding new people and maintaining higher fertility levels. By most estimates, the non-Hispanic white population will comprise only 50 percent of the total population by 2050. The number of school-age children will expand rapidly in that time. DBSB-supported research is providing a much richer picture of the health and well-being of immigrant children and families in the United States, and is forcing serious reconsideration of conventional wisdom concerning immigrants and immigration.

Children and Families of Immigrants

Immigrant children are the fastest growing segment of the U.S. population. One-fifth of U.S. children aged 18 and under are growing up in immigrant families. However, past research on immigrants has focused mostly on adults. The physical and mental health of children in immigrant families is of critical interest, because central features of adult functioning—labor force productivity,

quality of parenting, civic participation—will be profoundly affected by whether children in immigrant families experience healthy development and successful adaptation to American life in the 21st century.

With partial support from NICHD, the National Research Council/Institute of Medicine undertook a major synthesis of past research on immigrant children and commissioned new analyses. Their report, issued in 1998, *From Generation to Generation: The Health and Well-Being of Children in Immigrant Families*, documents that immigrant children are as healthy or healthier than children of U.S.-born parents, but that their health status appears to decline the longer they have been in the U.S. Using new data from a DBSB-supported study, the report showed that first generation immigrant youth are healthier physically and are less involved in risky behavior (sexual activity, juvenile delinquency, violent behavior, substance abuse) than are second generation and native youth. For some ethnic groups, family and neighborhood factors such as poverty, single parent households, and unsafe or isolating neighborhoods, reduce the health protection associated with immigrant status. Lack of health coverage was three times more likely for non-citizen children, and nearly twice as likely for citizen children in immigrant families, compared to children whose parents were born in the U.S. However, immigrant families are optimistic about their children's chances for upward mobility and extremely resilient despite the difficulties of their immigrant status.

Repudiating Conventional Wisdom about Immigration

Already, a number of findings stemming from DBSB-supported research projects are beginning to repudiate conventional thinking about the changing quality of immigrants over time, the process of immigrant adaptation and assimilation. There is a greater awareness of how important it can be to distinguish between immigrants who are citizens or not, and legal or not, when describing health or socioeconomic status.

- *New immigrants are not really new.* Only about a third of immigrants who obtained their residence papers during July and August of 1996 were actually new to the United States. The majority had between two and seven years of previous experience in this country. In addition, about 20 percent of new legal immigrants have entered the U.S. illegally at either their first or their last trip to the U.S. This finding has begun to change how researchers think about “immigrants” and underscores the ambiguities associated with information about duration since entry as conventionally collected in the decennial census and major national surveys such as the Current Population Survey.
- *Legal immigrants are better schooled, on average, than the native-born.* The skills of legal immigrants are much higher than originally thought from census data. The median years of schooling completed among those aged 25 and above is 13 years, a full year higher than among the native-born. The proportion with postgraduate education, 21 percent, is almost 3 times larger than among the native-born. However, legal immigrants also have a higher proportion with low levels of schooling than the native-born—over three times as many legal immigrants (20 percent) as native-born (6 percent) have completed less than nine years of schooling.
- *The quality of legal immigrants entering the U.S. is improving.* Data from the 1970-1990 decennial Censuses suggest that the labor market skills of new recent immigrants are quite low and have been declining significantly relative to skills of the native-born. However, DBSB-supported

research on *legal* immigrants over the period 1972-1995 paints a much different picture. During most of the last 25 years, the labor market quality of male legal immigrants has been as high or higher than that of male native-born workers. In addition, there has been a steady rise in the quality of legal immigrants during the last half of the 1980s and throughout the 1990s. The changing skill composition of legal immigrants has been influenced by changes in immigration laws and by changing economic conditions in sending countries and the U.S. Proposals to reduce legal immigrant flows in response to concerns about declining immigrant quality could produce the opposite result by reducing high quality legal immigrants and encouraging additional illegal immigrant flows into the labor market.

- *Legalized immigrants do experience upward mobility.* Analysis of the Legalized Population Surveys suggests that immigrants, even while undocumented, were quickly incorporated into the labor force, albeit at the lower end of the occupational scale. With time in the U.S. and with legalization of their status, their jobs improved and, as a group, they experienced upward mobility not unlike that attributed to immigrants who arrived earlier in the 20th century. They do not languish at the bottom of the socioeconomic ladder as some research has suggested.

Many fundamental questions about immigration remain unanswered: the effects of current immigration flows on future immigration entitlements, changes in the skill composition of entry cohorts of immigrants over time, the number and types of immigrants, their return to their home country, the transitions between legal and illegal statuses, the contributions of immigrants to the economy, and their patterns of adaptation and assimilation. Despite the importance of the issues, immigration policy is handicapped by the lack of reliable and relevant longitudinal data. To address this major data limitation, the NICHD, the Immigration and Naturalization Service (INS), the National Science Foundation (NSF), and the National Institute on Aging (NIA) cooperatively funded a New Immigrant Survey Pilot Study (NIS-P). The pilot study demonstrated the feasibility of sampling new green card holders from INS administrative records, tested different strategies for locating and retaining the sample, and developed the substantive content of the survey instruments. In addition, the NIS-P has already provided some new information about the behavior of legal immigrants (highlighted above), demonstrating the potential usefulness of a full-scale NIS, which could provide immediate policy-relevant information on immigrants in the U.S. and also serve as the foundation for a sustained effort to track the life-course of U.S. legal immigrants.

Understanding Immigration Processes

A complete understanding of how and why migration occurs requires that research focus on the populations that send migrants as well as the experience of migrants in receiving communities. The Mexican Migration Project has studied legal and illegal immigration between Mexico and the U.S. since 1987 through ethnographic and survey research on both sides of the border. These data have demonstrated how interpersonal networks give Mexico-U.S. migration a dynamic momentum that leads to a steadily rising volume of legal and illegal migration over time. The data have also been used to estimate the volume of undocumented migration to the United States, to model the social process of border-crossing, to consider the role that women play in individual and household migration decisions, and to analyze the process of social and economic assimilation among Mexican migrants in the United States. The data also provide valuable information about the selectivity of migrants, crucial in understanding the impact of migration on sending and receiving communities. This study had compiled data from 12,017 households with 83,638 individuals from 61 Mexican

communities as of June 1998, making it the largest field survey of Latin American migration ever conducted. Now referred to as the Latin American Migration Project (LAMP), it was expanded beginning in 1998 to encompass other Latin American migrant-sending nations (Puerto Rico, the Dominican Republic, El Salvador, Guatemala, Colombia, and Peru).

INTERNAL MIGRATION

Migration in search of opportunity has been an important part of the American experience throughout our history, and these migration flows continue to play an important role in shaping the populations of our cities, states and regions. Recent DBSB-supported research has focused on the movement of African American populations. During the 20th century, millions of African Americans have migrated from the South to northern cities, effecting a massive redistribution of their population. Contrasting descriptions of this migration stream have been presented in the literature— some emphasizing the rural origins and lack of schooling of migrants, others claiming that migrants were positively selected from the southern black population. Historical census data from 1880-1990 make it possible to compare over time the educational characteristics of southern migrants with the southern population they left behind, and with the northern population they joined. Between 1880 and 1990 black migrants had significantly *higher* levels of education than the sedentary southern population and significantly *lower* levels of education than the northern-born population. The evidence for 1940 through 1990 shows very clearly that the positive educational selection of migrants from the South declined, while their educational disadvantage, relative to native northerners, was also attenuated. As the 21st century approaches, social scientists have shifted their attention to a new migration stream that has some definite parallels with the South-to-North migration of blacks examined here. Some African Americans are escaping “distressed neighborhoods,” just as their parents and grandparents escaped the “distressed” southern region. A positive selection process appears to be operating in the migration of African Americans out of inner-city neighborhoods. There is general agreement that the exodus from poor urban neighborhoods has been heavier among the black middle class, though the precise magnitude, and impact of the middle class “black flight” remains a point of disagreement.

Internal migration remains an under-researched, cross-cutting area which is likely to increase in importance in the future. Devolution of responsibility for social programs to the states may increase the mobility of the population by magnifying cross-area differences and stimulating more frequent changes in social programs and amenities. Among the issues needing attention are the relationships between geographic and economic mobility, effects of migration on the well-being and development of children, barriers to mobility, and the influence of family considerations on mobility. Internal migration patterns differ depending on whether migrants are native-born, and are likely to be influenced by spatial structure and levels of immigration flows. For example, large immigration to a metropolitan area is associated with increased internal out-migration and reduced internal in-migration among less-educated native-born residents, within race-ethnic gender groups. State and metro-area level analysis confirms that the immigration relationship to internal migration is especially pronounced among less-educated and poor segments of the non-Hispanic white and black populations. Future DBSB plans include the issuance of a Program Announcement highlighting issues related to internal migration.

POPULATION AND ENVIRONMENT

In 1995, DBSB initiated a program to assess the impact of population change on the physical environment and to account for feedback from the physical environment on parameters of population change. NICHD issued an RFA jointly with the National Institute of Environmental Health Sciences, and subsequently funded 6 projects. These projects have examined how population pressure impinges on the environment in the Florida Everglades, the Great Plains of the U.S., the rain forests of Brazil, a rural province of Nepal, the forests of India, and an agricultural area in Thailand. We have learned that the demographic process most directly important in understanding environmental degradation is population movement. Previous attempts to study the population and environment nexus have fallen short of success because they have focused on population growth (primarily influenced by fertility). Research results have suggested that market processes do not respond to environmental degradation in ways that counteract the population processes that fuel environmental distress. This means that market processes can not be trusted to account for environmental impacts in regulating economic activity. This is a large shift in understanding within the economic development community. In addition, we have learned that new tools provided by satellite remote imaging and the availability of geographic information systems can substantially advance demographic research on population-environment interactions. The success of this technology in this area of research is helping to encourage population researchers in other areas of study account for spatial dimensions in their work.

IMPACT: Racial Segregation. Grantees briefed officials at the Department of Housing and Urban Development on their research showing that racial segregation contributes strongly to the concentration of poverty and the social and economic deterioration of poor communities. As a result, new HUD programs aim at the deconcentration of poverty and require localities to submit fair housing plans in order to qualify for funding.



III.C. DEMOGRAPHY AND HEALTH

Encourage research that examines the interrelationships among health, socioeconomic status, and demographic processes over the life course.

The health status and mortality experience of populations are of central importance to understanding how rapidly populations grow, the burden of dependency within populations, and fundamental questions about the well-being of individuals and social units that comprise a given population. DBSB supports demographic research on general mortality, infant and child mortality, and population health; research on the impact of social, economic, and demographic change on health and mortality; and research on socioeconomic, racial, and ethnic disparities in health and mortality.

HEALTH AND MORTALITY IN A CHANGING WORLD

Around the globe, populations have been experiencing dramatic changes. In some areas of the world, rates of natural increase are at an all-time low; in others, populations continue to grow rapidly, both because of above-replacement fertility levels and because of the momentum caused by very young age structures. In some parts of the world, rapid economic development has occurred, often accompanied by changes in traditional social and cultural norms and patterns of behavior; in other parts of the world, economies have faltered or failed in response to social or political disturbances. In virtually all parts of the world, populations are increasingly concentrated in cities. Understanding how these global changes affect health and mortality is critical to understanding future population trends. International studies provide a natural laboratory for demographers to understand how changing social and economic conditions affect demographic and health behavior, yielding insights that can be applied to research in other settings. A number of DBSB-supported studies take advantage of unique economic and social transitions in particular countries in order to study their health and demographic impact.

The Russian Longitudinal Monitoring Survey (RLMS) and the China Health and Nutrition Survey (CHNS) were fielded in 1992-1997 and 1989-1997, respectively. These studies are being used to understand the societal and health consequences resulting from a series of sweeping economic reforms over very short periods of time. Already, these data have documented dramatic shifts in diet and physical activity, with consequences for obesity (a major risk factor for cardiovascular disease) and the prevalence of poor nutrition. In both countries, obesity is increasing, due partly to changing diets and greater physical inactivity. In the next several decades, it is predicted that China alone will see over 100 million become overweight. The CHNS has been used to show how price changes (based on shifts in subsidies and credits) can be used to shift the diet away from higher fat foods to lower fat ones without sacrificing protein intake and other critical micro-nutrients.

In Russia, another issue of importance has been the rapid increase in mortality of middle-aged adults. The RLMS data suggest that alcohol abuse may be one of the causes. The survey documented a substantial increase in alcohol consumption between 1992 and 1996 among a subset of heavy drinkers. The increase was most marked in a subset of middle-aged men, the very group that has been at greatest risk of mortality during this period.

Analyses of the RLMS, CHNS, and the U.S. National Health and Nutrition Examination Survey III (NHANES III) show a significant association between stunting and overweight status of children in all three countries. Using identical cutoffs for body mass index (85th percentile), the prevalence of overweight children in Russia and China ranges from 10.5 to 25.6 percent, while recent NHANES III results indicate this prevalence is around 22 percent in the U.S. Stunted growth is also common in the surveyed countries affecting 9.2 to 30.6 percent of all children. The income adjusted risk ratios of being overweight for a stunted child ranged from 1.7 to 7.9. This research shows that the rapid change in diet and activity associated with economic development, coupled with fetal and infant insults, has been instrumental in promoting obesity in lower income countries. Rapid urbanization has helped to sustain these trends in diet, physical activity, and obesity.

Urbanization also may be slowing the pace of mortality decline in Africa, according to data from Demographic and Health Surveys collected between 1990 and 1995 for 12 African countries. Before the 1990s, infant mortality had decreased to relatively low levels in African cities, but in recent years has *increased* by over 20 percent. By contrast, infant mortality has continued to decline in rural areas, where rates were initially high. The rising urban infant mortality is attributed to an increasing prevalence of poor nutrition, high diarrheal morbidity, low school enrollment, and rapid population growth. The DBSB grantees responsible for this study also find similar patterns in Latin America and the Caribbean, where aggregate infant mortality levels have barely changed since the late 1970s in the big cities, while small cities, towns, and rural areas have experienced declines of 34 to 38 percent. These research results underscore the importance of socioeconomic context on the success of health programs.

In addition to Russia, China, and Africa, other parts of the developing world provide the venue for a number of new studies that explore demography and health linkages in changing contexts. One study will capitalize on the dramatic changes in Thailand, where a major economic reversal followed a period of rapid economic expansion and modernization, to study demographic and social responses at the individual, household, and community levels. Another study will look at the role of women's socioeconomic development in hastening health improvement and lessening health disparity. This study takes advantage of a quasi-experimental design in Matlab, Bangladesh, with data on micro-credit and health outreach programs between 1992-1998 to try to separate the impact of specific programs from broader secular changes. A third study will examine the impact on mortality from an expansion in government health insurance coverage in Costa Rica. This latter study takes advantage of a natural experiment where public insurance will be introduced for 40 percent of the population and phased in across provinces.

IMPACT: Improving Dietary Practices. Using data from the China Health and Nutrition Survey, a grantee showed that increasing prices of certain higher-fat foods would reduce fat intake while actually increasing protein intake, particularly among the poor. Chinese policy-makers concerned about slowing the increase in obesity in their country have used these findings to develop health-related food pricing strategies.

DISPARITIES IN MORTALITY AND HEALTH

The significant association between socioeconomic status (SES) and a variety of health outcomes such as physical and mental health, morbidity, disability, and mortality, has been long and extensively documented. However, the causal processes that bring about this association remain a subject of considerable debate. Competing explanations of why SES affects health attribute the effect variously to long-term impacts of early childhood or intrauterine environments; to cumulative effects of exposure to life stresses; and to the direct effects of rising income inequality. At the same time, economists and demographers are increasingly documenting the impact of health on the various components of SES (e.g., education, income, wealth, and occupation) and related demographic behaviors (e.g., marriage) over the life course. There is a growing recognition that longitudinal data and analyses, as well as innovative methods that help isolate economic and health shocks, are required to disentangle the probable bi-directional influences between SES and health.

The 1997 White House conferences on child care and early brain development underscore the heightened policy interest in factors affecting health and development in the early years. Yet few existing national data bases permit the study of children's early development and learning, particularly by race/ethnicity, gender, socioeconomic status, and region. There is currently no study in the U.S. that follows a nationally representative sample of children from birth through the early years of formal schooling. The Year 2000 Early Childhood Longitudinal Study – Birth Cohort (ECLS-B) will fill these gaps by following 12,000 infants during the first years of their lives, thus enabling researchers to study children's physical and cognitive growth and to relate trajectories of growth to variations in the children's home environment, early care, and education. DBSB has led NICHD and NIH efforts to partner with the National Center for Education Statistics (Department of Education) and the National Center for Health Statistics to field a birth cohort study that holds promise for the study of SES and health. Efforts are underway to exchange information with British investigators fielding a new birth cohort study also in the year 2000, to capitalize on the potential for generalizing findings across countries. Just as the British birth cohort studies have spawned a host of insights about associations between social position or SES and health over the life course and across generations, there are great expectations that a nationally representative ECLS-B will become a major vehicle for investigating these relationships by exploiting multi-level interrelationships among social, economic, and family contexts, infant and child development and health trajectories, and school preparedness.

DBSB has had a long history of encouraging research on the health disparities of racial and ethnic groups. For example, in 1988, DBSB funded a number of projects in response to an RFA (87-HD-06) on "Social & Demographic Research on Infant Mortality & Low Birthweight." Although progress has been made in understanding the social, behavioral, and environmental factors associated with low birth weight, explanations for differentials by race after controlling for social and economic background characteristics remain elusive. Another Program Announcement (PA), "Low Birth Weight in Minority Populations" (PA-99-045) was jointly issued by NICHD, the National Institute of Nursing Research, the National Institute of Dental and Craniofacial Research, and the National Institute of Environmental Health Sciences on January 22, 1999, and builds in part upon earlier research supported by DBSB.

Despite substantial socioeconomic disadvantages, some U.S. minority groups experience health outcomes that are, on average, nearly as favorable as the majority white population. This phenomenon has been termed the "epidemiological paradox." For example, Mexican-American women have only slightly higher rates of compromised birth outcomes than do white, non-Hispanic women even though they are much more likely to have low incomes. In recent years, the epidemiological paradox has been observed in other subpopulations, particularly among recent immigrants (see section III. B). Many of the five projects funded in 1994 in response to our RFA (94-HD-08) on "Hispanic Child Health: Social, Behavioral and Cultural Factors" sought to address the "epidemiological paradox" to some degree. The proceedings from three annual grantee workshops highlight the need for continued dialogue between social scientists and medical professionals to fully capture the mechanisms underlying observed health disparities.

Studies supported by DBSB suggest that the relatively favorable Mexican-American experience reflects a higher prevalence of health-promoting behaviors during pregnancy among this as

compared to other minority populations (e.g., better diet and lower rates of smoking), and also suggests the importance of social support during pregnancy for positive infant outcomes. A study of women prospectively interviewed two or three times during pregnancy indicates that Mexican-Americans experience significantly lower levels of stress, more consistent availability of economic support, less pregnancy ambivalence (including consideration of abortion), less high-risk sexual exposure, lower rates of bacterial STDs, and less extreme poverty than Blacks. These psychosocial and other factors were found to account for the higher risk for idiopathic preterm birth among Black women as compared to Mexican-American and white women.

Socioeconomic status and health over the life course and across generations has developed into an area of special emphasis for DBSB, and indeed throughout NICHD and NIH. In collaboration with NIA, NIMH, and other Institutes, NICHD issued a program announcement, "Socioeconomic Status and Health across the Life Course" (PA-98-098), that is beginning to solidify renewed attention to this complex topic. This announcement encourages studies on conceptualizing and measuring SES; specifying the processes through which SES influences health outcomes, both cumulatively and contemporaneously; and understanding how health outcomes impact on SES. This initiative complements other DBSB activities relating to SES and health (e.g., SEED, welfare reform research projects, children of immigrants) mentioned elsewhere in this report. DBSB also is participating in a trans-NIH effort emphasizing SES and health, biodemography, and general population dynamics.

The methods and approaches used by demographers are extremely valuable for understanding health trends in the population. Apparent increases or decreases in particular diseases can be anticipated by changes in population composition, for example, by age, race or ethnicity, marital status, poverty status, or immigrant status. Indeed, the estimation of population characteristics provides a critical component for computing the global burden of any particular disease. Research that improves our understanding of the linkages between early childhood environment and later life outcomes offers the potential of identifying risk factors amenable to change early on. Introducing the population perspective and its associated emphasis on understanding the determinants of population change will improve our assessment of relative health risks and costs of illness.



III.D. SEXUAL BEHAVIOR AND PREVENTION RESEARCH

Encourage research to improve both the understanding of social, interpersonal and cultural influences upon individuals' and couples' sexual behaviors and the capability to apply research findings in programs for the prevention of unintended pregnancy and STD/HIV infection.

Basic research on sexual behavior contributes to our understanding of fertility and the spread of STDs and informs the design of programs and strategies intended to reduce unintended pregnancy, STD, and HIV risk. DBSB-supported research has focused on understanding the factors that influence sexual behaviors and the use of contraceptive methods among men and women of reproductive age, with a special emphasis on adolescents. In recent years, the Branch has expanded its effort to understand social and cultural factors in sexual behavior and to support the development and evaluation of behavioral interventions.

SOCIAL PERSPECTIVES ON SEXUAL BEHAVIOR

The concept of sexual networks has long been important in research on the transmission of STD, yet the study of such networks is only now emerging from description into what one researcher has termed "mathematical ethnography." One DBSB-supported network study used computer simulation methods to demonstrate that risk of HIV transmission is 2-3 times greater if multiple sexual partnerships are concurrent rather than sequential. The same researcher is also developing methods to estimate the impact of misreporting number and timing of partners and partner change on estimates of the the speed of transmission of HIV in sexual networks. Other studies are investigating the relationships between *social* networks and *sexual* networks. One researcher has developed a method to use genetic typing of gonorrhea to enhance the ability to determine what social network characteristics are associated with disease transmission. Complete friendship and romantic networks measured in the National Longitudinal Study of Adolescent Health (Add Health) are providing an important view of the potential for disease transmission in adolescent populations. In an analysis of romantic relationships among adolescent teens in a large high school, patterns in the choice of romantic partners produce a network structure that loosely links together many of the school's students. While the degree of linkage creates a substantial risk of disease transmission, its looseness also provides many opportunities for interrupting transmission. This network structure is very different from the structures typically envisioned by scientists studying the transmission of STDs and HIV.

The concept of a "sexual marketplace" has been used by many scientists to think about how individuals make decisions relating to their choice of partners. This marketplace is primarily local, and is therefore constrained to some degree by geography, age, race, class and ethnicity. Within these networks, individuals operate in reasonably ordered fashion, making choices based on the market. One analysis of national data has found that while white men tend to choose their partners from a rather circumscribed network of potential partners, African American men are likely to choose partners from a number of different social or sexual networks. These differences may account for the more widespread prevalence of bacterial STD among African American as compared to white men.

Risks of HIV and other sexually transmitted infections are strongly influenced by the nature and quality of the sexual relationships in which an individual participates. The higher risks of casual, as compared to "steady," or monogamous, relationships are well known, so it is perhaps not surprising that condom use is higher (although not universal and often not consistent) in casual relationships. However, sexual relationships are dynamic and dyadic in nature, and often fail to conform perfectly with either a casual or committed ideal type in the eyes of one or both partners. Several DBSB studies are examining the issues of sexual trust and sexual jealousy that results in hopes of understanding better the barriers these concerns create for HIV and pregnancy prevention. One of our FIRST awardees is looking at definitions of trust and the management of suspected infidelity in adolescent peer cultures. Another study finds that trust is a central issue in the intimate relationships of inner city young men, who tend to respond to lack of trust in their partners with violence. Yet another finds that the new combination therapies for HIV are magnifying issues of trust, because the therapies are viewed as increasing the chances that HIV-positive individuals will look healthy and strong, and be able to "pass" as uninfected.

The information in this document is no longer current. It is intended for reference only.

Early initiation of sexual intercourse is associated with poorer contraceptive use, more lifetime sexual partners, and higher risks of unintended pregnancy and sexually transmitted disease. Thus, understanding the factors contributing to early or late sexual initiation during adolescence and mechanisms for encouraging delay among young people is a high priority. Several findings from DBSB-supported studies have contributed new insights, including:

- Young people who feel connected to their families and their schools are less likely than other teens to initiate sex early. Teens' perception of parental opposition to their being sexually active or using birth control is also associated with delayed sexual initiation. However, perceptions of parental approval or disapproval of a teenage child's having sex are weakly correlated to parents' actual views. After controlling for the teenager's perception, actual parental attitudes have a small effect on the timing of first sex, but no effect on pregnancy risk or the use of birth control.
- Girls 12-15 years of age who have above average levels of body fat are less likely to date than their thinner peers. This is true among white adolescents and among Black adolescents whose mothers are college-educated. Dating was studied because it is often, although not always, a precursor to sexual initiation.
- Young people who have taken a public or written pledge to remain a virgin until marriage are substantially more likely to delay having intercourse, even after controlling for other social and psychological factors associated with the timing of first intercourse. Further, the effect of having taken a pledge depends on how many other students in the same school have also pledged: there is no effect if no other students have pledged, but a stronger effect as the percent pledging increases. As the percent pledging within a school increases, however, sexual activity levels among the non-pledgers within the school also increase. About 9 percent of adolescent boys and 16 percent of adolescent girls in grades 7-12 report having taken a virginity pledge.
- Concern about the role of coercion in teen sexual behavior has been spurred by clinicians' reports of histories of sexual abuse among their pregnant teen clients and by national data showing that a high proportion of teen births are fathered by men who are not teens. Data from the 1995 National Survey of Family Growth provided information on whether, from the woman's perspective, the first sexual intercourse was voluntary and wanted. Among women age 18 or older at their first sexual experience, the majority -- about 4 out of 5 -- said that sex was voluntary and rated its wantedness high (at 5 or above on a scale of 1 to 10). About 5 percent of women said that the experience was nonvoluntary and 16 percent said it was voluntary but wanted little or not at all. However, for women having their first sex at 13 or younger, nearly a quarter report nonvoluntary sex, and less than half rated the wantedness of sex high. The number of women involved here is small, but for these women having sex was much less likely to be a matter of choice.

The proportion of U.S. teens who are sexually experienced declined during the 1990s, reversing a decades-long trend towards higher levels of sexual involvement. Two DBSB-supported studies conducted in 1995, the National Survey of Family Growth and the National Survey of Adolescent Males, revealed the first evidence of this decline. The decline was later corroborated by evidence from the Centers for Disease Control's 1997 Youth Risk Behavior Survey. Analyses of the decline

among young men point to two significant contributing factors: the spread of AIDS education in schools (now nearly universal), and increased disapproval of premarital sex, predominantly among religious youth.

A substantial body of research has documented the saturation of mass media with images that glamorize sex and the lack of images and messages that promote abstinence or responsible sexual behavior. However, little research has documented the impact of media on adolescent sexual behavior, in part because of the substantial methodological challenges of such research. (There has been comparable research with respect to violence and alcohol.) In a recent program announcement, DBSB has challenged the research community to tackle this problem. We hope to fund research that will help inform media-based strategies for influencing teen behaviors.

RESEARCH ON PROTECTIVE BEHAVIORS

A central goal of HIV, STD and pregnancy prevention programs is to encourage the use of protective methods among sexually active, at-risk couples. Several studies supported by DBSB help to lay a basic research foundation for these efforts. A project studying the acceptability of barrier methods of contraception (diaphragm, spermicides, as well as male and female condoms) to young couples finds that, given the choice and counseling on all barrier methods, this group of sexually active young women chooses male condoms over the others for regular use. The female condom was tried and abandoned as a method. While the population in the Bay area is diverse with respect to ethnicity and degree of acculturation, there were no significant differences by either factor in the use of barrier birth control methods.

Couples who require highly effective protection against both STDs and unintended pregnancy are often encouraged to combine use of hormonal contraception and condoms. DBSB is supporting research to understand the barriers to "dual" method use and to design intervention programs to increase its prevalence among sexually active, at-risk couples. Early findings from one study of NORPLANT™ users suggest that awareness of the need for dual protection and expectations for conflict in negotiating use of a second method is accompanied by high levels of distrust regarding sexual fidelity. Distrust further increases the sense of the need for dual methods, although women feel that even mentioning condom use complicates the problems people have with achieving trust in relationships.

The fertility desires of HIV-infected women and couples are an understudied, yet key, issue in HIV prevention. Prevention of unintended pregnancies among HIV-infected women reduces perinatal transmission, a potentially important strategy in areas of the world where access to medical care is limited. At the same time, development of microbicidal methods that do not block conception would be ideal for women in infected couples who wish to conceive children. The Branch has funded one study in Africa and one in the U.S. to examine high risk and HIV-positive women's fertility desires and practices. Preliminary findings from the U.S. study tell us that in this national sample of HIV positive women in care, 20 percent of the sample would like to bear a child in the future. Of women who are not pregnant or trying to get pregnant, 42 percent definitely or probably would have an abortion if they got pregnant now, while 44 percent definitely or probably would not.

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Of those pregnant at diagnosis of HIV (15 percent of the women), 38 percent of the pregnancies were unwanted although 90 percent resulted in a live birth. Among those who got pregnant after they tested positive (17 percent of the sample), 63 percent of the pregnancies resulted in live births. Evidence from Africa and the United States suggests that HIV infection may reduce the probability of conception and increase the likelihood of pregnancy loss. In some settings, this may actually contribute to the spread of the infection if failure to bear a child results in the dissolution of marriages and the formation of new sexual partnerships.

IMPACT: Monitoring the HIV epidemic. A project supported through a P30 Population Center found that HIV infection is associated with lower rates of recognized pregnancy and lower fertility. This finding alerted public health officials that estimates based on antenatal screening programs would underestimate the prevalence of HIV. Tools have now been developed to adjust the data from antenatal screening programs to make more accurate estimates of HIV prevalence.

INTERVENTION RESEARCH

The development of effective behavioral interventions is essential for reducing the risk of unintended pregnancy and sexually transmitted disease. These interventions need to begin early enough to reach young people before they have initiated having sex, to continue in developmentally appropriate ways as they mature, and to provide information and experience that is research-based, effective, and sensitive to community values. REACH for Health, a carefully designed program set in an inner city middle school, provides a clear example of how to address the challenges of such research. The project tested three different types of interventions—a regular sexuality education program, a school based clinic program, and a community service program plus sexuality education. The study found that assisting middle school youth to provide community service to senior citizens and children in day care has a measurable impact upon the young people's sexual and other risk behaviors. This study was part of an initiative, "Research on Sexually Transmitted Diseases, Violence and Pregnancy Prevention (RSVPP)," which supported the design, implementation and evaluation of community-based interventions designed to help minority youth resist unprotected sex and involvement in violence. Two other studies participating in this initiative also found young people who feel more connected to their communities are also less likely to engage in risky behaviors.

A study testing a cognitive behavioral approach to reducing risk among Black, Hispanic, and non-Hispanic white women at high risk of HIV combined HIV education and testing, discussion of social and cultural barriers to change and development of negotiation and assertiveness skills in a six-session intervention. The women who participated were not more likely to introduce condom use into their *current* partnerships, but were likely to use their newly acquired negotiation skills to demand condom use with new sexual partners.

Other current ongoing interventions supported by the branch are evaluating school-based sexuality education in an ethnically diverse community in Texas, addressing risk behaviors among youth in foster care and high-risk Latino couples and gay men, and providing birth control services to women attending an STD clinic. We are also funding two SBIR grants that are developing creative

interactive video educational tools for young people to develop their ideas about risk and responsibility. Our new program on dual method use includes an intervention placed in clinics where low-income women go for reproductive health to assist them in initiating and continuing dual protection. Two recent RFAs have called for the design and evaluation of new HIV prevention strategies and for the replication of successful HIV prevention interventions for youth.



III.E. THEORY AND METHODS

Encourage the broadening and cross-fertilization of theoretical and methodological approaches to pursuing the substantive aims of the program.

As discussed in the introduction to this report, theory and methods for demographic research are critical building blocks of the DBSB program. Fundamental to research as these elements are, however, they are not always given explicit attention in the process of program development. The competitive nature of the peer review process creates an effective impetus for the incremental development of theory and methodology, but often is ineffective in encouraging interdisciplinary or high-risk approaches. This strategic aim was designed to focus DBSB's thinking about ways to specifically encourage creative work in the development of theory and new methodologies.

Several developments have led DBSB to focus on these issues. The Branch funded 7 grants on methodological research following a 1993 RFA, and continues to support a small number of investigator-initiated methodological projects through the regular grants process. One of the Branch's MERIT awardees, Gary Becker, was awarded the Nobel Prize in Economics in 1992 for his work on microeconomic theories of the family. Although many other funded grants feature theoretical innovation, few other DBSB grants have focused exclusively on theoretical concerns.

DEVELOPMENT OF METHODOLOGY

The development of new computerized techniques for collecting survey data on sensitive topics has led to some of the program's key accomplishments in methodological research. A May, 1998 article in *Science* reported results from a DBSB-supported experiment that showed substantially higher levels of reporting of sensitive behaviors by male adolescents using an audio-assisted computer self-interviewing procedure (Audio-CASI) as compared to a standard paper and pencil self-administered questionnaire. The Audio-CASI method allows respondents to listen to questions privately using headphones and to enter their answers directly into a laptop computer. Estimates of male-to-male sexual intercourse, injection drug use, and sexual contact with IV drug users were two to three times higher using the new methodology. Comparing the estimates of homosexual behavior against the retrospective reports of older men supported the validity of the higher estimates. Other tests of the Audio-CASI technology supported by DBSB have demonstrated that the new method also reduces the underreporting of abortions in reproductive health surveys, and provides an effective method of interviewing in multi-lingual populations. These new methods have already become the gold standard for conducting research on sensitive topics.

Other approaches to improving self-reported data rely on cognitive theories to guide the development of questions. One grantee found that retrospective reports of condom use showed substantial validity when compared to daily diary accounts, but that recall was better over moderate (3-6 month) periods than for shorter or longer periods. The study also evaluated commonly used strategies for measurement of sexual behavior unprotected by condom use, cautioning that flaws in typical scales of condom use consistency could lead to erroneous conclusions. Issues of self-report validity and reliability were explored by a 1996 conference, *The Science of Self-Report: Implications for Theory and Practice*, jointly organized by Office of Behavioral and Social Science Research (OBSSR), NICHD, NIMH, National Institute on Drug Abuse (NIDA), and NIA.

Another newly emerging standard is the development of multi-method and multi-level surveys. Moving from traditional questionnaire-based survey research to research that integrates multiple types of measurement has opened the door to research linking demographic processes to outcomes such as child development, health, and environmental change, as well as to research that considers a broader range of influences on demographic processes.

- In 1995, a national household survey of sexual behavior among adolescent males collected urine specimens for analysis for infection with gonorrhea and chlamydia. Analyses of potential response bias associated with the approximately 1 in 5 respondents who were not willing or able to provide a specimen suggest that these individuals have characteristics that make them slightly less likely than others to be at risk of STD. Another study in an urban population also successfully implemented STD screening within the context of a household interview. Presently, plans are in place for two additional national surveys that incorporate biological measurement of STD.
- The integration of ethnographic and observational methods with survey research has also advanced to new levels in recent years. A new study of the adaptation of poor families and children to new welfare policies is combining periodic population surveys with on-going ethnographies of local communities and observational assessments of child development. The goal is to understand how public policies, community values and support systems, and family characteristics interact to affect the well-being and development of children in poor communities. A similar approach is being used in a study of HIV risk in an adult population.
- In the Add Health study, the collection of global network data on friendships among adolescents has provided a powerful tool for studying the influence of peers on adolescent behavior. Early results of this study have documented the greater influence of peers as compared to parents on teen smoking, and a positive influence of having schoolmates who pledge to remain virgin on the likelihood that a pledging teen will continue to abstain from having sex.
- Another important feature of the Add Health study was its inclusion of a full-scale behavior genetic design that permits testing hypotheses about the influence of family and parental characteristics and behaviors independent of the confounding effects of genetic relatedness. Many of the resulting analyses are revealing complex patterns of interaction between heredity and environment. For example, one study is showing that scores on the Peabody Picture Vocabulary Test are strongly influenced by heredity in families with more highly educated parents, but that, in families with less educated parents, environment accounts for more

variation in scores. Other studies, including the National Longitudinal Survey of Youth and the new Early Childhood Longitudinal Survey - Birth Cohort, are also including sibling and twin pairs in their samples to provide analytic leverage in understanding the nature of family effects on outcomes.

- Finally, the integration of satellite images with demographic data has given added power to studies linking population growth, migration, land use, and environmental degradation. For example, outmigration from rural Thai villages has been linked to the decline of available forest cover near the village (which could be cleared for farming) and to patterns of landscape fragmentation in which land is cleared for farming in small, economically inefficient parcels. Applications of Graphical Information Systems (GIS) have also been used to develop better measures of accessibility to family planning services in developing countries and to shed new insights into the contextual factors that drive patterns of contraceptive use. The DBSB Centers program has had a major impact on the importing of GIS methodologies into demographic research. Several Centers have now established GIS services to facilitate the use of these methods.

Research on ways to improve the representation of individuals who are loosely connected to households in surveys based on household listings is also underway with support from the Branch. This initiative seeks to address the undercounting of men, especially poor and minority men, in population surveys. Solving this problem is essential for improving research on unmarried fathers.

Several methodological developments supported by the Branch have as their focus the methods for modeling population processes and making projections for the future. Research funded by NICHD and NIA has developed forecasting models that incorporate uncertainty into estimates of the impact of increased life expectancy on the costs of funding the social security system in the next century. The study found that the Social Security Administration has most likely underestimated future mortality declines. Such underestimates will have a substantial cost: for each year of increased life expectancy, a 3.6 percent increase in the payroll tax rate or a corresponding reduction in benefits is necessary to meet Social Security costs. The study also concluded that uncertainty regarding future levels of fertility had a much stronger effect on projections of Social Security funding than did uncertainty regarding future mortality levels, and that current SSA projections seriously understate uncertainty in fertility levels.

Many outcomes of interest to social scientists, epidemiologists, and demographers are binary or discrete counts, and multi-level research designs are increasingly becoming the norm in these fields. Ignoring clustering in multi-level studies leads to overly optimistic estimates of precision and can introduce serious biases in parameter estimates. Two DBSB grantees are developing and evaluating new statistical methods for the analysis of multi-level data when the response is a binary attribute or a count of events. If successfully completed, these methodological refinements are expected to impact widely on the social science community. The computing tools developed as part of this project will be made freely available to the research community, to allow routine estimation of community, family, and other clustering effects on a variety of health outcomes.

Two major developments will help to pave the way for continued support of methodological studies. A program announcement issued by 11 NIH institutes and offices in 1998 sent a strong

message to behavioral and social science investigators that methodological research was welcome and indeed encouraged at NIH. DBSB coordinated the participation of NICHD behavioral research programs in this program announcement, and has also integrated methodological research into its own program announcements and special emphasis areas. In the recent reorganization of review in the behavioral and social sciences, a new experimental study section for methodological research was created. DBSB staff also participated heavily in this effort.

IMPACT: Forecasting the federal budget The Congressional Budget Office is using a new method for forecasting demographic and economic trends that was developed under grants from NICHD and NIA. The new methods incorporate probabilistic estimates of possible futures rather than point estimates of low or high alternatives. These methods are also being used by the United Nations and have been recommended for use by the Social Security Administration.

THEORETICAL DEVELOPMENT

The major impetus for many of the methodological developments discussed above has been a parallel expansion of theory within demographic and behavioral population research. As the field as moved from an emphasis on *describing* population processes to an emphasis on *understanding* how they are influenced by and influence social, cultural, economic and institutional phenomena, it has drawn on and developed a wide range of theoretical perspectives about human behavior. The theories used in demographic research are drawn from psychology, economics, and sociology, and are influenced by theoretical developments in other fields such as anthropology, biology, public health, geography, and more. Some of the key theoretical developments motivating demographic research in recent years have included:

- Social capital theory, originally developed by James Coleman and applied increasingly by demographers seeking to understand questions as diverse as why Americans want children and why poor children experience developmental disadvantages. The Family and Child Well-being Network supported an initiative on the measurement of social capital and the application of the theory to studies of child well-being.
- Theories of the role of social interaction in bringing about demographic change through the spread of new ideas about fertility, family, and health behaviors. A DBSB-supported study in Africa is currently testing quantitative models of changing contraceptive practice based on this theory.
- Continued development of economic theories of family behavior by Gary Becker and other economists. Becker's theory posits that the formation of families and the production of children are means by which individuals strive to maximize their own self-interest in creating a prosperous existence for themselves. As market economies become more advanced, they provide increasing opportunity for individuals to invest in themselves and their families and thereby advance their individual goals. Families become smaller as the investment process in each family member becomes more extensive. Becker's theory incorporates aspects of families that are not characteristic of other economic units, such as love and altruism. Other theorists are developing theoretical perspectives on the family, based on bargaining theories.

Three major activities of the DBSB specifically seek to foster the advancement and cross-fertilization of theoretical perspectives within the demographic and behavioral sciences. First, our Centers program links investigators from diverse disciplinary backgrounds. This facilitates the development of research paradigms that more adequately reflect the complexity of processes influencing demographic events, and promotes interdisciplinary research as well as the borrowing of ideas across disciplines. Examples include Gary Becker's work, which is now incorporating mechanisms for the feedback of social and cultural effects, and in the collaborative work of anthropologists and demographers in studying Nepalese families. Second, our training programs offer pre- and post-doctoral training in population to students from many disciplinary backgrounds, including sociology, economics, anthropology, biostatistics, public health, psychology, and more. Third, the Branch periodically organizes interdisciplinary workshops and conferences to stimulate cross-disciplinary thinking and the development of theory. Virtually all the conferences listed in Appendix F were designed to expose and integrate diverse approaches to understanding demographic phenomena. These strategies will continue to guide our efforts to stimulate the development of theory for demographic research in the years to come.



III.F. DATA FOR DEMOGRAPHIC RESEARCH

Coordinate needs for NICHD-supported data collection to advance demographic research.

In the context of the demographic and behavioral sciences, collection of population-based data is an essential element of the infrastructure needed for advances in knowledge. The most common mechanisms used are censuses, registration systems or systems of administrative records, and surveys. Whereas the former two mechanisms require continuity over time and must be limited in scope to preserve their feasibility, surveys provide a flexible, powerful tool for developing data for demographic studies. As noted in the previous section, this tool is rapidly evolving to incorporate a variety of important measurement strategies (e.g., collection of biological materials, linked ethnography, collection of social network data, and behavior genetic designs) that strengthen the scientific power of survey methods.

Survey-based studies have been central to the development of the DBSB program since its inception. One of the very first projects supported by NICHD in Population Research was the 1965 National Fertility Survey, which documented the dramatic uptake of oral contraception by U.S. women. National surveys supported in 1971, 1976, and 1979 documented increases in sexual activity among unmarried teens, and created an essential information base for pregnancy-prevention programs. Some of the key surveys supported during the last five years include:

- The *National Survey of Families and Households*, first developed in 1987 to provide national data on the processes through which families and households form, dissolve, and interact. This study has generated over 300 articles in scholarly journals, is in use at over 200 institutions nationwide, and is the basis for at least 80 grants funded by NIH and NSF.

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- The *National Longitudinal Survey of Youth (NLSY) - Child Supplement* has tracked the development and well-being of children born to female respondents in the NLSY since 1986. The intergenerational data yielded by this study have now resulted in 252 journal articles, 41 published reports, 26 book chapters, 8 books, and 54 theses and dissertations.
- The *National Survey of Family Growth* is conducted by the National Center for Health Statistics with partial support from NICHD. Data produced on sexual activity, contraception, fertility, infertility, marriage and reproductive health are used in tracking federal health goals, monitoring population trends, and in research.
- The *National Survey of Adolescent Males* was conducted in 1988, 1991 and 1995 to study sexual and contraceptive behaviors, HIV risk, and family formation among adolescent males and young adult men. These data have also been used to track federal health goals and have provided the basis for 68 articles by the researchers who conducted the study as well as many others by other scientists.
- The *National Longitudinal Survey of Adolescent Health (Add Health)* was conducted in 1994-96 to provide comprehensive data on the contextual determinants of health and health-related behaviors in adolescence. Already there are over 200 users of the data, 71 known publications or manuscripts in progress, and eight separately funded NICHD grants for analysis of the data.

A full list of large data collection projects supported since 1990 is included in Appendix C. The substantive findings of many of these studies have been highlighted in previous sections of this report.

IMPACT: Understanding the Impact of Immigration. The Mexican Migration Project has filled an important gap in knowledge about undocumented migrants to the U.S. The Department of Commerce has used these data to estimate the annual earnings and remittances of undocumented Mexican migrants. The General Accounting Office has used them to study the fertility behavior of undocumented migrants and to assess the efficacy of U.S. border enforcement efforts. Reports and testimony based on the data have been presented to the U.S. Commission on Immigration Reform, the Bi-National Commission on Mexico-U.S. Migration, the U.S. Department of State, and various Congressional caucuses.

In 1996-97, DBSB staff helped to lead a comprehensive review of federal data needs relating to fatherhood. This project emerged out of several initiatives: the Federal Fatherhood Initiative, the Branch's "parenting and partnering" strategic goal, and the work of the Family and Child Well-being Research Network. An interagency, public-private collaboration fostered by the Interagency Forum on Family and Child Statistics drew on over one hundred individuals within and outside the government. These collaborators reviewed existing research, theory and data on how men become fathers and how they parent, and developed a set of ten "targets of opportunity" for strengthening federal data on fathers. Among the results of this effort are the inclusion of men in the National Survey of Family Growth, Cycle 6; the development of a fathers component for the Early

Childhood Longitudinal Survey–Birth Cohort Study; and inclusion of a basic research component on disadvantaged fathers in the Early Head Start Research and Evaluation Project.

Nationally representative surveys are very costly to conduct. Careful planning and priority-setting are essential to ensure that investments in such efforts optimally serve scientific needs and goals. DBSB has evolved a set of principles and practices to guide our investments and to monitor their productivity.

- *General advice about program directions and priorities is solicited from the scientific community through a structured planning process.* As noted in the Introduction to this report, the Branch last undertook this in 1996. In 1999, the Branch is initiating an annual series of workshops devoted to planning. Data needs will be addressed in the context of this initiative.
- *Wherever possible, the Branch seeks to meet its scientific goals by supplementing large data collection efforts funded by other agencies rather than funding new studies.* Examples of this strategy include the NLSY-Child Supplement (with the Department of Labor); supplements to the Current Population Survey that provide for data on nativity, marriage and fertility (with the Census Bureau); and the new Early Childhood Longitudinal Survey–Birth Cohort (with the Department of Education) which DBSB will supplement to provide for enriched health measures, oversamples of twins and low birth weight infants, and an experimental module for nonresident fathers. Other examples of interagency cooperation are detailed in Appendix G.
- *New surveys proposed for funding through the investigator-initiated grants process are screened by staff and discussed with the Institute leadership before submission of an application.* Staff discusses potential new applications at monthly staff meetings, and discourages those that are not essential to the development of our field. Funding parameters are discussed in advance with the NICHD leadership.
- *Except where time-limited opportunities prevent it, large survey projects are required to build in a substantial planning period during which advice is solicited from other investigators regarding the content and methodology of the proposed survey.* This ensures that studies are designed so as to be useful to a broad range of investigators with scientific interests related to the subject matter of the survey.
- *All investigators receiving funds from our program to conduct surveys of interest to the broader scientific community are expected to make their data available for secondary analysis in a manner consistent with the protection of human subjects.* The Branch publicizes the availability of NICHD-supported survey data through a web-accessible publication, *Survey Snapshots* (see Appendix C), and supports dissemination activities. Applicants to the DBSB program are strongly encouraged to use existing data to address scientific questions wherever possible.
- *The Branch has recently contracted with Population Index, a publication that indexes population literature, to track the number of indexed articles using major DBSB data collection activities.*
- *The Branch monitors the balance between investments in data collection activities and other types of research activities.* Our investment in data collection must be balanced appropriately with *developmental*

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projects that explore new ideas, address tightly focused research questions, and develop measures and methodologies, and *secondary data analysis* projects which use existing data to test and refine hypotheses. Typically, we limit investments in large data collection projects to 15-30 percent of the Branch's portfolio. In FY98, this ratio was 25 percent.

Our understanding of long-term trends in U.S. population and population change is being greatly expanded by historic data made accessible through DBSB-supported projects. A series of grants has supported the preparation of public use data files from the censuses conducted during the years 1880-1920. As a result of this effort and more recent efforts by the Census Bureau, researchers can now use individual-level data to study trends in economic activity, household formation and structure, fertility and mortality for a significant portion of our history. These data are available through a website and are widely used. Currently, the website logs an average of 522 hits per day and distributes about 120 gigabytes of data per month. Already, the availability of these data (which are otherwise available only in the form of paper questionnaires and microfilm) has given rise to 3 books, 9 dissertations, and 45 articles.

Effective archiving and dissemination of data has an important role in facilitating population research. DBSB supports the creation of archives that collect and disseminate high-quality survey data on demographic topics, the development of innovative methods for improving the accessibility of data, as well as high-speed computer applications that ease researchers' access to very large datasets such as those available from population censuses.

IV. FUTURE DIRECTIONS



DBSB's course for the immediate future is guided by the strategic goals developed as a result of our 1996 long-term planning process and reviewed in this report. Newly launched studies and the recently renewed Family and Child Well-being Research Network will be exploring the intersections of partnering and parenting, fatherhood, and policy influences on families and children. SEED 2000 will seek multidisciplinary policy-relevant research on the development of poor children. Plans for a new national study of legal immigrants are underway. Forthcoming program announcements will invite research on internal as well as international migration and demography and health. New RFAs are soliciting research on the development, evaluation, and replications of HIV prevention strategies for youth. A developing initiative seeks to improve research on contraceptive acceptability. New national studies will be investigating the sexual and family behaviors of men and women alike, tracking the health and development of adolescents making the transition to young adulthood, and studying the health and development of a cohort of births.

Given the rapid evolution of demographic research and methods, new opportunities and challenges will inevitably arise as we approach our next scheduled planning process in 2001. Potential future directions could address a host of challenging questions in population research, such as:

- Is there a floor to fertility? How long can the very low levels of fertility now seen in many European countries be sustained? Will the U.S. ever experience such low fertility?

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- Will the American family and household structure continue to become more diverse and turbulent? Will cohabitation and non-residential unions continue to be substituted for conventional family formation strategies?
- How do biological influences interact with psychological, social and cultural influences in affecting behaviors related to health, fertility, and family formation and stability?
- How can population-based demographic, contextual, and life-course approaches to understanding health and disease contribute to the development of health promotion and disease prevention strategies?
- How can demographic approaches to understanding the health and development of children be used to provide useful tools for improving child well-being?
- How can we develop more effective strategies for reducing the still-high rate of unintended pregnancy in this country?
- How can we harness the mechanisms through which families, peers, institutions, and cultures influence young people in order to develop new strategies for prevention?
- How can we understand the selectivity of migrants and the impact of migration and migrant adaptation and acculturation on health and well-being?
- How can we better understand the interactions of population growth, environmental degradation, and economic development around the world, so as to develop workable strategies for sustaining the well-being of our planet and its peoples?
- How can we harness the potential power of spatial analysis to advance demographic studies?
- How can new technologies for assessing biological characteristics such as the presence of infection or certain genotypes add power to demographic studies? What are the ethical implications of such studies?
- What opportunities exist for building longitudinal and intergenerational studies that would facilitate research to understand how SES and health influence each other.
- How can demographic studies respond to the increasing ethnic and racial diversity of our population, addressing the presence of multiracial identities as well as the differences among subgroups of Hispanic and Asian populations?

DBSB looks forward with pleasure to addressing these research challenges in collaboration with colleagues at NICHD, other federal agencies, and the scientific community.



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APPENDICES

APPENDIX A. FISCAL SUMMARIES

DBSB Projects by Area: Fiscal Year 1998

	No. of Projects	Funds
Fertility		
Sexual Behavior & Contraception	8	\$1,474,239
Pregnancy and birth	7	\$2,152,935
Consequences of pregnancy/birth	4	\$477,012
Gender and status of women	3	\$316,301
Fecundity and infertility	1	\$308,549
Sub Total	23	\$4,729,036
Families and Household		
Fatherhood; child support	7	\$1,851,518
Child well-being	16	\$3,566,491
Marriage, divorce, and cohabitation	5	\$863,898
Intergenerational processes	8	\$5,481,974
Child care	5	\$509,291
Sub Total	41	\$12,273,172
Mortality and Health		
Infant and child health/mortality	9	\$1,269,358
Adolescent health	1	\$701,500
General health and mortality	5	\$1,283,592
Sub Total	15	\$3,254,450
HIV and STD		
Basic research	13	\$3,348,432
Intervention research	11	\$4,329,992
Sub Total	24	\$7,678,424
Population Movement		
Internal migration	3	\$276,088
International migration	5	\$719,663
Migrant adjustment	4	\$802,460
Population and environment	4	\$1,117,926
Sub Total	16	\$2,916,137
Other		
Institutional training	11	\$1,349,273
Other training	6	\$163,944
Centers	12	\$7,818,936
Statistics & formal demography	3	\$478,889
Data/information dissemination	15	\$3,467,979
Sub Total	47	\$13,279,021
TOTAL	166	\$44,130,240

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DBSB GRANTS & CONTRACTS BY BUDGET CATEGORY & ACTIVITY, FY 1994-1998

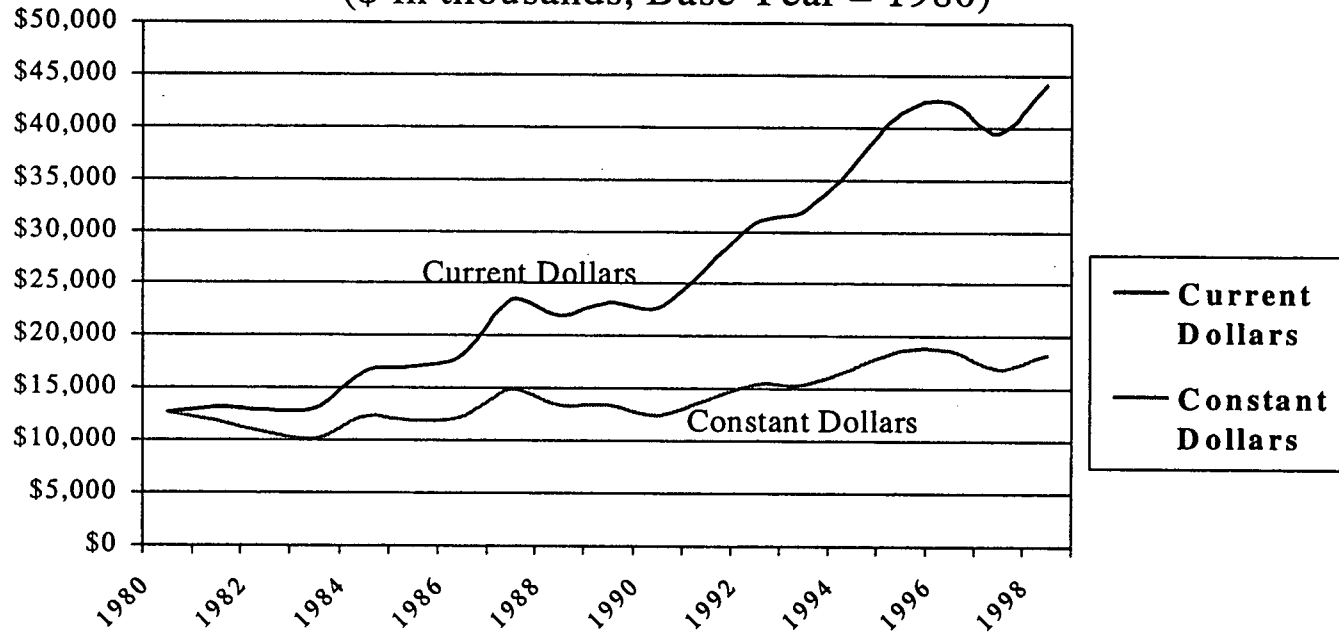
Grant Type	FY1994		FY1995		FY1996		FY1997		FY1998	
	No. of Projects	Funds	No. of Projects	Funds	No. of Projects	Funds	No. of Projects	Funds	No. of Projects	Funds
P01	4	\$4,099,682	5	\$7,932,979	3	\$4,784,500	3	\$1,990,119	3	\$2,431,331
R01	83	\$16,260,668	80	\$16,890,671	84	\$19,328,501	85	\$21,126,138	89	\$22,101,612
R03	0	\$0	0	\$0	3	\$235,094	6	\$459,143	6	\$414,086
R29	4	\$404,570	6	\$594,188	7	\$623,669	6	\$530,392	10	\$1,051,096
R37	5	\$861,765	4	\$849,242	3	\$652,539	3	\$520,073	2	\$511,577
SBIR/STTR*	5	\$557,854	10	\$1,865,463	8	\$1,588,342	7	\$1,609,609	10	\$2,289,714
R55	1	\$60,000	1	\$50,000	2	\$100,000	2	\$100,000	0	\$0
U01	10	\$1,624,042	9	\$1,691,460	12	\$1,960,485	9	\$1,833,287	0	\$0
Other Research*	4	\$85,754	0	\$0	1	\$115,429	3	\$25,995	0	\$0
P30/P50	12	\$6,801,668	11	\$6,963,279	11	\$7,447,553	12	\$7,480,361	12	\$7,818,936
D43	0	\$0	3	\$90,000	3	\$90,000	3	\$90,000	3	\$90,000
F31/F32/F33	2	\$29,583	3	\$86,508	6	\$156,120	6	\$144,220	6	\$163,424
T32	13	\$1,559,868	13	\$1,525,177	12	\$1,465,440	11	\$1,442,113	11	\$1,349,273
Contract*	3	\$382,150	3	\$306,127	2	\$323,242	2	\$412,153	2	\$316,693
Inter-agency Agr.*	4	\$3,539,018	3	\$2,499,000	6	\$3,786,211	9	\$1,757,734	12	\$5,592,498
TOTAL	150	\$36,266,622	154	\$41,344,094	163	\$42,657,125	167	\$39,521,337	166	\$44,130,240

* SBIR/STTR includes R41, R42, R43, and R44 grants; Other Research includes R13, R15, and S15 grants; Contract includes N01 and N02 grants; Inter-agency Agreement includes Y01 and Y02 grants

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DBSB FUNDING HISTORY FY 1980 - FY 1998

(\$ in thousands, Base Year = 1980)



APPENDIX B. POPULATION CENTERS AND TRAINING PROGRAMS

Population Centers, 1998

P30 Centers:

Brown University— Population Studies and Training Center
Johns Hopkins University— Hopkins Population Center
National Opinion Research Center— Population Research Center
Pennsylvania State University— Population Research Institute
Princeton University— Office of Population Research
SUNY-Albany— Center for Social and Demographic Analysis
University of Michigan, Ann Arbor— Population Studies Center
University of North Carolina, Chapel Hill— Carolina Population Center
University of Pennsylvania— Population Studies Center
University of Texas, Austin— Population Research Center
University of Wisconsin, Madison— Center for Demography and Ecology

P50 Centers:

RAND— Population Research Center

Training Programs, 1998

University of Texas Austin— Social Demography
Brown University— Population and Social Change
RAND— RAND Postdoctoral Training
University of California Berkeley— Interdisciplinary Training in Demography
University of Pennsylvania— Graduate Training in Demography
University of Chicago— Interdisciplinary Training in Demography
UNC Chapel Hill— Population Research Training
UNC Chapel Hill— Research Training in Population Statistics
University of Michigan at Ann Arbor— Social Science Training in Population Studies
Princeton University— Demography
University of Wisconsin Madison— Demography and Ecology



APPENDIX C. LARGE SURVEY PROJECTS SUPPORTED BY DBSB, 1990-99

Add Health: A National Longitudinal Study of Adolescent Health
British Child Development Survey
Cebu Longitudinal Health and Nutrition Survey
Chicago Health and Social Life Survey
China Health and Nutrition Survey
Chinese Health and Family Behavior Survey*
Current Population Survey — Marriage and Fertility Supplement
Current Population Survey — Nativity Supplement
Early Childhood Longitudinal Study — Birth Cohort*
Guatemalan Survey of Family Health
Fragile Families Study*
Indonesian Family Life Survey
Integrated Public Use Microdata Series (IPUMS) of U.S. Census Data
Intergenerational Panel Study of Parents and Children
Los Angeles Study of Families and Communities*
Malaysian Family Life Surveys
Mexican Migration Project/Latin American Migration Project
Mexican-American Study Project — Follow-Up
National Longitudinal Survey of Youth — Child Supplement
National Longitudinal Survey of Youth — Older Child Followup*
National Survey of Adolescent Males
National Survey of Families and Households
National Survey of Family Growth
National Survey of Men
National Survey of Women
New Immigrant Survey: A Pilot Study
Panel Study of Income Dynamics — Attrition Supplement
Panel Study of Income Dynamics — Parent-Child Survey
Puerto Rican Maternal and Infant Health Project
Russia Longitudinal Monitoring Survey
Social Change in Nang Rong, Thailand
Three Cities Study of Welfare Reform and the Well-Being of Children*

*Further information on all surveys except recently funded surveys indicated by * is available in the DBSB publication Survey Snapshots 1998, available at <http://silk.nih.gov/silk/dbsb>

APPENDIX D. DBSB PERSONNEL

Christine A. Bachrach, Ph.D.

Dr. Bachrach received her Masters in Sociology (Demography) from Georgetown University in 1974, and her Ph.D. in Population Dynamics from John Hopkins University, School of Hygiene and Public Health in 1978. She joined NICHD in 1988 and assumed her current position in 1992. In addition to serving as Chief of the Branch, Dr. Bachrach is responsible for a grant portfolio in the areas of fertility, infertility, contraceptive use and adoption, serves as the program official for the Add Health study, and oversees the Branch centers program.

Natasha Cabrera, Ph.D.

Dr. Natasha Cabrera joined the Demographic and Behavioral Sciences Branch in September 1997 as a Society for Research in Child Development Fellow. She is now an Expert in Child Development and is the coordinator of the Science and Ecology of Early Development program, co-facilitator of the Family and Child Well-being Research Network, and coordinator of fatherhood research and welfare studies. Dr. Cabrera's research interests include fatherhood, childcare, Head Start, policy, and the normative development of low-income children, and the interface between policy and research.

V. Jeffery Evans, Ph.D., J.D.

Dr. Evans received a Ph.D. in Economics from Duke University in 1973 through which he was also cross-trained in demography. In 1978, he earned a JD degree from the University of Maryland School of Law. He joined NICHD in 1975 and has served as an administrator of grants, contracts, interagency agreements, and cooperative agreements and centers programs in the population sciences. He coordinates the family and household structure and the population and environment programs of the branch and facilitates the Family and Child Well-being Research Network.

Michelle J. Hindin, Ph.D.

Dr. Hindin received her Ph.D. in Sociology in 1998 from the Johns Hopkins University and a Masters' in Population Dynamics in 1990 from the Johns Hopkins School of Hygiene and Public Health. She joined the Demographic and Behavioral Sciences Branch in June 1997 and has worked on several projects including the organization of the first NICHD-sponsored conference on marriage and cohabitation. Her research interests include gender, international development, household dynamics, and women's health.

Rose Maria Li, Ph.D.

Dr. Li received her Ph.D. in Public and International Affairs from Princeton University with a concentration in Population Policy in 1992. She earned her B.A. (economics) in 1985 and her M.B.A. (Finance/International Business) in 1986, both from the University of Chicago. Before joining the DBSB in 1994 she served as a program officer in the Demography and Population Epidemiology unit at the National Institute of Aging. Dr. Li is responsible for the DBSB programs on population movement and demography and health. Her portfolio includes research related to immigration, internal migration, low birth weight and infant/child health and mortality, socioeconomic status and health, and racial and ethnic differences in health.

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Susan F. Newcomer, Ph.D.

Dr. Newcomer holds a 1983 Ph.D. in Population Studies and Sociology from the University of North Carolina, an M.A. in educational administration from Iowa State University, and a B.A. in psychology and Chinese from Barnard College. She is responsible for managing the Branch portfolio of extramural research on adolescent health, contraception and other fertility-related behaviors, as well as the portfolio of AIDS/HIV risk research and a number of grants for training new demographic researchers. Prior to joining the Branch in 1988, she was the national Director of Education for the Planned Parenthood Federation of America.

Minh Phan

Mr. Phan has been with the Branch since 1998. His responsibilities include maintaining the DBSB web page, managing grant files and supporting the clerical operations of the Branch. He is currently studying computer science at Montgomery College.

Tracy Scott Springer

Ms. Springer joined DBSB in 1986. As Program Assistant, she manages the administrative activities of the Branch, including travel, procurement, conference planning, communications, and file management. She also serves as Timekeeper for the Center for Population Research.



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**APPENDIX E. REQUESTS FOR APPLICATIONS AND PROGRAM ANNOUNCEMENTS,
1995-99**

1999

RFA MH 99 -010: Abstinence and HIV/STD Prevention for Youth

1998

PA-98-098: Socioeconomic Status and Health Across the Life Course

PA-98-079: The Impact of Media on Adolescents' Sexual Behavior

PA-98-031: Methodology and Measurement in the Behavioral and Social Sciences

RFA-HD-98-015: Replication of Community-Based HIV Interventions for Youth

RFA-HD-98-014: Population Research Centers

RFA-98-009: The NICHD Family and Child Well-being Research Network

1997

RFA-HD-97-005 The Use of Dual Methods of Protection from Pregnancy and STDS/HIV

PA-97-093 Demographic Research on Sexual Behaviors Related to HIV

RFA-HD-97-007 Population Research Centers

1996

RFA-HD-96-006 Population Research Centers

1995

PA-95-036 Research on U.S. Immigration

RFA-TW-95-002 International Training and Research in Population and Health

RFA-HD-95-013 Population Research Centers

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APPENDIX F. CONFERENCES AND WORKSHOPS 1995-99

The 1999 Add Health Users Workshop

This workshop will be to provide an opportunity for investigators who are using data from the National Longitudinal Study of Adolescent Health (Add Health) to share their research goals, experiences, and results. Sponsorship includes DBSB, the Add Health Project at the University of North Carolina, Chapel Hill, the National Institute of Mental Health, and other co-funders of the Add Health Study. July 7-8, 1999; NIH Campus.

Improving Acceptability Research

This meeting will examine the potential for innovative approaches to research on the acceptability of new methods for pregnancy and HIV prevention, including microbicides. The goal is to develop a scientific agenda for improved models for research designed to provide "real world" information concerning the possible uptake of new methods of protection. The meeting will include experts to review existing models for acceptability research and explore the potential for improved approaches that integrate insights from different research traditions. Sponsorship includes DBSB and the Contraception and Reproductive Health Branch. Date to be determined.

Unintended Pregnancy in the U.S.

This meeting focused on the meaning and determinants of unintended pregnancy in the U.S. Participants discussed research findings for service delivery, the design of fertility-related surveys, and future research plans. March 11 - 12, 1999; NIH Campus.

The Ties that Bind: Perspectives on Marriage and Cohabitation

The goal of the conference was to contribute to new avenues for understanding the decline of marriage rates in the United States and the increase of non-marital union formation by sharing multidisciplinary research perspectives on the formation of intimate unions. The conference was chaired by Dr. Linda Waite, University of Chicago, and co-chaired by Dr. Arland Thornton, University of Michigan, and Dr. Elizabeth Thomson, University of Wisconsin. June 29 - 30, 1998; NIH Campus.

Add-Health Mini-Workshop

This workshop was designed to facilitate communication among investigators using the Add Health data, discuss scientific challenges in the analysis of the data, and assist NICHD in keeping informed of ongoing analysis and in identifying gaps in research. The participants in the workshop presented ongoing research on topics related to HIV and pregnancy prevention. April 23, 1998; NIH Campus.

Hispanic Maternal and Child Health

Two meetings were held on issues surrounding Hispanic Maternal and Child Health, to foster the sharing of information, data, and experiences. Topics included trends in mortality and fertility, infant mortality and low birth rate, adolescent pregnancy, and the impact of migration on health. The first, held in August of 1996, involved presentations by grantees supported by NICHD and by the Maternal and Child Health Bureau (MCHB), with primary focus on the Mexican-origin and Puerto Rican populations. The second, held in August of 1997, was co-sponsored by the Pregnancy and Perinatology Branch (PPB). This meeting sought to increase the sharing of information and insights between the investigators on these projects with clinicians and neonatologists, some of whom are supported by other branches of NICHD. Both meetings were held on the NIH Campus.

The Science of Self-Report: Implications for Research and Practice

The goal of this conference was to discuss recent developments in the scientific study of self-report. Presentations discussed conditions in which self-report data are likely to be biased and exciting new

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conceptual and technological approaches to improving self-report data. OBSSR sponsored this meeting with participation from DBSB, NIMH, NIA, and NIDA. November 7-8, 1996; NIH Campus.

Workshop on Population and the Environment

Grantees under an RFA issued jointly by DBSB and the National Institute of Environmental Health Sciences met to discuss their progress. This group of researchers is examining topics such as the effect of land use on migration; the effect of population size on environmental change; the interrelation of population change, institutional change, and environmental change; and the effect of population change on soil quality and species diversity. Newly emerging technology and its use in this field was a special focus. October 28-29, 1996; NIH Campus.

Conference on Fathers' Involvement

This conference, organized by the NICHD Family and Child Well-Being Network, examined quantitative research on fathers' involvement in family life. During the first two days of the conference fourteen original research papers were presented and discussed. On the third day there was a half-day meeting on methodological issues concerning men and fathers in large-scale surveys. October 10-12, 1996; NIH campus.

Developmental, Ethnographic, and Demographic Perspectives on Fatherhood

This meeting focused on studies using developmental, ethnographic, and anthropological approaches to understanding fatherhood. Ways to integrate qualitative approaches into large-scale surveys were discussed. June 11-12, 1996; NIH campus.

Research on Discipline: The State of the Art, Deficits, and Implications

This conference brought together some of the country's most well-respected researchers on disciplinary practices. Papers presented focused on discipline research methodology, conceptual and causal issues, and outcomes for children. The discussion sessions addressed issues raised by the papers as well as the current state of our knowledge as it impacts future research possibilities and how to advise parents, clinicians, and policymakers. April 25-26, 1996; Chapel Hill, North Carolina.

Town Meeting on Fathering and Male Fertility

This meeting provided a forum for discussion of needed improvements in data concerning male fertility and fatherhood by researchers, administrators, and representatives of federal statistical agencies. March 27, 1996; Washington D.C

Research Needs in Understanding Contraceptive Compliance

Researchers who study compliance with other medication regimens, as well as researchers whose work is on individuals' perceptions of contraception, explored what is known and what is yet to be examined to improve the skills with which couples protect against unintended pregnancy. Sponsors included DBSB, the Kaiser Family Foundation. October 5-6, 1995; NIH Campus.

International Symposium on Fertility Regulation

The Symposium emphasized both basic research in human reproduction, particularly approaches to regulate fertility and to alleviate infertility, and behavioral, social, and demographic research pertaining to human reproduction, quality of care, and evaluation of family planning performance. Attendees included more than 250 scientists, clinicians, reproductive health professionals, and representatives of seven international organizations from 21 countries. The proceedings of the symposium, titled Fertility Regulation: Present & Future, were published in March 1997. The meeting was organized by the National Research Institute for Family Planning of China and the NICHD. May 21-25, 1995; Beijing, China.

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Consequences of Growing Up Poor

This conference examined the extent to which and the ways in which childhood poverty affects the life chances of children. A group of sociologists, economists, demographers, developmental psychologists, and other social scientists presented data from nearly a dozen different studies, each of which replicated an analysis relating the same set of measures - family income, maternal schooling, family structure - to child outcomes. The conference was organized by the NICHD Child and Family Well-Being Network. February 2-3, 1995; the National Academy of Sciences.



APPENDIX G. INTER-AGENCY AGREEMENTS*, 1995-99

U.S. Bureau of the Census

Nativity Status in the Current Population Survey, 1995-99
Current Population Survey/Fertility History Supplement, 1995-96
1990 Census Super Sample, 1998
Improving the Coverage of Men in Surveys, 1997-99

U.S. Bureau of Labor Statistics

National Longitudinal Survey of Youth—79, 1995-99
National Longitudinal Survey of Youth—97, 1998-99
Value of Non-Market Work, 1997
Key National Indicators of Well-Being, 1997

National Center for Health Statistics

National Survey of Family Growth—Cycle 6, 1996-99
National Survey of Family Growth—Cycle 5, 1995

Health Resources & Services Administration

Girl/Neighborhood Power, 1997-99
Key National Indicators of Child Well-Being, 1997

Administration for Children and Families

Early Head Start Fatherhood Project, 1998
Workshop on Welfare and Child Development, 1995

National Center for Education Statistics

Early Childhood Longitudinal Study – Birth Cohort, 1998-99
Forum on Child and Family Statistics, 1998

Agency for Health Care Policy & Research

Development of Child Health Status Measures, 1996-98

Office of Population Affairs

Achieve Teen Pregnancy Prevention Program, 1995

* Includes only non-NIH projects supported with NICHD funds. Excludes interagency agreements in which other agencies provided funds to NICHD projects.

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APPENDIX H. OUTREACH AT PROFESSIONAL MEETINGS

American Anthropological Association
American Economic Association
American Public Health Association
American Sociological Association
International Conference on Applied Demography, Bowling Green State University
Population Association of America
Society for Research on Child Development
Southern Demographic Association
Third Colorado Conference on Elderly Migration



APPENDIX I. PROFESSIONAL, FEDERAL, AND NIH SERVICE: 1995-99

Within NICHD

P01/Large Grants Committee
Minority and Disability Supplement Review Committee
Small Grants Committee
NICHD Task Force on External Communications
NICHD Task Force on Planning
NICHD Task Force on Internal Communications
NICHD Task Force on Program Organization
NICHD Equal Employment Opportunity Advisory Committee
NICHD Data Sharing Committee

Within the NIH

NIH Reorganization of Behavioral and Social Science Review
NIH Behavioral and Social Sciences Lecture Series Planning Committee
NIH Behavioral and Social Sciences Research Coordinating Committee
Behavioral and Social Sciences Coordinating Committee, Office of AIDS Research
OBSSR Science of Self-Report Conference Planning Committee; and Intervention
Research Conference Planning Committee
DHHS Data Council: Advisory committee to Wendy Baldwin
Trans-NIH Work Group on the Early Childhood Longitudinal Study
Year 2000 Birth Cohort: Chairperson
NIH EEO Office: Adarand Advisory Committee on Affirmative Action
Committee to Advise NAS concerning Biomedical Training Needs

Outside the NIH

Nonmarital Childbearing: HHS Working Group
NIH Young Investigators Study with the National Academy of Sciences
Federal Interagency Forum on Child and Family Statistics
Executive Committee, Data Collection Committee, Reporting Committee
Nurturing Fatherhood: Planning Committee
NPR Fatherhood Initiative: DHHS Committee on Research
Male Fertility and Family Formation: Working Group
National Strategy to Prevent Teen Pregnancy: Working Group on Male Involvement
Interagency Task Force on Teen Pregnancy Prevention: Working Group
Interagency Working Group on the International Conference on Population and
Development Follow-up
HHS National Committee on Vital and Health Statistics, Subcommittee on Population: Staff
Federal Interagency Working Group on Immigration Statistics
Federal Forum on Aging Related Statistics
DHHS Workgroup for the Healthy People 2000 Progress Review on Asian Americans and Pacific Islanders
DHHS Asian American and Pacific Islander Departmental Work Group
DHHS Work Groups for Healthy People 2000 and 2010: Special Populations,
Adolescents, and Family Planning
Technical Advisory Group, Assessment of Major Federal Data Sets for Hispanic and
Asian or Pacific Islander Group and Subgroup Analyses, ASPE

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DHHS Welfare to Work Initiative
White House Partnership for Stronger Families
White House Children's Initiative

Outside the Federal Government

Demographic and Health Surveys Scientific Advisory Board
NICHD representative to US Man and the Biosphere
Population Association of America: Board of Directors, Secretary Treasurer, Editor of *PAA Affairs*
Society for the Study of Social Biology: Board of Directors
Southern Demographic Association: Board of Directors
American Public Health Association: Chair of Population, Family Planning and Reproductive Health Section
National Council on Family Relations: Research and Theory Section, Nominations Committee
Journal of Marriage and the Family: Editorial Board
Adoption Quarterly: Editorial Board
Journal of AIDS Education and Prevention: Editorial Board
The Evaluation Project: Policy Advisory Board
The MEASURE Project: Advisory Board
SOROS Foundation: Research Support Scheme
Journal reviewing: *Demography*, *Studies in Family Planning*, *Journal of Aging & Social Policy*, *The Journals of Gerontology*, *Journal of AIDS Education and Prevention*, *Family Planning Perspectives*, and *Journal of AIDS*



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APPENDIX J. AWARDS 1995-99

External Awards

“Hammer Award” for Reinventing Government, National Performance Review, 1998 given to a collaborative group including Christine Bachrach, Jeffery Evans, Susan Newcomer and Natasha Cabrera for the Fatherhood Initiative.

Department of Health and Human Services Secretary's Award, 1998 to V. Jeffery Evans

Anchor Award - Interagency Forum for Child and Family Statistics Leadership Award--FORUM, 1998 to V. Jeffery Evans

Hilary E. C. Millar Award for Innovative Approaches to Adolescent Health, Society for Adolescent Medicine, March 1999 to NICHD for the Add Health Study.

NIH Awards

National Institutes of Health Director's Award, 1997 to Christine Bachrach

National Institutes of Health Award of Merit, 1997 to V. Jeffery Evans

National Institutes of Health Award of Merit, 1997 to Rose Maria Li

National Institutes of Health Award of Merit, 1995 to Tracy S. Springer

