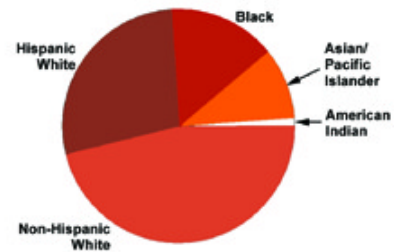


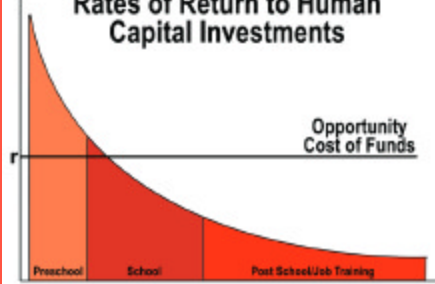
DEMOGRAPHIC AND BEHAVIORAL SCIENCES BRANCH NICHD



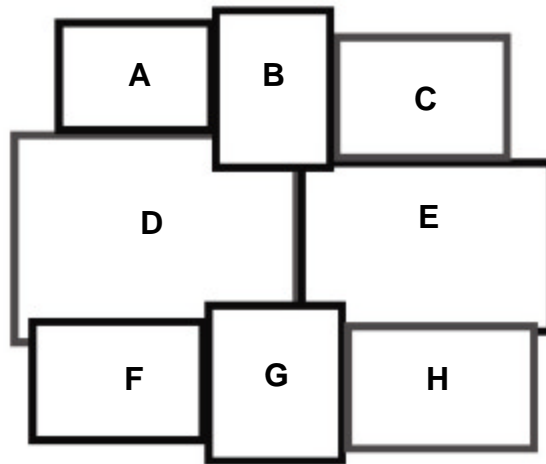
U.S. Children Under Age 18, by Race



Rates of Return to Human Capital Investments



REPORT TO THE NACHHD COUNCIL JUNE 2003



Cover Notes

- A. Population of the world as of March 2003 (Population Reference Bureau, <http://www.prb.org/>). According to the United Nations projections in *World Population Prospects: The 2000 Revision*, world population is expected to reach 9.3 billion in 2050.
- B. Couple in their early thirties getting married. People are marrying at historically late ages in the United States today, due to increased schooling, increased earnings capacity for women, and stagnant wages for less-educated men. (Photo courtesy of Sudi Newcomer.)
- C. Racial/ethnic composition of children in the United States. According to projections from the U.S. Bureau of the Census, by 2040, non-Hispanic white children will make up less than half of the population of children under age 18 for the first time. The increasing diversity of the nation's population will reshape the experience of youth growing up in this country. (Projections of the Total Resident Population by 5-Year Age Groups, Race, and Hispanic Origin with Special Age Categories: Middle Series, 2025 to 2045 [NP-T4-F]. Internet Release Date: January 13, 2000.)
- D. Urban lights in North America. The lights in these satellite images, taken at night, show patterns of urbanization. Areas of population density and urban development usually arise along major transportation routes, coastlines, rivers, railroad routes, and, in the United States, along the interstate highway system. (Portion of *Earth's City Lights*, an image by Craig Mayhew and Robert Simmon, NASA GSFC, based on data from Marc Imhoff of NASA GSFC and Christopher Elvidge of NOAA NGDC; JPL image for public use.)
- E. Women gossiping while waiting to grind grain in rural Kenya, Africa. Informal social interaction such as the situation depicted here has been shown to be critical in the spread of information and ideas about small family sizes, contraceptive use, and HIV prevention. (Photo courtesy of Susan Watkins, R01 HD 41713.)
- F. Rates of return to human capital investment, initially setting investment to be equal across all ages. Investments made in the preschool years have the highest return for later achievement. Figure adapted from James J. Heckman and Pedro Carneiro, *Human Capital Policy*, NBER Working Paper 9495, Feb 2003. Grantee James Heckman, Henry Schultz Distinguished Service Professor of Economics at the University of Chicago, won the Nobel Prize in Economics in 2000 for his work on the development of theory and methods for studying individual and household behavior.
- G. Father caring for his child. The Fragile Families and Child Well-Being Study (R01 HD36916) has helped to dispel the myth that fathers of babies born out-of-wedlock have no real interest or contact with their children. These findings, conveyed to congress in testimony given by the principal investigator, Dr. Sara McLanahan, have given rise to policy initiatives seeking to strengthen family relationships and produce healthy marriages among new unmarried families. (Photo courtesy of the *Back to Sleep* campaign, provided by RCW Communication Design, Inc.)
- H. An intergenerational family. Increased life expectancy has increased the chances that great-grandparents and great-grandchildren will know each other. Intergenerational contact such as that pictured here is less likely, however, when families experience divorce (Photo courtesy of Alan Mairson, Rebecca Clark, and Sarah Rosenfeld Benoit.)

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EXECUTIVE SUMMARY

The Demographic and Behavioral Sciences Branch (DBSB) of the National Institute of Child Health and Human Development (NICHD) supports scientific research on the processes that underlie human population growth, change, and well-being. As one of three branches in the Center for Population Research (CPR), the DBSB supports a research portfolio that looks intensively at the demographic processes of fertility, mortality, and migration, and at their broad interrelationships with larger social, economic, and cultural processes. Originally motivated by concerns about rapid population growth, the Branch has evolved over time, and today addresses a wide range of issues critical to the mission of the National Institutes of Health (NIH).

This report highlights recent accomplishments of the DBSB, including:

- Findings from numerous research studies investigating the causes of early initiation of sexual intercourse by adolescents, including results suggesting that involving middle-school teens in community service delays sexual initiation;
- Preliminary results of a research program on the potential acceptability of microbicidal products to prevent HIV;
- Research elucidating the importance of economic factors in influencing decisions to cohabit with a partner or to marry, and the consequences of those decisions for the well-being of children;
- Research findings on the problems families face in combining work and family responsibilities, especially when children are sick, and on the important role played by public policy and employee benefits in easing these difficulties;
- Results of major new investigations into the role that fathers play in the lives of their children, including findings that link specific aspects of fathering with specific developmental gains, independent of mothers' contributions;
- Findings from studies demonstrating positive effects of public policies that improve access to health care and other resources, on infant, child, and maternal health;
- Research that is unraveling the complex factors contributing to health disparities, and, with the help of a *Mind-Body Center* supported by the NIH Office of Behavioral and Social Sciences Research (OBSSR), is exploring the links between disadvantage and physiological functioning;
- Findings that demonstrate the importance of migrant selectivity—the greater propensity of healthy people to migrate—in understanding the more favorable health status of new migrants to the U.S. mainland; and
- Research that implicates not population growth, but growth in the number of households and changes in consumption patterns as the primary driver of environmental degradation in developing countries.

In fiscal year 2002, the Branch provided \$87.4 million in support for these activities (see Figure 1). Four-fifths of this funding supported investigator-initiated research grants. Other funds supported infrastructure vital to the Branch's mission, including training, career development, data resources, data access, and mechanisms for facilitating interdisciplinary research. In the years to come, the DBSB will work toward achieving strategic goals developed in the 2001 Long-Range Planning Workshop. It will also launch important new initiatives

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related to research on family change, and on balancing work and family. Perhaps most importantly, the DBSB will continue to invest in the basic building blocks that have made the Branch's program research successful over the years, including: active and ongoing engagement with the scientific communities the Branch supports; high-quality data resources that allow researchers to address emerging scientific issues; and strong support for individual investigators and multi-disciplinary teams in pursuing new discoveries and insights through NICHD funding.

INTRODUCTION

The DBSB supports scientific research on the processes that underlie human population growth, change, and well-being. The Branch, part of the CPR at the NICHD, supports a research portfolio that looks intensively at the demographic processes of fertility, mortality, and migration, and at their broad interrelationships with larger social, economic, and cultural processes. By situating individual health and development within broader group and societal contexts, the Branch provides a population-level perspective on the individual-level variability that is so visible in the work supported by other Divisions, Centers, and Branches of the NICHD.

Originally motivated by concerns about rapid population growth, the Branch has evolved to address a wide range of issues of critical importance to the mission of the NIH including:

- The impact of macro-level factors, such as policies, social change, and economic conditions on health;
- The health and well-being of children at the population level, tracking progress and building a research base for addressing problems;
- Family formation and change, the effects of policies and other social conditions on families, and the impact of the family on the health, development, and well-being of children and adults;
- A vital program on social and behavioral aspects of reproductive issues, especially those related to the ability to prevent unintended pregnancy and to overcome infertility, and those related to the prevention of sexually transmitted infections (STIs), including HIV;
- Movement of individuals across physical, social, and political space, and the implications of immigration, residential segregation, and population diversity for the health and well-being of individuals and groups; and
- A strong focus on the determinants and consequences of population growth, including the mechanisms that link population change and environmental impacts.

DBSB programs are rooted in the social, demographic, and behavioral sciences. These disciplines are now widely recognized for their potential contributions to health research, not only because of the obvious role of behavior in health, but also, more recently, because of their relevance to explaining health disparities across groups defined by race, social standing, and economic well-being. The social and behavioral sciences are well positioned to shed light on how social and economic disparities arise and persist, and to work with biomedical sciences to understand how these disparities affect health. The population perspective of the DBSB is essential to this task.

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The DBSB achieves its goals by funding grants, stimulating new lines of research, encouraging multi-disciplinary research, providing training and infrastructure support, and collaborating with other Branches, Institutes, agencies, and organizations. The Figures section of this report provides information on how Branch resources are allocated. About 83 percent of the \$87.4 million spent on DBSB activities in 2002 supported investigator-initiated research grants (see Figure 1). Another 19 percent of this funding (including 52 percent of AIDS funding and 8 percent of non-AIDS funding) was provided as a result of Request for Applications (RFAs). About 4 percent of the DBSB funds went to supporting the training and career development of population scientists, while 10 percent supported infrastructure for interdisciplinary population research. Interagency agreements, mostly to support the collection of data for population research, accounted for 6 percent of the Branch funds.

The Branch portfolio reflects the broad range of substantive topics covered within the DBSB mission, as well as the diverse approaches to addressing those topics (see Figure 2). In 2002, the largest share of funding (30 percent) went to projects that addressed issues related to research on families and households; this work included research on the effects of family and other social contexts on child well-being. The next largest share (21 percent) addressed issues related to HIV prevention. Research on fertility and pregnancy prevention accounted for 16 percent of funds. Health and mortality research and research on population movement accounted for 11 percent and 5 percent of the funds, respectively. Approximately 20 percent of the Branch funds for investigator-initiated efforts supported research in international settings. Figure 3 shows the growth of DBSB funding since 1982.

Appendices C through H provide a different view of resource allocation, that of staff energies and time. DBSB staff members bring outstanding scientific expertise and skills to their work (Appendix C). They invest their time in conducting outreach and working with potential applicants; monitoring and managing projects; developing RFAs and Program Announcements (PAs) (Appendix D); convening conferences and workshops (Appendix E); developing and maintaining collaborations with other agencies (Appendix F); and serving the NICHD, NIH, and larger federal and scientific communities in a variety of capacities (Appendix G). Appendix H lists awards received by Branch members between the years 1998 and 2002.

The Branch works hand-in-hand with colleagues in the scientific community and consults with NICHD leadership and federal colleagues in establishing scientific goals. Staff members identify emerging scientific issues and opportunities through their constant informal interaction with researchers and policymakers. The Branch holds monthly staff meetings and an annual retreat to exchange ideas and discuss new directions for research. Every five years, a formal Long-Range Planning Process is initiated in cooperation with leading scientists. The most recent planning activity culminated in June 2001. For an in-depth look at this process go to <http://www.nichd.nih.gov/cpr/dbs/sp/index.htm>. The planning report, *Goals and Opportunities: 2002-2006*, is also available at http://www.nichd.nih.gov/publications/pubs/dbsb_plan.htm.

The remainder of this report highlights accomplishments of the DBSB since 1999.

SEXUAL BEHAVIOR, UNINTENDED PREGNANCY, AND HIV

The DBSB's early investments in research related to teen pregnancy during the 1970s and 1980s laid a foundation for current research on adolescent sexual behavior, contraceptive use, pregnancy, and pregnancy outcomes. Previous research on fertility supported by the Branch focused on the choice and effectiveness of contraceptive methods, and on the ability of couples to plan their pregnancies. These issues have become more complex with the advent of HIV and greater attention to the risk of other STIs. In the United States, nearly half of all pregnancies are unintended, while about a quarter of all pregnancies end in abortion. Although teen pregnancy rates in the United States are lower than they were a decade ago, the rates remain among the

highest in industrialized countries. In addition, every year about one-in-four sexually experienced U.S. teens contracts an STI. Globally, 42 million people are living with HIV/AIDS, with infection most often occurring through heterosexual contact.

The National Survey of Family Growth (NSFG)

The NSFG is a nationally representative survey of reproductive health and behavior among U.S. men and women of reproductive age. It is conducted periodically by the NCHS with funding from the NICHD, the Office of Population Affairs (OPA), the Centers for Disease Control and Prevention (CDC), and others. Men were included in the survey for the first time in 2002.

The Branch supports a portfolio of basic and intervention research on the prevention of unintended pregnancy and STI, including studies of sexual behavior and the use of methods to lower the risk of pregnancy and disease. The program retains a strong emphasis on studies of adolescents, but also addresses risk and prevention across the reproductive years. This research stresses a population-based, multi-level understanding of risk and prevention, focusing on social, economic, interpersonal, and policy influences in addition to characteristics at the individual level. In addition to providing basic data needed to guide this work, the Branch collaborates with the National Center for Health Statistics (NCHS) in conducting the National Survey of Family Growth (NSFG) every six years. (See Sidebar for a description of this study.)

ADOLESCENT SEXUAL BEHAVIOR AND SEXUAL RELATIONSHIPS

In 2001, the Centers for Disease Control and Prevention (CDC) Youth Risk Behavior Surveillance System estimated that 43 percent of female and 49 percent of male high school students had engaged in sexual intercourse. However, this study, like most nationally representative surveys that track the sexual behavior of teens, did not explicitly define what it meant to have "sexual intercourse." For this reason, the results may not accurately measure all sexual behaviors—including oral or anal intercourse—that carry risk of STI. Data from a nationally representative sample of adolescent males (ages 15 to 19) showed that, while a substantial minority of teenaged boys reported experience with anal sex (11 percent) and with giving or receiving oral sex (39 percent and 49 percent, respectively), the vast majority of these teens also reported that they experienced vaginal intercourse. Still, of boys who had not experienced vaginal sex, 15 percent had received and 12 percent had given oral sex, suggesting that the prevalence of sexual activity among teens is underestimated by national studies that fail to ask about these behaviors.

Romantic Relationships and Sexual Activity

Romantic relationships provide the usual, but not exclusive, context of sexual behavior. A DBSB-supported study of middle-school students suggested that these romantic relationships were influenced by cognitive processes beginning much earlier in life, and involving learning models of heterosexual relationships and internalizing models of moral behavior. The longer process is supported by participation in opposite-sex friendships, where each sex learns the perspective of the other.

The National Longitudinal Study of Adolescent Health (Add Health)

This study collected comprehensive data on the personal, familial, and contextual determinants of health and health-related behaviors among adolescents in grades seven through 12, in 1994, and follow-up data on the same individuals in 1995, and in 2001-02. The study is supported by the NICHD, by other NIH Institutes and Offices, and by other federal entities.

The National Longitudinal Study of Adolescent Health (Add Health) has provided important new data on romantic relationships and their ties to sexual behavior. (See Sidebar for a description of this study.) The study found that being in a romantic relationship was highly predictive of having sex, and that the vast majority of teens had sex in the context of such a relationship. However, 14 percent of teenagers reported that they had sexual intercourse with “non-romantic” partners. Casual partnering was most common among teens who reported having trouble at school. A different study of middle-school youth showed that most adolescent relationships, while of short duration, were mutually exclusive. Monitoring by friends and other peers helped to enforce exclusivity.

Family and Sexual Activity

Family context also has a profound influence on adolescent sexual behavior. Adolescents who live with a single parent have long been known to be at higher risk for early sexual initiation. A recent study examining detailed data on children’s living arrangements over time found that family instability in childhood, *not* the experience of a single-parent family per se, explained the association with early sexual initiation among white females. Among African American females, residence in a mother-only or father-only household *during adolescence* accounted for the association. Being born to an unmarried parent, prolonged exposure to a single-mother family, or prolonged absence of the biological father did not appear to affect the risk of early sex in either group.

Parenting of pre-adolescent children is another factor that appears to affect the timing of dating and sexual initiation in adolescence. DBSB grantees found that parental monitoring of children’s activities delayed sexual initiation, while support from or control by parents did not. In another study of young people about to leave foster care because they had reached the age of majority, prior experience with sexual abuse contributed markedly to HIV risk behavior.

According to studies based on Add Health data, whether parents talked about sex with their teens and what they said influenced teens’ sexual behavior much less than whether teens perceived that their mothers disapproved of them having sex. However, when mothers recommended a specific method of birth control, teens were slightly more likely to have sex, and slightly more likely to use birth control if they did have sex. Parental religiosity also influenced teen sexual behavior, but the effect was mediated through the much stronger influence of the adolescent’s own religious beliefs and activities.

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Peers, School Environment, and Sexual Activity

Add Health Study results also suggested that peers influence the transition to first intercourse. A study of teenaged girls found that association with peers who were attached to school and engaged in few risk behaviors was protective. Girls were most strongly influenced by the characteristics and behaviors of their immediate circle of friends, and of the group in which their circle is embedded. The adolescent's "best" friend had little influence, as did the behavior of the "leading crowd" within a school.

Both high cognitive achievement scores and belief in one's own academic promise were linked to delaying first sexual intercourse, possibly, in part, because of the influence of peers in similar academic tracks. Participation in sports and physical activity were linked, directly and indirectly, to less risky sexual behavior among female adolescents in certain contexts.

Several studies have shown that the school environment also influences sexual behavior. A study in Kenya found that girls who attended schools where boys and girls were treated similarly were less likely to initiate premarital sex. Another study using Add Health data showed that school context affected how taking a pledge to remain a virgin until marriage related to sexual initiation among white teens. In general, controlling for potential sources of selectivity, teens who took the pledge had substantially lower risks of sexual initiation over the following year; however, among younger teens, the effect depended strongly on school context. In socially open schools, where teens had many friends outside the school, the effect of the pledge was greater when a higher proportion of students in the school pledged; in socially closed schools, where most friendship ties were to schoolmates, the delaying effect disappeared when too many students within the school took the pledge. Teens who took the pledge, but failed to abstain were less likely to use a method of contraception at first sexual intercourse.

Other Influences on Sexual Activity

Until recently, no research had addressed the widespread belief that sexual content in the media affected adolescent sexual behavior. In 1998, the Branch issued a PA inviting research on this topic; since then, five studies have been funded. All the studies have longitudinal designs that can begin to inform the debate over whether media exposure has a causal impact on sexual behavior. In early findings from one study, teens who watched more television overall were less knowledgeable about sex, and were less likely to have had sexual intercourse. However, teens whose television diet contained shows with high sexual content were more likely to have had sex. Shows with innuendo and talk about sex had a more powerful relationship to youth behavior than did shows that actually portrayed sexual interactions.

Engaging teens in community service also delayed sex. An intervention study of inner-city, middle-school youth compared two randomly assigned groups: one group received a comprehensive sexuality education curriculum, which included building skills for saying "no" to sex and violence; the other group received the intervention and spent several hours each week working in day care centers or nursing homes. More than two years after the original intervention ended, young people who had the opportunity to work with others in their community were significantly less likely to have initiated sexual activity, or to have had sex recently.

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Although some comprehensive sex education curricula (teaching both abstinence and the use of protective methods for sexually active youth) have been shown to delay sexual activity among teens, it is not yet known whether curricula that focus exclusively on abstinence would be equally or more effective. The Branch is currently supporting two intervention studies that are comparing the effectiveness of comprehensive sex education curricula, with those that teach abstinence until marriage. No findings have yet been published from these very important studies.

RESEARCH ON CONTRACEPTIVE PRACTICE AND UNINTENDED PREGNANCY

Fecund, sexually active women who prefer a small family must protect themselves against unintended pregnancy for most of their reproductive lives. In the United States, modern contraceptive use is widespread, but is often less effective than in the rest of the developed world. Although the use of modern contraception has made significant inroads in the developing world, it is still not the norm in many countries in Africa and the Middle East. The Branch supports work addressing contraceptive use in both of these contexts.

Contraception Use in the United States

Contraceptive use at first sexual intercourse is strongly influenced by the relationship to the partner. Researchers found that roughly half of girls who had just met their partners failed to use contraception at their first intercourse, compared to one-quarter of those who were going steady with their partner. Having sex with a man six or more years older also reduced contraceptive use among these girls.

Effective contraceptive use is a challenge for U.S. couples of all ages. In the United States, inconsistent use is widespread; studies have found that about half of all women stop using their method entirely over a two-year period. Problems using the methods and side effects were cited as major factors in discontinuation. Despite the availability of effective, long-acting contraceptives, such as the implant or injectables, only a very small proportion of U.S. women have taken advantage of these innovations. One DBSB grantee explored the reasons for this low use and found that most women cited lack of knowledge, fear of side effects or health hazards, or satisfaction with their current method. Fear of side effects was most pronounced among younger and less educated women.

Of the one-quarter of all pregnancies that end in abortion in 2000, non-use of contraception accounted for about one-half, while inconsistent or imperfect method use accounted for much of the other half. Abortion rates declined between 1994 and 2000, most markedly among teenagers and women of high socioeconomic status. Emergency contraception may have played a role in reducing abortion rates. However, abortion rates increased substantially among poor and near-poor women, and among women covered by Medicaid. Reasons for the increase in abortion rates among these populations have not been fully examined, but may include policy effects (e.g., welfare reform, access to contraceptive services), such as those discussed later in this report.

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In 2001, the Branch initiated a program of research on improving contraceptive use. In response to an RFA that requested basic and intervention studies on the barriers to effective practice, the DBSB funded four studies. In addition, two studies were funded separately to examine issues related to emergency contraception. Preliminary evidence from one study suggested that family-planning clinic patients were highly receptive to an offer of emergency contraception within the context of a routine visit; 64 percent were offered emergency contraception, while 93 percent accepted it.

Contraceptive Use in the Developing World

Research on contraception in developing countries has focused on the spread of contraceptive use, particularly use of effective methods. One study demonstrated the importance of ties to kin in influencing contraceptive practice; this work found that recently married women in Thai villages were more likely to use contraception if they had large kin networks. The researchers suggested that migration patterns were also relevant to understanding the spread of contraceptive practices because migration extended kin networks over greater distances. Another study, in rural areas of Malawi and Kenya, demonstrated how social interactions contributed to both the diffusion of modern contraceptive methods, and the evaluation of acceptable strategies of protection. This research showed that patterns of social interaction were crucial in modulating the impact of family-planning programs. The extent to which social interaction enhanced the direct effect of a program on contraceptive use in a community depended upon the initial level of contraceptive use.

Research has also shown that introduction of new non-family institutions had a major impact on contraceptive practice in the developing world. In Nepal, grantees found that new non-family services and organizations increased contraceptive use because they refocused daily social life outside the family, and reduced motivations for having children. In addition, women who lived near a school as children were more likely to later adopt one-of-four highly effective methods of contraception—sterilization, intrauterine device (IUD), Depo-proveraTM, or NorplantTM—regardless of whether the woman or her husband ever attended school. Participation in different types of voluntary associations, including credit groups, women's groups, agricultural groups, and youth groups, were similarly related to use of these methods.

Improving Access to Contraception

In recent years, two studies have explored methods for improving access to contraception in populations at high risk for HIV and other STIs. Findings from both studies suggest that offering family-planning services at locations where STI- or HIV-related services are provided may be necessary to have an impact on contraceptive use. In one study, sero-discordant couples in Zambia were more likely to accept contraception if methods were offered on-site at a counseling center, than if the couples were referred for services. The findings also showed that when husbands were involved in the counseling, more women accepted a method of contraception. A second study focused on women attending STI clinics in a U.S. city, randomly assigning half of those who participated to receive referrals to primary care providers for family-planning services. Long-term follow-up showed that referrals alone were insufficient to prevent unintended pregnancies.

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HIV RISK AND PREVENTION

Tracking Prevalence and Epidemic Dynamics

Understanding STI prevalence and the spread of disease in populations is critical to informing prevention strategies. The development of highly sensitive urine tests for detecting gonococcal and chlamydial infections has made it possible to estimate the prevalence of untreated infections in general populations. In a probability sample of adults in Baltimore, Maryland, 5.3 percent had an untreated gonococcal infection, and 3.0 percent had an untreated chlamydial infection. The combined prevalence of both infections was substantially higher among African American females (15.0 percent) compared to the general population. The estimated number of untreated gonococcal infections far exceeded the number of such infections that were diagnosed and reported among Baltimore adults during the study period.

Network models—mathematical representations of interpersonal relations—have proven invaluable for modeling the dynamics of epidemics spread through sexual contact. One DBSB grantee has studied how the structure of sexual partnership networks matters for the spread of HIV in a population. Using both simulations and survey data, she demonstrated that small differences in individual behavioral patterns, such as selecting partners with similar demographic attributes or having concurrent partnerships, combine to create very different population network structures that can either amplify, or dampen the spread of a disease. Her work is now identifying the key aspects of network structure that impact disease spread. This work requires a bridge between the mathematical modeling, which focuses on the transmission system, and the statistical modeling, which provides the link to empirical data.

Contact tracing and partner notification have long been central components of public health STI-prevention efforts, but quantitative evidence on the effectiveness of this strategy has been scarce. DBSB-supported findings add to the growing body of evidence that supports this practice. Findings showed that contact tracing led to the identification of individuals who were not observable using traditional network sampling strategies. The findings suggested that disease prevention efforts without contact tracing might be less effective at reaching these individuals, who tended to be located in the higher risk parts of sexual networks.

HIV/STI Prevention Among Sexually Active Couples

For sexually active couples who cannot assure lifelong mutual monogamy, consistent and correct condom use has remained the best means of protecting against HIV and many STIs. A substantial amount of DBSB-supported research (described in previous reports) has explored the factors associated with condom use. This body of research points particularly to the importance of relationship context. In a recent study involving a sample of low-income women, those who shared financial decision making with their partners, and those who had no part in financial decisions were far less likely to use condoms consistently, compared with those who made financial decisions independently. Those using highly effective methods of contraception were also less likely to use condoms.

The need to protect against both pregnancy and STIs has led many health care providers to recommend the use of highly effective contraception, such as oral contraceptives, and condoms, simultaneously. Using NSFG data, researchers showed that the proportion of U.S. women who

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used two such methods was small, and that women did not continue to use two methods when in regular partnerships. However, dual use was somewhat higher under conditions associated with HIV risk (e.g., casual partnerships).

The Branch is currently supporting a program of research on the potential acceptability of microbicides to prevent HIV. Because these products are not yet available, researchers have used analogous products (e.g., condom, diaphragm) to explore factors affecting acceptability. One researcher, studying diaphragm use, found that ease of insertion and partner preference were powerful predictors of continuation. Studies also found conflicting evidence regarding how the ability to use a method discretely (i.e., without partner knowledge) might affect acceptability. One study of young women supported the development of “discrete” methods, whereas another study of both men and women suggested that discrete use would imply infidelity or lack of trust. The latter study also suggested that potential users would value a product that enhanced sexual pleasure, and would avoid a product that interfered with the act of intercourse.

Efficacy was also a key issue for acceptability. Providers were reluctant to recommend a product with less efficacy than the condom; women’s willingness to consider use increased with a method’s efficacy. However, in one study, even a product that was 20 percent efficacious was acceptable to women with low levels of education and income. Desirable product attributes differed by race, ethnicity, gender and age. At the request of the NIH Office of AIDS Research (OAR), the Branch recently issued another RFA to continue building the research base in this area.

In recent decades, a number of intervention approaches have proven effective in influencing sexual risk and prevention behaviors. In 1998, the DBSB issued an RFA that challenged researchers to study how to adapt such “proven” interventions to new locations or new populations. The grantees, now in their third year of work, are addressing how to flexibly adapt programs to new contexts, while maximizing fidelity to the original scientific model.

Partners, Gender, and HIV/STI Risk

Relationship dynamics and gender norms are known to have important consequences for identifying and managing HIV risk. In a nationally representative study of HIV-positive individuals in care, investigators asked the individuals whether they disclosed their HIV status to their sexual partners. In all, 42 percent of gay men, 19 percent of heterosexual men, and 17 percent of heterosexual women failed to tell partners their status, mainly in the context of casual relationships. Even though condom use was common among these individuals, a substantial number of new HIV infections could potentially occur among the partners of non-disclosing individuals.

A study of men in India underscored the differences in norms governing marital and extramarital relationships and risk behaviors. Men felt that wives were “for life,” while partnerships based on love or sex were “temporary,” likely to fade at the first sign of trouble. In addition, most men did not express concern about the possibility of infecting their wives with HIV or other STIs, although some reported avoiding sex with their wives while infected with an STI. Keeping their

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activities secret from wives and families was paramount. Lastly, some men believed that STI transmission only resulted from sexual contact with a sex worker.

Evidence from studies in Africa indicated that gender inequity presents a major barrier to women's control over their own fertility and their protection from disease. A study in Malawi found that women who initiated discussions about protection had to be tactful to avoid the appearance of undermining men's authority. These women justified contraception use for personal health and family welfare, but noted the need for sexual prudence to protect children from becoming orphans.

A large household study of sexual behavior conducted in China found that risk to wives was highest when their husbands traveled frequently and had higher incomes, suggesting that the men used commercial sex services during their travels. Recognizing the importance of gendered expectations and norms in constraining individuals' ability to protect against HIV risk in the context of sexual relationships, the DBSB recently funded four new studies to examine the impact of gender on risk behavior.

IMPACT OF HIV

Recently, the Branch turned its attention to the impact of the HIV epidemic on populations and families. The population of U.S. children with HIV-positive parents is growing because of demographic shifts in the epidemic and increases in the life expectancy of HIV-positive people. In 1996, an estimated 16,600 U.S. children under age 18 were orphaned by AIDS, and more than 120,000 children were living with HIV-infected parents who were receiving care. Parents living with HIV often had limited financial, social, and emotional resources; they may also be too ill to take care of children.

The United States is not the only society struggling with HIV. In Uganda, researchers found that divorce and separation were significantly higher among women infected with HIV. In addition, among HIV-positive women whose viral loads were greater than 50,000 cps/ml, the ability to conceive was much reduced and the incidence of pregnancy loss was increased. These findings implied that surveillance systems based on screening of births might underestimate infection rates. The DBSB supported a conference to address the social structural ramifications of HIV infection in sub-Saharan Africa, and issued a PA inviting research on the impact of the HIV epidemic around the globe.

The DBSB has assumed a coordinating role for eight grants recently funded under an NICHD-wide RFA, *Partnerships for HIV/AIDS Research in African Populations*. These grants support partnerships between African institutions and those in developed countries, to build local infrastructure, train new researchers, and conduct exploratory bio-behavioral and social science research related to HIV prevention and care. The program hopes to lay the foundation for larger-scale, sustainable local programs.

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FAMILY AND FERTILITY

Traditionally, fertility and family have been treated as separate research areas within the DBSB program, and within population research in general. In 1998, the Branch began an effort to replace the separate programs with a combined focus that highlights the interrelationships among creating partnerships, having children, and raising them. This new emphasis parallels demographic trends that have challenged traditional assumptions about what constitutes a family, and about what events mark the formation of a family. In recent decades, DBSB grantees have documented shifts in fertility and marriage patterns, and increases in nonmarital cohabitation and childbearing. Their research has examined families formed outside of marriage, through remarriage, and through cohabiting relationships—families that were previously the subject of little research.

MARRIAGE

One of the key demographic changes contributing to family change has been the delay in age at marriage. In 1960, women first married at a median age of 20.1, and men at 22.5. By mid-2000, these ages had risen to 25.1 and 26.8, respectively. The trend toward delayed or foregone marriage has been especially marked among African American women. In the mid-1990s, 80 percent of white women had married by age 30, compared with only 45 percent of African American women. Among new, unmarried parents, African Americans were also significantly less likely to marry than Hispanics or whites. This large racial gap in marriage has been attributed to the dearth of “marriageable” men in poor African American populations, owing to stagnation in economic opportunities, and to high rates of incarceration.

Research has also shown that earnings of both men and women are important in explaining marriage trends and rates in the United States. Increased wage rates among highly educated women were implicated in the decline in marriage for this group, while decreased wage rates among poorly educated males were implicated in the marriage decline for poorly educated women. Women’s earnings have become a more powerful factor in marriage than they were in the past. In addition, DBSB-supported research found that, among new parents who were unmarried at the time of their child’s birth, couples were more likely to be married a year later if the father had a high earning capacity, if the couple’s earning capacity was high, or if the mother’s actual wages were high.

Research has also implicated changing gender roles, attitudes, and values in changing marriage patterns. Attitudes and beliefs toward marriage and gender roles, as well as religiosity and relationship quality were important in determining which unwed parents would marry within 12 months of their child’s birth. Differences in human capital, attitudes, and relationship assessments also made unique and significant contributions to explaining differences in marriage among new unwed parents.

Given continuing changes in the economy, shifts in attitudes and values in the society, and trends in educational attainment, what is the future likely to hold? A recent DBSB-funded study

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revealed that a new socioeconomic pattern has emerged with respect to first marriages. Whereas, in the past, college graduates were less likely to marry than women with fewer years of schooling, recent college graduates are now expected to marry at higher levels, despite a later entry into first marriage. This educational crossover, which was observed for both African American and white women in recent cohorts, suggests that marriage is increasingly becoming a province of the most educated, a trend that could become a new source of inequality for future generations.

DIVORCE

The divorce rate reached its peak in 1980, and has declined slightly since then. NSFG data on marriage, divorce, and remarriage in the United States revealed that 43 percent of first marriages end in separation or divorce within 15 years. As is the case with marriage, economic factors are important in explaining divorce. Wives' employment, measured as the number of hours wives worked, did not affect the probability of divorce during the 1970s or early 1980s, but increased the risk of divorce during the late 1980s and early 1990s. This study also found that the number of hours a wife worked became more important as a predictor of divorce as length of marriage increased. Another study found that the higher rates of divorce in disadvantaged neighborhoods were explained entirely by the low incomes of husbands in these groups.

The National Survey of Families and Households (NSFH)

This longitudinal survey was designed to describe and understand the causes and consequences of changes in family and household structure in the United States. It has collected three waves of data since 1987, and has provided data on couples, their parents, and a focal child. The study is funded by the NICHD and the NIA.

Research based on the National Survey of Families and Households (NSFH) has suggested that spouses' opportunities to form other relationships were also important factors in explaining divorce. (See Sidebar for a description of this study.) Couples were more likely to divorce if they lived in an area with an imbalanced ratio of men to women, or if the wife worked in an occupation having relatively many men and few women. Husbands' occupational sex ratio showed no effect on the risk of marital dissolution. Among couples who had both many

and few other factors for divorce, the destabilizing effects of the availability of spousal alternatives in the local marriage market and in wives' occupations were equally strong, indicating that structural factors had strong independent effects on divorce.

COHABITATION OUTSIDE MARRIAGE

While marriage rates have been declining, cohabitation outside marriage has emerged as an antecedent or alternative to marriage. The NSFH has documented the growth of cohabitation since 1970, showing that: (1) increasing proportions of the population have lived in a cohabiting relationship at some point in time; (2) the proportion of current unions that are unmarried cohabitations has increased dramatically, nearly doubling in the 25 to 39 age range; and (3) the greatest relative increases in cohabitation have occurred among high school graduates.

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Decisions to cohabit reflect the influence of economic and relationship factors. In the Fragile Families and Child Well-Being Study, a study of (mostly) unmarried couples and their children,

Fragile Families and Child Well-Being

This study is following a birth cohort of (mostly) unwed parents and their children for a five-year period. The study is designed to provide information on the capabilities and relationships of unwed parents, as well as on the effects of policies on family formation and child well-being. Funding is provided by the NICHD, other federal agencies, and foundations.

mothers were more likely to cohabit with the father at the time of their child's birth if they were better educated, older, and had a good relationship with the father; these mothers were less likely to cohabit if the father had problems with drugs or alcohol. (See Sidebar for a description of this study.) Mothers who had higher actual wages and fathers who held paying jobs were more likely to be cohabiting 12 months after the birth of their child than mothers who had lower wages, and than fathers who were not employed. In another study based on NSFH data, having non-resident children decreased the likelihood of getting married by 58 percent among cohabiting men, but increased the likelihood of cohabitation for single men.

The role cohabitation plays in changing marriage and fertility patterns needs clarification, but such a clarification will be difficult until researchers are able to better understand the various meanings that cohabitation may have for different couples. The DBSB is currently funding two qualitative research projects to examine the diverse circumstances of cohabiters, and to shed light on exactly how cohabitation fits into family life.

NONMARITAL CHILDBEARING

Increases in cohabitation have contributed to another dramatic change—the increased proportion of births that occur to unmarried couples. NSFG data revealed that, by increasing the chance of both planned and unplanned births among unmarried women, increased rates of cohabitation accounted for almost all of the increase in unmarried childbearing between 1980 and 1984, and between 1990 and 1994. The proportion of nonmarital births occurring to cohabiting couples increased from 29 percent to 39 percent during these periods.

Increases in nonmarital childbearing have been particularly striking among first births. First births outside of marriage continue to be largely concentrated in the teen years, while first births within marriage have become increasingly concentrated among women in their mid- and late-twenties. For the last 25 years, the average age at which unmarried women gave birth for the first time has been similar for African American and white women. However, the fertility behavior of married and unmarried women has become increasingly different. Once differences in marital status are taken into account, racial differences are of declining significance in explaining fertility patterns.

A woman's relationship status at first birth is highly predictive of her status at subsequent births. Marital first births are overwhelmingly followed by marital second births, cohabiting first births by cohabiting second births, and single first births by single second births.

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FERTILITY: TRENDS, TIMING, AND MOTIVATION

Within the United States, the total fertility rate has remained remarkably stable since the early 1970s. However, the average age at first birth increased across the population during the 1970s and 1980s. The shift to delayed childbearing has been most dramatic among well-educated women, most likely because of the increased access of these women to career-type jobs. In such jobs, the steep costs of leaving the work force to raise children may motivate women to delay childbearing until they have established their careers and are able to afford adequate child care.

Rates of teen childbearing increased sharply during the late 1980s, but then declined rapidly during the 1990s, to reach an all-time low in 2001. Reasons for these sharp declines are complex. NSFG data indicate that both better contraception, and increased sexual abstinence have played important roles in the decline. Improvements in the socioeconomic backgrounds of young women over time have also lessened the risk of teen motherhood; however, changes in family structure of origin have increased the risk of teen motherhood.

Fertility trends have also been affected by shifts in social norms and economic circumstances. One DBSB grantee found that, using behavioral genetic models, the proportion of variation in fertility attributable to heredity changed over time. For instance, during times of increased reproductive choice, the influence of heredity in female fertility was increasingly important. The role of heredity also appeared to be more important in the onset of childbearing, than it was in total family size. Other research has suggested that societal changes in attitudes about gender inequality may affect fertility at higher parity levels. For example, during much of the 20th century, the gender of the first two children in the family influenced the likelihood of a third birth; parents with two children of the same sex were more likely to have a third child than were parents with one son and one daughter. However, since 1985, this effect has attenuated.

A DBSB grantee has proposed that the “social capital” value of children, defined as their value in creating new social ties and resources, may be a previously neglected motivation for fertility. Using NSFH data, this research suggested that fertility intentions were higher among individuals who viewed children as a means to greater connectivity to others, and to increased social rewards. Other research is underway to examine how the value of children affects fertility decisions among stepfamilies.

PUBLIC POLICY AND FAMILY FORMATION

An increasing body of evidence suggests that marriage and fertility patterns are responsive to public policies that influence economic incentives or affect access to reproductive services. In each of the past 10 years, North Carolina’s state funds that were intended to subsidize abortions for poor women for an entire year have been exhausted partway through the year. Investigators found that the interruptions in state funding had pervasive and substantial effects on fertility decisions, especially among young, unmarried, African American women. The research also found that women were more likely to carry pregnancies to term when funding was not available, thus increasing rates of childbearing among unmarried, young, African Americans.

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Currently, the research literature is divided on whether the welfare system contributes to low marriage rates and high levels of nonmarital childbearing in low socioeconomic populations. To clarify the mixed results in this area, a DBSB-supported investigator is currently conducting a thorough analysis of the effects of welfare policy on nonmarital childbearing and marriage. Preliminary results from the Fragile Families and Child Well-Being Study showed that increased cash benefits did not increase the likelihood of marriage among new unmarried parents. However, effective child-support enforcement increased the odds that the couple would marry. The father's employment had an even greater effect on the odds of marriage.

Other researchers are using data from the Fragile Families and Child Well-Being Study to investigate whether policies intended to increase marriage will, if successful, also lift single-parent families out of poverty. Results have indicated that, although two incomes could lift many single-mother families out of poverty, 46 percent of unmarried parents would continue to earn below the federal poverty line, even if they were to marry.

MALE FERTILITY AND FATHERHOOD

In the late 1990s, as part of the federal Fatherhood Initiative, the DBSB participated in an interagency effort to review federal data and research on male fertility and fatherhood. This effort resulted in a report published by the Federal Forum on Child and Family Statistics titled, *Nurturing Fatherhood: Improving Data and Research on Male Fertility, Family Formation, and Fatherhood*. This report spurred a series of investments in research and data collection, including the development of a male survey within the NSFG, and the addition of fathering measures in several new studies of families and child development.

The Panel Study of Income Dynamic-Child Development Supplement (PSID-CDS)

The PSID-CDS is a longitudinal study of children and their families designed to examine the dynamic process of early human capital formation. The study has followed parents and their 0- to 12-year-old children since 1997, collecting information from mothers, caregivers, teachers, schools, and children. Primary support for the PSID comes from the NSF; the NICHD supports the Child Development Supplement.

Some of the new research highlights the experience of fatherhood in the national population. New data from the Panel Study of Income Dynamics-Child Development Supplement (PSID-CDS) showed that fathers in intact families were spending an increased amount of their time with their children, particularly during the weekends. (See Sidebar for a description of this study.) Fathers' wages and work hours affected the amount of time they spent with their children during the weekdays, but not the weekends. This research also found that African American fathers, in general, were less involved in their children's lives than white fathers; Hispanic fathers were more involved than white fathers. Differences in styles of parenting among African American, white, and Hispanic fathers were explained, in part, by differences in economic circumstances, neighborhood contexts, gender role attitudes, and intergenerational experiences of fathering.

Research on fatherhood is complicated by the fact that fathers may have children with more than one woman, may live apart from their biological children, and may parent children to whom they are not biologically related. A study based on PSID-CDS data examined how fathers' engagement, availability, participation, and warmth toward the

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children they lived with was influenced by their marital status and relationship to the child. The study found that while stepfathers were less engaged than married biological fathers, this difference largely reflected differences between the two types of fathers, and the additional time that stepchildren spent with non-resident fathers. Cohabiting fathers spent a smaller, though still substantial, amount of time with their partner's children than married biological fathers, and showed less warmth. The researchers concluded that marriage, per se, increased father involvement independent of the father's characteristics and had a more important effect than the biological relationship to the child.

Other research based on NSFH data suggested that it was not the formation of a new union, but the responsibility for new children, particularly new biological children, that reduced the odds of fathers' frequent in-person contact with their non-resident children. Fathers also reduced their child-support payments to non-resident children, often informally, to accommodate the demands of new biological children. Improving non-custodial parents' control over and access to their children promoted child-support payment and improved outcomes for children. Similarly, joint legal custody resulted in higher child-support payments and better child outcomes.

Other research on fatherhood supported by the Branch has focused on economically disadvantaged populations. One group synthesized qualitative research that probed the experience of fatherhood for African Americans in low-income, urban communities. The study found that fatherhood, for this population, was an active, flexible relationship that evolved over time. Most men in these communities aspired to conventional work values, but their inability to find good and consistent employment decreased their potential to be involved parents and encouraged marginal relationships with partners and families. However, negotiations within families allowed fathers to tailor active roles in their children's lives, often substituting time and in-kind support for economic support.

The Fragile Families and Child Well-Being Study has helped to dispel the myth that fathers of babies born out-of-wedlock had no real interest in or contact with their children. Among unmarried women who gave birth, 83 percent reported that they were romantically involved with the baby's father, and 51 percent were living with the father. A majority of unmarried mothers believed that their chances of marrying the father of their children were "pretty good" or "almost certain." In addition, 83 percent of mothers indicated that the father contributed financially during the pregnancy. These findings, conveyed to congress as part of testimony given by the study's principal investigator, Dr. Sara McLanahan, have given rise to policy initiatives that seek to strengthen family relationships and produce healthy marriages among so-called fragile families.

WORK, FAMILIES, AND CHILD CARE

Another important change affecting the family has been mothers' widespread participation in the labor force, which has resulted in increased use of non-parental child care while mothers are at work. Care provided by family and friends, home-based care, and other "informal" types of care have been prominent features of the child care revolution. Frequent changes in arrangements are typical, both as the children grow older, and as school-based alternatives increase.

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DBSB grantees have pointed out the key role that child care plays in moderating the relationship between involvement in the labor force and fertility. If child care is affordable and accessible, increased participation of females in the labor force participation does not necessarily translate into reduced fertility levels. In fact, the income earned by working parents can facilitate family formation by supplying resources to pay for child care. A study recently funded by the DBSB will examine the effect of local variations in child care supply on the timing and level of fertility.

The National Longitudinal Survey of Youth (NLSY)

The NLSY is documenting the economic and demographic life-course of men and women who were ages 14 to 21 in 1979. The survey is conducted by the Bureau of Labor Statistics. In 1986, with funding from the NICHD, it was expanded to assess the cognitive, social, and emotional development of children born to women in the cohort, and to increase content on family behavior.

Other research has examined how families juggle work and family responsibilities. Work schedules affect when and for how long parents can be with their children. Data on parents and children from the National Longitudinal Survey of Youth (NLSY) showed that, for a grade-school aged child, the home environment was negatively impacted by one parent or both parents working an evening shift. In this study, the home environment was measured by parental involvement and responsiveness, enrichment activities for children, and physical environment. (See Sidebar for a description of the NLSY.) A poor quality home environment, in turn, was associated with poor developmental and health outcomes.

Policies that allow parents to spend time with and take care of their children when they are sick help parents juggle work and family responsibilities. Multivariate results indicated that parents who had either paid sick, or vacation, leave were five times more likely to care for their children when the children were sick. However, federal and state parental leave laws enacted in the 1990s have had no effect on

fathers' leave-taking around the time of a child's birth, and have only slightly increased the frequency and length of mothers' unpaid leave for a child's birth.

Balancing work and family can be even more difficult for single parents and disadvantaged families, especially when health problems complicate family life. Research based on NLSY data indicated that mothers who had been on Aid to Families with Dependent Children (AFDC) were more likely to be caring for at least one child with a chronic health condition, compared with mothers who never received assistance. Poor parents coping with their own or their children's health limitations had far greater difficulty maintaining paid employment; having to care for a child with a health limitation increased a woman's probability of job loss by 33 percent. Further, disadvantaged women were less likely to have employment benefits that helped them take time off to care for children. Mothers who had been on AFDC were also less likely to have paid sick leave throughout their working careers, and were less likely to receive other paid leave or flex time.

Issues related to balancing work and family will grow in importance over the coming decades, as the service sector continues to grow, and as women are called upon to fill the jobs vacated by the retiring "baby boomers." At the request of the NICHD director, the DBSB is developing an initiative on work/family issues designed to create innovative approaches to improving the fit between family responsibilities and employer needs. The Branch has held a planning meeting and planned an inaugural conference in pursuit of advances in this research area.

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FERTILITY, FAMILY, AND THE WELL-BEING OF CHILDREN AND ADULTS

Events that form and reshape families have important economic, social, and psychological consequences for family members. In recent years, the DBSB has continued to support research on the consequences of early childbearing and divorce for both parents and children. This work has greatly expanded research on the consequences of family change for child well-being.

Unwanted pregnancies and births are associated with negative outcomes for both women and children. Women who had unwanted births were less likely to receive adequate prenatal care, were more likely to smoke during pregnancy, and were more likely to have babies whose health was compromised. Children born as a result of an unwanted pregnancy were also likely to experience poorer cognitive development, and to have lower self-esteem as adults. NLSY data suggested that the attitudes of both parents toward the pregnancy were important for the health of the pregnancy and child. Compared with pregnancies intended by both parents, those intended by the mother but not the father were more likely to be characterized by delayed prenatal care and maternal smoking; the resulting infants were more likely to be low birth weight and to not be breastfed.

A large body of research has documented the association between teen childbearing and a variety of adverse outcomes, including poverty and welfare dependency, low educational attainment, and poorer developmental outcomes for children; these results hold true even after statistically controlling for the disadvantaged backgrounds of teenage mothers. Recent research has shown that the effect of teen childbearing on high school completion has lessened. In fact, one recent study found that teen mothers were no less likely to obtain a high school degree, either a diploma or a graduate equivalency diploma, than if they delayed their childbearing until adulthood. However, the gap in postsecondary school attendance for teenage versus later child bearers widened substantially between the early 1960s and the early 1990s.

Further, a comparison of teenage mothers to women who delayed their first birth substantially (until age 30 or older) revealed strong differences in both high school completion, and postsecondary schooling. Differences in the circumstances of children born into families with differing levels of education are larger now than when most women had their babies in their late teens or early twenties.

Research has also addressed the social, economic, and developmental consequences of divorce for parents and children. Results have confirmed that divorce hurts women economically, although less so than is suggested by comparing the economic situation of divorced and married women; these comparisons are inflated by economic differences associated with the risk of divorce. Either remarrying or cohabiting with a new partner after divorce can restore income levels to pre-divorce levels, according to a study based on NLSY data. However, children's long-term economic stability depends on the mother's choice between cohabitation and marriage, and on the stability of the new relationship. Neither stable, nor unstable, cohabitations provided economic advantages to children compared to the mother remaining single; remarriage, and especially a stable remarriage, did provide these advantages.

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Other studies based on NLSY data demonstrated that, while the experience of divorce had small adverse consequences on children's mental health and behavior well into adulthood, many of the problems experienced by children of divorce can be traced to conditions and characteristics that preceded the divorce. A recent study found that, for most outcomes, the effects of divorce on children were similar regardless of whether their parents divorced when they were children, or postponed the breakup of marriage until after the children were grown.

Effects of divorce were found in relationships with grandchildren as well. A divorce in the grandparent generation had negative effects on many aspects of grandparenting, especially for grandfathers and paternal grandparents. In part, these negative effects resulted from weaker bonds with and greater distance from grandchildren.

Divorce affects children, in part, by affecting parenting practices. Researchers analyzing mothers' and children's reports of parenting practices in the NSFH found that use of harsh discipline was greater among mothers whose relationships had dissolved, than among those in intact relationships. Another researcher demonstrated that marital dissolution triggered lower quality parent-child relationships, less positive orientations toward marriage, and more positive orientations toward divorce and premarital sex on the part of children. Among children whose parents separated during their adolescence, a researcher using Add Health Study data found that delinquency rates increased more dramatically after the separation if the child was close to his or her same-sex parent prior to the separation.

In addition, about two-fifths of all children spend some time in a cohabiting family. Because cohabiting relationships do not last as long as marriages, children in cohabiting families are more likely to experience family disruption. Researchers are now more fully investigating the links between cohabitation and child well-being. This focus is a challenging, but important, next step for research in this area.

POLICY, THE FAMILY, AND HUMAN DEVELOPMENT

The healthy development of the next generation of citizens, workers, and parents is at the heart of the NICHD mission. The DBSB's part in this mission is to focus attention on the family, community, and policy environments that shape human development, and to increase understanding of the mechanisms through which these environments affect children and adolescents. The preceding section discussed research on the effects of family change on children's family living arrangements and on the role of fathers. This section focuses on children and their development into healthy and productive adults.

The DBSB Program on Intergenerational Research supports much research in this area. This Program studies the ways in which families move resources up and down the generational ladder to adapt to changing circumstances; it also explores the effects of changing public policies on these intergenerational investments. The program builds on a foundation of research established in partnership with the National Institute on Aging (NIA) during the 1980s. In 2002, an RFA

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was issued to prompt new advances in understanding intergenerational transfers within the family, the linkages between public policy and these family-level behaviors, and the relationship between transfers to young and old dependent populations.

The foundation for this work has been developed through a variety of special initiatives. First, starting in 1997, the NICHD has contributed to a benchmark series of indicators of child well-being, published annually in *America's Children: Key National Indicators of Well-Being*. Produced under the auspices of the Federal Interagency Forum on Child and Family Statistics, this series disseminates demographic information on the economic, educational, developmental, health, and family status of children that is essential for monitoring the future of the nation's population and for informing policy. These indicators initially revealed improvements in children's well-being, but recently progress on indicators sensitive to economic conditions has leveled off.

Second, the NICHD Family and Child Well-Being Research Network (hereafter, the Network) was established in 1993, and was enlarged in 1999. The Network was created to facilitate multi-disciplinary research on family and child well-being, and to make research findings in these areas accessible to the public-policy process. Signature accomplishments of the Network include:

- A conference to develop the foundation for the benchmark series of indicators published in *America's Children*;
- Contributions to a parallel set of indicators on parents and parenting, called Charting Parenthood: A Statistical Portrait of Fathers and Mothers in America;
- Development of the widely cited volume, *Consequences of Growing Up Poor*, which points to early childhood as the period most vulnerable to the effects of poverty, and as the time when these effects are most easily addressed through anti-poverty programs;
- The *Developing a Daddy Survey (DADS)* project, which successfully established a common conceptual framework and overlapping measures of fathering in several population-based studies, and developed a compendium of fatherhood measures that will soon be available via the World Wide Web and CD-ROM;
- Work with the U.S. Department of Health and Human Services (DHHS) to add measures of child well-being to welfare reform experiments conducted in strategic states;
- A handbook for measuring childhood disability in large-scale surveys, the first of its kind; and
- Support for highly productive individual research programs (results are included in this section and elsewhere in this report).

Third, the NICHD has used the Interactive Research Project Grant mechanism to enable the National Bureau of Economic Research (NBER) to assemble a network of economic researchers interested in child well-being. The NBER network has produced a large volume of research studies, reported in this section and elsewhere in this report. In 2000, NBER Network member James Heckman won the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel for developing methods of analysis to differentiate the effects of background factors from the effects of current influences on economic achievement. In 2002, the American Statistical Association voted him "Statistician of the Year" for the same work. Heckman's work suggests that current efforts to enhance the economic prospects of adolescents and young adults through

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remedial educational and job training programs are dominated by the forces that shaped their early development.

In addition, the Science and Ecology of Early Development (SEED) project was launched in 1997, at the request of NICHD director Duane Alexander, M.D. SEED established an integrated research agenda that focused on the effects of poverty on child development. SEED was designed as a collaborative effort within the NICHD, as well as across other federal agencies and public and private institutions. Through a PA and extensive outreach, it encouraged research on multiple contexts of development, including family, child care settings, schools, communities, and broader cultural and policy contexts, that could affect outcomes for children from low-income families. To date, seven projects have been funded by the NICHD and the National Institute of Mental Health (NIMH). SEED-sponsored workshops have explored problems related to making child care available to poor families; measurement of the home environment, social-emotional, and cognitive development in population-based studies; and the role of schools in addressing school readiness.

THE FAMILY AND CHILD DEVELOPMENT

Many aspects of family structure, resources, and functioning have been linked to child-development outcomes. One study, examining the relationship between family socioeconomic status and child outcomes, found that much of the association between level of family income and children's Woodcock-Johnson scores was mediated by the family's ability to provide support for a stimulating learning environment. In contrast, the stability of family income was associated with children's scores on the Behavior Problem Index, primarily through maternal emotional distress and parenting practices.

Another study used data from the NICHD Study of Early Child Care and Youth Development to examine the effects of maternal employment in the first year of a child's life. It showed that Bracken School Readiness scores for white children at 36 months of age were lower when their mothers worked outside the home by their ninth month of life. The effects were more pronounced for children whose mothers were working 30 hours or more per week, and for certain subgroups (i.e., children whose mothers were not sensitive, boys, and children with married parents). These effects were found even when controlling for child-care quality, the quality of the home environment, and maternal sensitivity. A follow-up study using NLSY data found that similar effects persisted to ages seven or eight for some children, but not for others.

Seeking to isolate the impact that having married parents has on children's outcomes, a grantee used NLSY data to relate children's experience in single-, cohabiting-, and married-parent homes with changes in children's math scores and delinquency during ages 10 through 14. Results suggested that, while changes in African American children's outcomes were unaffected by their parents' marital status, white children's experience in single- or cohabiting-parent homes reduced gains in math scores.

DBSB research has shown that even events determined before a child's birth can influence developmental outcomes. For instance, whether the child's birth was intended (see the Family

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and Fertility Section), and whether the child was born to a teen mother both impact the child's development. One study examined the consequences of teen childbearing for children's achievement and behavior over time. After adjusting for period effects on children's test scores, researchers found that children born to women who began childbearing early exhibited significantly more behavior problems than those whose mothers delayed first birth; but these children scored lower on only one out of four achievement tests than their cohorts whose mothers delayed first birth.

FATHERS AND CHILD DEVELOPMENT

New research on fathers has confirmed that their contributions have positive effects on children's well-being. Data from the Fragile Families and Child Well-Being Study provided preliminary evidence that co-residence of fathers and financial support affected birth outcomes. The prevalence of low birth weight was lower when fathers lived with the mother and contributed support.

In a study of African American families on welfare, only 16.6 percent of fathers provided child support through the formal system; but, 42.3 percent provided informal child support, and 67 percent visited at least once in the past year. Monetary and material contributions to the child were associated with higher child scores on the Personal Maturity Scale and on measures of cognitive development.

Analyses of data from the PSID-CDS revealed that fathers' economic provisions, earnings, and educational attainment were positively associated with children's cognitive ability and behaviors. Fathers' emotional support and monitoring activities were associated with fewer problem behaviors in children, independent of maternal characteristics. Additionally, fathers' wage rate and completed level of schooling were significant predictors of children's schooling, as well as of daughters' risk of nonmarital childbearing. Certain paternal activities, such as church attendance, also had positive effects on children's long-term educational attainment, particularly for sons.

The quality of fathering in stepfamilies is also important for children's outcomes. One DBSB grantee found that those stepchildren whose relationships with their stepfathers were of high quality had lower internalizing and externalizing problems; the finding applied regardless of the quality of the children's relationships with mothers. Relationships to non-resident fathers were also important, but less consistently so.

In recent years, the NICHD has provided partial support for large-scale studies that examine the role of fathers in children's development. With NICHD funds, the Administration on Children and Families' Early Head Start Research and Evaluation Project is examining the role low-income fathers, both biological and "social" fathers, play in the lives of their infants and toddlers. One analysis of fathers and their 24-month-old children found that fathers' sensitivity during videotaped play interactions robustly predicted children's developmental status. Children whose fathers engaged them in responsive and didactic ways were much more likely to fall within normal limits on the Mental Development Index of the Bayley Scales of Infant Development.

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In addition, the Early Childhood Longitudinal Study-Birth Cohort of the U.S. Department of Education is following 13,500 children born during 2001, until they reach first grade. The first wave of data collection, supported by the NICHD, was completed in 2002, and included data on resident and non-resident fathers. The Fragile Families and Child Well-Being Study will also provide important information on the effects of fathering on children born to unmarried parents.

CHILD WELL-BEING AND PUBLIC POLICY

During the 1990s, welfare reform experiments and policy shifts changed the landscape for many poor families. New policies and programs sought to reduce welfare loads by increasing child-support payments from non-custodial parents, and increasing employment for poor single mothers. DBSB-funded research has shown the effects of these changes on employment and income. Women leaving welfare dependency in the late 1990s had an average employment rate of 63 percent. However, women with: (1) lower levels of education, (2) poor health statuses, (3) a young age, and (4) younger children had considerably lower employment rates and post-welfare income levels than other women leaving welfare.

Other research has shown that efforts to increase child-support payments, dating back to the 1980s, have also been effective. Researchers found that, without these policies, trends in nonmarital childbearing, divorce laws, and women's earnings would have severely reduced the extent of child-support payments to single mothers. Instead, payments have remained fairly level.

Most policy research has focused on employment and child support, but has not explored the consequences of policies for children. In 1998-1999, the NICHD funded three studies designed, in part, to measure the effects of the policy changes on family structure and process, on father involvement with the family, and on child well-being. These included:

- The *Fragile Families and Child Well-Being Study* (see Sidebar elsewhere in this document).
- *Welfare, Children and Families: A Three City Study*. This multi-level (communities, families, and individuals), multi-method (survey research, ethnography, developmental assessments) study, with sites in Boston, Chicago, and San Antonio, is examining family responses to policy reforms (employment, schooling or other forms of training, residential mobility, and fertility) and the effects of these responses on children's health and development.
- *Los Angeles Family and Neighborhood Survey*. This longitudinal survey of children, their families, and their neighborhoods in 65 neighborhoods in Los Angeles County is examining neighborhood, family, and peer effects on child development, neighborhood change, and residential mobility, as well as the effects of welfare reform at the neighborhood level.

In an article published in *Science* in 2003¹, investigators from the Three City Study asked whether welfare reform had hurt children. Based on the Study's findings, their answer was no.

¹ Chase-Lansdale, P. Lindsay, Robert A. Moffitt, Brenda J. Lohman, Andrew J. Cherlin, Rebekah Levine Coley, Laura D. Pittman, Jennifer Roff, Elizabeth Votruba-Drzal. "Mothers' Transitions from Welfare to Work and the Well-Being of Preschoolers and Adolescents." *Science*, 299: 1548-1552; March 7, 2003.

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Neither young children (two to four years old), nor young adolescents (10 to 14 years old) exhibited any negative outcomes because of their parents' transitions on or off welfare, and into or out of paid work. In fact, there was slight evidence that adolescents' mental health improved when mothers joined the labor force, and that behavior problems increased when mothers left employment.

Additional research supported by the Network suggested that policies to increase paternity establishment have had important effects for father-child relationships. Paternity establishment was more likely in states with higher welfare benefits and stronger genetic testing requirements. Fathers with established paternity for adolescents paid more child support and had more contact with their children than those who did not. Court-ordered (as compared to voluntary) paternity establishment increased payment of child support, but had a smaller effect on fathers' contact with children.

State policies on child-support enforcement also affect fathers' involvement with children. One study found that child-support awards were more common in states that spent more on child-support enforcement, and that had more effective enforcement policies. Preliminary results from another study indicated that having a court award child-support increased contact between a non-resident father and his child by a modest amount, about six days per year. However, actual payment of child support by the father increased contact substantially, by about 27 days per year.

Researchers have also examined how educational policies affect child outcomes. To evaluate the effect of classroom size on children's achievement, one DBSB grantee used data from Tennessee, where some children were randomly assigned to smaller size classrooms. Results showed that the children assigned to smaller classrooms performed better academically than students who were not; these children were also more likely to take, and do well on, college entrance examinations. This effect was particularly notable for minority students. Small classes cut the gap in African American/white college test taking in half. Conversely, other findings showed that real variations in pupil-teacher ratios arose from the natural variation in the population of school-age children, but that these class-size variations had no impact on student outcomes.

Another contentious area of education that has been indirectly related to child well-being is school choice and the availability of vouchers. Researchers evaluated a targeted voucher program in Milwaukee, Wisconsin, and found that the program had positive effects on students' mathematics exam scores, but not on their reading scores. In the same vein, research is beginning to examine the impact of educational subsidies, paid by the U.S. Social Security Administration, on the educational attainment of children whose parents are deceased. Some studies indicated that these grants led to more college attendance and completion. However, NICHD grantees have concluded that long-term factors, such as parental income and educational attainment, were most important in determining children's higher educational attainment.

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TRANSITION TO ADULTHOOD

The transition to adulthood, the period between high school graduation and the attainment of markers of adulthood, such as stable full-time employment, marriage, and parenthood, is a critical, but understudied period of human development. In recent decades, this passage from adolescence to adulthood has lengthened, and its course has become more unpredictable. DBSB-supported studies are striving to understand this period, its characteristics, and its outcomes.

Economic well-being has become increasingly dependent on post-secondary education. The wage gap between young men with college educations and those with high school educations has doubled over the past 30 years in the United States; similar patterns were observed in other developed countries. These shifts reflect changes in the relative supply of highly educated workers, which resulted from a slowdown in the rate of growth in educational attainment that began with cohorts born in the early 1950s. Post-secondary school enrollment rates for those ages 18 to 24 began to rise again in the early 1980s, and have remained on an upward trend since then. But, even today, the fraction of male high school seniors who enter college immediately after graduation is only slightly higher than it was in the 1960s.

In the transition to adulthood, leaving the parental home is an important step. Since 1970, the average age at which children leave home has increased. Many people believed that this trend represented a new tendency of young people to resist striking out on their own. However, new research revealed that this later age at home-leaving was the rule, rather than the exception during the 20th century. It was only around World War II that the average age at home-leaving decreased. Between 1880 and World War II, age at home-leaving increased steadily, for both men and women.

Knowledge of the transition to adulthood and its relationship to health and health behaviors will increase dramatically in the next few years, with the availability of new data from the Add Health Study. A third wave of data collection with individuals who were first interviewed during their teens was collected in 2001-2002, when the individuals were between the ages of 18 and 24. The new data set includes a broad range of information on health, as well as on educational, occupational, and family transitions that will advance understanding of this developmental period.

HEALTH AND MORTALITY

The DBSB program in health and mortality encompasses three broad and interrelated goals:

- Studying the intersection of demographic processes and health;
- Studying health from a population perspective; and
- Supporting the integration of social science, behavioral, and biomedical approaches to understanding health.

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The NICHD shares responsibility for population research on mortality with the NIA. Most DBSB-funded research focuses on infant and child mortality. However, the Branch takes a life-span approach to understanding both health and mortality, and funds studies that consider health from the prenatal period, up through middle age. The program views health as a developmental process and defines it broadly to include not only the absence of specific diseases or disabilities, but also positive aspects of health, such as effective functioning and overall well-being.

In recent years, epidemiologists have increasingly turned their attention to the health of populations. This development parallels and, in many cases, draws upon the long-standing contributions of demographers to tracing and explaining mortality trends and differences. The DBSB has responded by encouraging research that blends the perspective, theory, and methods of demography and other social sciences with epidemiology, public health, and related health sciences. The Branch has done so by building its own grants portfolio, and by working collaboratively with others in the NICHD and the NIH to bridge disciplinary divides. In addition, a DBSB staff member co-chaired a major conference sponsored by OBSSR titled, *Toward Higher Levels of Analysis: Progress and Promise in Research on the Social and Cultural Dimensions of Health*. The staff is also involved in the Social Environment Working Group of the National Children's Study, in the NICHD Health Disparities Working Group, and in trans-NIH committees on mind-body, community influences on health, and education and health.

MACRO-LEVEL AND FAMILY INFLUENCES ON HEALTH

The Indonesian Family Life Surveys (IFLS) and The Malaysian Family Life Surveys (MFLS)

These studies, based on large population samples of households in Indonesia and Peninsular Malaysia, have provided panel data on individuals, households, families, and communities. Topics include family structure, fertility, economic status, education/training, transfers, and migration. The MFLS began in 1976-77; the IFLS started in 1993.

Multi-level approaches to understanding health ideally explain how factors outside the individual affect health by influencing physiological and other processes that operate within the individual. Although few studies have linked processes in the environment to specific biological processes, many have laid the groundwork for this research by demonstrating the relevance of social environmental influences on various health outcomes. Several of the Branch's major investments have addressed these issues, including the Add Health Study and the Malaysian and Indonesian Family Life Surveys (MFLS and IFLS, respectively). (See Sidebar for a description of these studies.) The sections below summarize results from studies that examine effects of economic conditions, culture, policy, and neighborhood and family characteristics on health.

The DBSB supports numerous studies on the effects of public policies and programs on health. One project has reported preliminary evidence that U.S. policies to increase cigarette taxes improved birth outcomes because of effects on maternal smoking. Another study, conducted in Costa Rica, studied the impact of a program that provided access to health insurance on infant and child mortality. Although access to insurance was correlated with mortality decreases, other shifts in maternal, household, and community characteristics almost completely explained the

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correlation, casting doubt that the newly provided access to insurance had any effect. In Indonesia, DBSB grantees demonstrated that a program expanding the access of isolated communities to midwifery services had a positive effect on birth weight, as well as on body mass index of women of reproductive age. In the United States, researchers found that higher rates of welfare enrollment and, for those not enrolled in welfare, higher income cut-offs for Medicaid eligibility increased prenatal care and reduced fetal deaths. African American women and white women with low socioeconomic status benefited most from these Medicaid expansions. Higher income cut-offs for Medicaid eligibility also increased the use of prenatal care, but decreases in welfare caseloads reduced prenatal care use among mothers from 1990 to 1996. Changes in income cut-offs also reduced the incidence of fetal deaths during the same period.

Conditions of rapid economic growth and social change in many areas of the developing world provide an outstanding opportunity to determine the impact of economic and cultural factors on health. In the People's Republic of China, one DBSB grantee found that dietary habits were changing quickly in response to rising income, and that obesity and diseases related to increased fat intake were on the rise as well. Moreover, the increases seem to have accelerated during the 1990s.

The *Moving to Opportunity* study, an experiment in which families waiting for public housing were experimentally assigned the opportunity to move into housing in advantaged neighborhoods outside the public housing system, is providing evidence that policies allowing such moves can have important health effects. In work supported by the DBSB, preliminary evidence showed that parents who moved to low-poverty neighborhoods were less distressed than parents who remained in high-poverty neighborhoods, and that boys who moved to low-poverty neighborhoods reported significantly fewer anxious or depressive symptoms and fewer dependency problems than boys who stayed in public housing. A companion project is tracking the fate of low-income families who participated in the Gautreaux program, which moved families from high-rise public housing in Chicago, to housing in much more affluent neighborhoods.

Despite these intriguing findings and substantial research that documents the effects of neighborhood variation on health status, researchers still have much to learn about neighborhood effects on health. The answers are likely to be complex. Preliminary research based on Add Health data suggested that neighborhood social context had important conditioning effects on the influence of parenting and other family factors on adolescent well-being. For example, parenting strategies that emphasized control of adolescents were more effective in protecting youth from engaging in risk behaviors in neighborhoods with low levels of social capital than in more advantaged areas.

Research based on Add Health Study data has shown multiple other pathways by which neighborhoods influence the health of adolescents. The level and types of opportunities provided by the local labor market have been linked to participation in violent delinquency. Further, neighborhood violence has been shown to increase depression and the likelihood of running away from home. Adolescents also face risks of violence in their intimate romantic relationships, which, when combined with neighborhood violence, was particularly likely to lead to depression in female adolescents and may be linked to adolescent pregnancy as well.

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Social networks in the local community also affect health. A researcher found preliminary evidence that a woman's own use of prenatal care was enhanced if a higher proportion of women of the same race or ethnicity in the local neighborhood also received prenatal care. The estimated causal effect was small, but was greatest among Hispanic mothers.

Data from the Add Health Study have shown the importance of peer and school-level influences on adolescents' health behaviors. Social isolation was significantly associated with thoughts of suicide among female adolescents; having a friend who actually attempted suicide was associated with increased thoughts of suicide for both male and female adolescents. The chances that an individual teen would smoke increased 73 percent for each 10 percent increase in the prevalence of smoking at the teen's school. Belonging to a peer network in which a majority of teens smoke was twice as likely to affect smoking behavior than having "best" friends who smoked. An individual's popularity among peers increased the likelihood of smoking in schools with high prevalence of smoking, but decreased the risk in schools with a low-smoking prevalence. Another researcher found preliminary evidence that affluent school environments can buffer the detrimental effects of low household income on adolescent mental health.

The family is a pivotal influence on the health of both children and adults. Many aspects of the family, including financial, human and social resources, and family processes, such as parenting, resource allocation, and interpersonal relations, have consequences for health.

Analyses of data from the IFLS yielded insight into how family processes interact with economic conditions to affect the health and well-being of children. In this study, families responded to an economic crisis by using accumulated wealth, self-employment, and/or female involvement in family enterprises to mitigate the effects of the crisis. Families re-allocated resources to protect the physical health and development of children, but sacrificed educational opportunities that would have otherwise been available to them. Educational sacrifices were particularly pronounced for the poorest families. These findings underscored the ability of the family to buffer children in even the harshest of circumstances by allocating resources flexibly.

Processes within a family may play a more important role than family structure in influencing adolescent health. Add Health data showed that adolescents living with both biological parents generally had better outcomes than those in single-parent and stepparent families because their parents tended to exercise more control over their activities, had closer and warmer relationships with them, and shared family meals together more often. These family processes are associated with a lower likelihood of recent substance use, delinquency, and violence, as well as with delayed involvement in sexual intercourse.

HEALTH DISPARITIES

One of the most robust findings in the health literature is the strong differential in health outcomes across hierarchies defined by economic, educational, and social class differences, as well as by race and ethnic group membership. These health gradients have been observed across a wide variety of health conditions and characterize the entire socioeconomic spectrum, not just the distinction between poor and non-poor populations.

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Socioeconomic Differences in Health

A DBSB-funded project was the first to reliably document socioeconomic differences in health prior to birth. Analyzing unique data from the Czech Republic, a grantee demonstrated the existence of pronounced differences in spontaneous fetal loss rates in the middle trimester of pregnancy, based on education, marital status, and labor force attachment. Pregnancies of poorly educated women, single women, and women without occupations were substantially more likely to end in spontaneous abortion. These differences were evident throughout pregnancy, but were moderated by the end of pregnancy. Homogeneity within the Czech Republic, with respect to ethnicity and access to health care, suggested that social factors, not biologic or medical factors, were responsible for the observed differences.

Other research has examined disparities in the level of prenatal care received by U.S. women. Across all racial/ethnic groups, mothers who were young, poorly educated, unmarried, high-parity, and who smoked were at highest risk for receiving no or inadequate prenatal care. The presence of a medical risk during pregnancy increased the probability of receiving intensive prenatal care, but also increased the probability of receiving no/inadequate prenatal care.

Research based on NLSY data has explored the consequences of low and very low birth weight on children's later development. Although one study found that birth weight was not a major predictor of verbal vocabulary at ages three and four, another found important effects on achievement at ages six through 14. Very low birth weight (< 1,500 grams) children and, to a lesser extent, moderately low birth weight (1,500-2,499 grams) children scored lower on cognitive tests than children of normal birth weight. The cognitive differences between moderately low-birth-weight and normal-birth-weight children were more pronounced among younger than older children. In both studies, the effects of moderately low birth weight on outcomes were small relative to those of education, poverty, and immigrant status.

Researchers have much left to learn about the pathways by which social inequalities influence the health and development of children, and set the course of adult health. The DBSB supports a Center at the University of Michigan that is studying this topic. The Center is one of five Mind-Body Centers supported throughout the NIH in partnership with the OBSSR. Preliminary findings from data collected through the Center showed that women under chronic economic stress had numerous health problems, including highly elevated prevalence of diabetes, chronic inflammation, and high salivary cortisol levels. Within this population, measures of unmet economic and food needs, abuse, and other stressors were associated with poor health and alterations of cortisol rhythm. Other findings related early life disadvantage to hostility and hopelessness in adulthood, but showed that adult depression was more sensitive to current socioeconomic status than to previous status. Recently, the Branch joined other Institutes in issuing trans-NIH RFAs to continue the Mind-Body Program, and to examine the linkages between education and health.

The complex interrelationships among social and economic characteristics make it difficult to measure their independent effects on health using observational studies. Increasingly, investigators are taking advantage of policy and other "natural" experiments to distinguish causal pathways.

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Using this technique, a DBSB-supported investigator has shown that:

- In Indonesia, increased male and female education was important for lowering mortality rates;
- In Côte d'Ivoire, increases in female income were more likely to be spent on food for the family rather than on adult consumption; increases in male income were more likely to be spent on adult consumption; and
- In India, women placed in leadership roles were more likely than their male peers to invest in health-related infrastructure.

Another investigator has examined neighborhood influences on disparities in birth weight. This work found that neighborhood context explained some of the disparity in birth weights between African American and white infants, and that the neighborhood effect was stronger when neighborhoods were defined as small geographic units (that is, as block groups rather than census tracts). Of the host of neighborhood characteristics examined, those linked to neighborhood economic deprivation were most consistently linked to poor birth outcomes.

Another one of the Branch's funded projects is working to improve capacity for monitoring socioeconomic inequalities in health in the United States. This project is evaluating different area-based measures of socioeconomic position for use by U.S. public health surveillance systems and health research. Using pilot data for two states, the research found that measures of economic deprivation out-performed measures based on wealth, education, and occupation; the work also indicated that measures at the block group or census tract levels revealed larger gradients than those based on ZIP Codes.

Racial and Ethnic Disparities

DBSB research on health disparities among racial and ethnic groups dates back to the mid-1980s, when the Branch began to examine how birth weight and gestational age differentially affected infant mortality risk across racial/ethnic populations. Grantees have demonstrated wide variation in the risk of infant death across racial/ethnic groups; infants born to African American women had the highest risk levels; infants born to Japanese American women experienced the lowest risk levels. The differences persisted even when controlling for an exhaustive set of background factors and maternal health risks. Compositional factors, including the prevalence of immigrant status and smoking among different ethnic and racial groups, were also important in understanding disparities in infant health outcomes. (Research on the impact of immigrant status on health is discussed later in this report.) Differences in prenatal care utilization also contributed to these disparities. Inadequate prenatal care was nearly twice as common among Mexican Americans, and about 50 percent more common among African Americans, compared to non-Hispanic white Americans with similar social and demographic characteristics.

One reason for differences in infant mortality among racial and ethnic groups is that African American and Hispanic populations suffered greater disturbed fetal growth than whites and, therefore, experienced a higher level of fetal loss. The higher level of fetal loss diminished the number of infants born at risk for infant mortality. A parallel finding emerged from one grantee's study of fetal loss in the Czech Republic. This study showed that high fetal-loss rates for single and less educated women resulted in a survival advantage for low birth weight infants born to these women.

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Health disparities at birth have consequences for later health. African American children were 70 percent more likely to experience respiratory problems by age three, compared with non-Hispanic white and Hispanic children. The higher risk of very low birth weight for African American infants accounted for about one-fifth of this difference; socio-demographic factors accounted for an additional 35 percent.

Understanding the mechanisms that produce health disparities and how to alleviate them requires interdisciplinary studies that unite the strengths of social science and biomedical research. In fiscal year 2003, the DBSB, in partnership with the NICHD Pregnancy and Perinatology Branch, launched its Community Child Health Initiative to examine how social environments effect infant health and development in poor minority communities. Under a set of planning grants for this Initiative, scientists and community organizations will design a multi-site study to examine how community and family influences effect child health outcomes.

POPULATION DISTRIBUTION AND MOVEMENT

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 significantly influences the well-being of individuals and families, as well as that of the sending and receiving communities. The DBSB has supported a significant amount of research on immigration, internal migration, and the interrelationships between population dynamics and the physical environment.

IMMIGRATION AND IMMIGRANTS

The foreign-born population of the United States is now more than 32 million, an all-time high. More than 11 percent of U.S. residents are foreign-born, the highest share since 1930; 22 percent of U.S. children under age 18 are either immigrants themselves, or are the children of immigrants. The large flows and diversity of immigrants have significantly affected this country's population size and composition, and have influenced the United States both socially and economically. These effects and influences will no doubt continue as the foreign-born population grows. Immigration will play a dominant role in America's future population growth, both directly, through the addition of new people settling in the United States, and indirectly, through the children born to these new settlers.

Immigration Processes

Understanding how and why migration occurs requires research that focuses on the communities sending migrants, as well as on the characteristics of migrants and their experiences in the communities that receive them. Since 1987, the Mexican Migration Project (MMP) has studied legal and unauthorized immigration between Mexico and the United States using ethnographic and survey research from both sides of the border. (See Sidebar on the next page for a description of this study.) Starting in 1998, the MMP methodology was also applied to several

Latin American migrant-sending nations and to Puerto Rico. In 2002, the NICHD joined the National Science Foundation (NSF) and the Ford Foundation in supporting an application of the MMP methodology to Fujian Province, China.

Mexican Migration Project (MMP)

The MMP has provided high-quality social, economic, and demographic data on the lives and characteristics of documented and undocumented Mexican migrants to the United States. The study, which employs ethnographic and survey research on both sides of the border, has been ongoing since 1987.

Research in Mexico has provided insight into the factors that drive the immigration process. Temporary migration from Mexico to the United States is a popular method for acquiring capital to invest in small businesses and other productive enterprises business activities in Mexico. But economic incentives are not the only motivation; social connections play a role as well. After more than five decades of nonstop migration back-and-forth across the United States-Mexican border, substantial numbers of western Mexicans now have strong social connections to the United States, suggesting that, even if economic pressures abate, migration of Mexicans to the United States may continue.

The lack of reliable and relevant longitudinal data to answer fundamental questions about immigration has important consequences for the formation of national policies that affect immigration. The New Immigrant Survey (NIS), a study designed

to address these data limitations, was funded in 2001, by the NICHD and several other federal agencies following a successful pilot study. Data collection for the full NIS will begin in summer 2003. The NIS pilot has already produced several groundbreaking findings. For example, data showed that most “new” legal immigrants were not new; two-thirds of immigrants who recently received green cards had prior experience living in this country. Furthermore, before receiving a green card, at least one-in-five new legal immigrants had entered the United States illegally at least once. Evidence on the educational attainment of immigrants compared with native-born U.S. citizens was mixed; while new legal immigrants included a higher percentage of individuals who had attended graduate school, they also included a higher percentage of those who had fewer than nine years of schooling. Legal immigration did appear to benefit immigrants. Compared with their last job abroad, most new legal immigrants who were employed enjoyed large increases in their annual earnings.

Immigrant Adaptation

Research has shown that patterns of immigrant settlement have been changing. Historically, new immigrants clustered in urban enclaves; then, as they acculturated and achieved socioeconomic success, they moved to ethnically mixed suburbs. A recent study found, however, that recent immigrants were increasingly likely to settle outside urban enclaves. Lack of fluency in English no longer appeared to be a barrier to suburban settlement. But Anglicization, the process of becoming monolingual English speakers across generations, was taking place at roughly the same rate for the children and grandchildren of contemporary Asian immigrants, as it had for the descendents of European immigrants who arrived in the early 20th century. The pace of Anglicization was noticeably slower among Spanish-speaking groups; nevertheless, by the third generation, speaking Spanish at home was uncommon, except for those who had both parents of Hispanic descent and who lived in the most heavily Hispanic regions of the nation.

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Once socioeconomic factors are taken into account, first-generation immigrant youth do better academically than second- and higher-generation youth. Recent research suggested that, among first-generation immigrant children, length of time in the United States also affected academic success. Immigrants who arrived in the United States in the last six years were more likely to drop out of high school than immigrants who arrived at younger ages, or than teenagers who were born in the United States. However, these high dropout rates could be explained by differences in race, ethnicity, age, and previous performance in school. When these factors were taken into account, recent immigrants were more likely than other teenagers to stay in school.

Following the passage of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), which restricted legal immigrants' access to most federal welfare benefits, concerns were raised that many immigrants who remained eligible for welfare were fearful of applying for and of receiving benefits. But researchers have shown that declines in the numbers of immigrants receiving welfare following implementation of PRWORA can largely be explained by changes in labor market conditions, such as improvements in local employment and unemployment rates, and by the fact that many immigrants who were receiving welfare before the reform was enacted are now U.S. citizens.

The Immigrant Paradox and Other Studies of Immigrant Health

Immigrants to the United States are often healthier than U.S. natives, despite lower levels of socioeconomic status and use of health care. Children in immigrant families were as healthy or healthier than children of native-born parents; but their health status appeared to decline the longer they remained in the United States. For instance, research based on Add Health data showed that adolescent obesity was higher in second- and third-generation youth, compared with youth who had immigrated themselves, largely because of differences in diet and activity patterns.

A study of infant health among Puerto Rican migrants to the mainland United States sheds new light on the processes linking migration and health. Puerto Ricans are not immigrants, they are native-born U.S. citizens; but they share many characteristics with immigrants. Despite their relatively low socioeconomic status, Puerto Rican migrants to the U.S. mainland have relatively low levels of infant mortality. The study found that infant mortality was lower for new migrants to the mainland than among families who remained in Puerto Rico, suggesting that selective migration was an important explanatory factor. But, among migrants to the mainland, infant mortality rates rose as time on the mainland increased; the positive association between infant mortality and length of stay on the mainland increased when other behavioral, demographic and socioeconomic factors were controlled. Two recently funded studies of immigrants from Vietnam and Mexico will help to advance research on the effects of acculturation and assimilation, the migration process, and selectivity.

INTERNAL MIGRATION AND POPULATION DISTRIBUTION

Throughout history, Americans have been a highly mobile people, moving across the country, across the state, or even across the street to improve their circumstances and opportunities. In 2001, about 15 percent of both adults and children had moved in the last year, including 22

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percent of poor children, and 32 percent of poor children aged five and younger. The causes and consequences of this high level of mobility are poorly understood, especially for children, and internal migration remains an under-researched area within population studies. In December 1999, the DBSB and the NIA issued a PA calling for R01 research projects on the determinants and consequences of population movement.

Since 2000, the DBSB has dramatically expanded its research portfolio on internal migration and population distribution. Under the population movement PA, the DBSB has funded three R01 grants: the first longitudinal study of the effects of federal and state welfare reform on intra- and interstate migration of low-income families; an examination of racial and ethnic differences in residential mobility; and an examination of the short-term impacts of involuntary migration on the approximately two million Chinese who are being displaced by China's Three Gorges project. In addition, the DBSB has funded five small grants (R03s) to examine internal migration and population distribution, including projects on the long-term effects of residential mobility on children; how the arrival of new immigrants is affecting the internal migration of natives and of other immigrants; the migration and settlement patterns of colonial New Englanders and their descendents over 10 to 12 generations; residential segregation and how it affects changes in housing values; and internal migration in the People's Republic of China.

A recently completed project funded by the NICHD used newly available Census data to examine the Great Migration of African Americans from the Southern United States to the North and West, during the first three-quarters of the 20th century. While past research has suggested that the influx of Southern-born African Americans harmed Northern-born African Americans economically, this project showed that the Great Migration had no effect on the employment status or earnings of Northern-born African American men. Furthermore, while past research has suggested that Southern migrants introduced a "dysfunctional family culture" to African American communities in the North, this project showed that, between 1940 and 1990, Southern migrants had lower levels of marital disruption and nonmarital childbearing than their Northern counterparts, and that their children were more likely to live in two-parent families than the children of Northern natives. But Southern-born migrants were not uniformly advantaged compared to Northern natives, especially in terms of education levels and occupational prestige. While Northern-born African Americans were able to improve their occupational standings compared to white immigrant groups between 1900 and 1970, African Americans migrants were not able to improve their standings because of their relatively disadvantaged educational backgrounds. The principal investigator for this project, Stewart E. Tolnay, received the Otis Dudley Duncan Award from the American Sociological Association Population Section in 1999.

The movement out of rural areas toward industrialized metropolitan areas has taken place not only in the United States, but also in the rest of the world. China, home to one-fifth of the world's population, provides an interesting contrast to the United States because of differences in the level of government control over the economy and over internal migration. DBSB-funded research explored internal migration in China between 1982 and 1995, during the country's rapid transition to a market-oriented economy. During this period, China's internal migration increased, although many moves were not officially sanctioned by the Chinese government. Also during this period, individuals who had high status before the economic transition, such as party and government officials and administrators of state-owned enterprises, appeared to be

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especially successful at exploiting the new economic opportunities. The Chinese government's policy of developing rural enterprises in small towns to reduce urbanization appears to have been unsuccessful.

POPULATION AND ENVIRONMENT

DBSB's population and environment portfolio supports research on interactions between the physical environment and population dynamics. Projects focus on interactions between land use and population dynamics, and on how air quality affects health. The sites of population and land-use studies are geographically dispersed: the U.S. Great Plains; the Brazilian rain forests; the Ecuadorian Amazon; rural Nepal; the forests of India; a Thai agricultural area; and a giant panda reserve in Sichuan Province, China. Findings from this research will be featured in a National Academy of Sciences (NAS)/National Resource Council (NRC) conference, and in a book, supported by the NICHD and the William & Flora Hewlett Foundation.

In addition, the NICHD has supported one of the most important advances in population and environment research in the last decade: the development of methodologies that link remotely sensed data on land use, usually from satellites, with socioeconomic, demographic, and land use and ownership data collected through social science surveys and governmental records. NICHD-supported researchers Stephen J. Walsh, Tom P. Evans, William F. Welsh, Barbara Entwisle, and Ronald R. Rindfuss used this methodology to show that the smaller the social and spatial units examined, the more likely researchers were to find relationships between population and environment. Their paper won first prize in the 2000 American Society of Photogrammetry and Remote Sensing competition.

NICHD-funded research is challenging the widely held belief that population growth in-and-of-itself degrades the environment. In the Nang Rong district of Thailand, preliminary research showed that the number of households in an area appeared to have more of an effect on land use than the number of people, suggesting that, in this setting, the most important determinants were migration and household formation, not population growth and fertility. Other research suggested that reducing human population growth will not be enough to reduce loss of biodiversity because, even in areas where population size has declined, the number of households was still increasing substantially as average household size declined. Evidence from Nepal showed that increased birth rates and younger age structures promoted a transition in land use away from flora, and toward buildings and infrastructure.

Rapid growth in population and in the number of households, as well as that of human activities such as fuel-wood collection inside the reserve, were the main factors cited in explaining the disappearance of high-quality panda habitats in China's Wolong Nature Reserve at rates faster than, or similar to unprotected areas outside the park, since the reserve's creation. Analyses of remote-sensing data from pre- and post-establishment periods indicated that the reserve has become less suitable and more fragmented for giant panda habitation since it was established.

An ongoing project in the U.S. Great Plains region showed that, in the central grassland region, human beings' agricultural practices, specifically use of organic and inorganic fertilizers, were

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adding more nitrogen to the ecosystem than was lost through crop removal, which may eventually lead to degradation of soil and ground and surface water. Other research of the Great Plains showed that, at the county level, increased population density appeared to increase the likelihood of dust storms, while large numbers of dust storms, in turn, pushed down population growth.

In the Nepalese Himalayas, social and economic change is affecting both population and the environment. Increased exposure to social activities outside the family, for example, going to school, working at a job, or accessing health services, has altered not only contraceptive practice, but also consumption of environmental resources. For example, people in communities with more social interaction outside of their families were also more likely to purchase, rather than to gather, their own fuel and firewood. The same changing social and economic conditions increased residents' perceptions that the environment around their homes was deteriorating.

In Brazil, the nation's economic situation has influenced how new settlers on the Amazonian frontier affect the rain forests. Research has shown that each cohort of migrants to the frontier followed the same basic trajectory: initially high rates of deforestation, followed by a decline in rates of deforestation and increased use of secondary growth vegetation. But, while the trajectory for each cohort was the same, the magnitude of the initial and subsequent deforestation was influenced by economic factors; thus, deforestation dampened when inflation was high and credit and commodity prices depressed.

While population processes clearly affect the environment, the reverse is also true. By exploiting a "natural experiment" that resulted from declines in air pollution induced by the 1981-1982 recession, NICHD-funded researchers have produced the strongest evidence to date of a causal link between air pollution and infant mortality. Areas such as Pittsburgh, Pennsylvania, which experienced a 25 ug/m³ to 30 ug/m³ reduction in total suspended particulates (TSP) air pollution levels during the recession, saw average county infant mortality rates drop nearly 10 percent. There was also evidence that the decline in infant death rates was due to fetal exposure because most of the declines in infant mortality were due to changes in infant deaths within one day of birth, and within one month of birth. Increased levels of TSP were also associated with declines in infant birth weights. Further research is attempting to replicate these findings, using the natural experiment that resulted from enforcement of the 1970 Clean Air Act Amendments, and to differentiate between the influences of large and small particulates on infant health.

Preliminary evidence from Nepal has suggested that as environmental conditions declined, the desired number of children increased. Therefore, environmental degradation may actually increase fertility and population growth, leading to more environmental degradation in agricultural settings. This situation has been referred to as the "vicious circle" of population growth and environmental degradation. Preliminary evidence from villages in the Nang Rong district of Thailand suggested that if more forested land could be converted to farmland, young adults were less likely to migrate out of the area.

Experience in the Brazilian Amazon provides an example of the complex ways in which cultural norms, fertility, migration, and environment interact. Over the past several decades, Brazil has moved from a normative pattern favoring large families, to one that favored having just two

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children. Even frontier families, which might be expected to favor large families, have adopted this pattern, and fertility has declined rapidly in frontier communities. However, family labor plays an important role in the viability of farm economies, particularly during economic downturns. The limited supply of labor for younger farmers may expose them to the risk of losing their farms, which would necessitate their migration to the cities. However, farmers with small families, but with high-quality soil, seemed to be able to hold onto their farms in disproportionate numbers. The principal investigator of the Brazilian project, Emilio F. Moran, was the first anthropologist to win the Association of American Geographers' Robert McC. Netting Award, recognizing lifetime contributions to cultural ecology and human environmental work in anthropology and geography (2002).

INVESTMENTS IN INFRASTRUCTURE, TRAINING, AND DISSEMINATION

The success of the population sciences is owed, at least in part, to long-standing investments in training and infrastructure on the part of the NIH. An inherently multi-disciplinary field, population science draws its researchers from sociology, economics, anthropology, psychology, public health, statistics, and other disciplines that are often widely scattered across college campuses. Students seeking to become population scientists must not only master the fundamentals of demography (not typically taught at the undergraduate level), but also develop a thorough grounding in one or more disciplines, while acquiring the ability to work in an interdisciplinary environment. Only one U.S. university has a department of demography; further, few universities provided institutional support for population research prior to the NICHD's investment in this area. DBSB training and infrastructure support has produced a dramatic payoff in the population sciences, making this field one of the most successful and dynamic among the social sciences.

DBSB's Population Research Infrastructure Program is designed to facilitate interdisciplinary collaboration and innovation by supporting "institutional homes" for population research. By providing funding for essential and cost-effective resources necessary for the development, conduct, and translation of population research, the Program helps to leverage the creation and growth of interdisciplinary centers devoted to population research around the country. The centers attract leading scholars from allied disciplines to the field and foster the adoption of innovative technologies and theories. The Centers create intellectual environments that encourage cross-fertilization and the development of major "big-science" projects, which have broad impacts on the larger scientific community. At present, 15 centers receive funding under this Program (see Appendix A).

Prior to 2000, funding for population research infrastructure was provided through two mechanisms, the Center Core Grant (P30) and the Specialized Research Center Grant (P50). In 1999, the Branch undertook a comprehensive review of its P30 and P50 centers programs. A report summarizing the results is available at <http://www.nichd.nih.gov/cpr/dbs/pubs/report.pdf>. The review found that even though the mechanisms had made essential and significant contributions to the development of population research in the United States, changes in the

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structure and guidelines were needed to build on new advances in demographic science and technology most effectively. In 2000, the DBSB began phasing out the P30/P50 mechanisms in favor of a new mechanism, the Population Research Infrastructure Grant (R24; visit <http://grants2.nih.gov/grants/guide/rfa-files/RFA-HD-02-021.html> for the most recent mechanism guidelines). As of 2002, nearly half of this transition had been completed.

The Population Research Infrastructure Program offers flexibility in the creation of research infrastructure at centers and encourages innovative approaches to stimulating collaboration and new research. The new mechanism has been highly successful both in challenging existing centers and in fostering the development of new ones. The addition of a Developmental Award (R21) to the Program in 2001 provided a specific mechanism for developing the population sciences at institutions that had not previously housed active centers. Of the seven prior P30 or P50 centers that have competed to date under the R24 mechanism, four have received awards. Five new R24 grants and one R21 grant have been awarded. The DBSB will be monitoring the Program over time and adjusting it as necessary to assure that it not only supports institutional homes for population research, but also optimizes the productivity and scientific impact of these grants.

Training is also an essential element of the infrastructure needed by a scientific field. The DBSB funds 13 institutional training programs (T32s) in population research (see Appendix A). Together, these programs support 68 pre-doctoral and 10 post-doctoral trainees each year. Students receive basic training in demography, as well as strong disciplinary and interdisciplinary grounding in the sciences that contribute to population research. In addition, the DBSB coordinates with the Fogarty International Center to support international training in population research. Four institutions currently receive D43 awards under this program. The Branch also supports a small number of individual trainees under the F31 (predoctoral) and F32 (postdoctoral) National Research Service Award fellowship programs.

In recent years, the DBSB has taken new steps to strengthen training and career development opportunities within population research. In 2001, it announced an expansion of the NICHD Mentored Research Scientist Development Award (K01) to support early career development in population research. This expansion encourages cross-training in sciences relevant to population issues in an effort to build a new generation of interdisciplinary scientists. Another recent initiative uses the Educational Projects (R25) mechanism, and is designed to support limited training activities in interdisciplinary science, and to encourage the use of complex data sets and advanced methodologies. In February 2003, the Branch convened a meeting of its T32 Institutional Training Program directors. Participants discussed the current approaches and future needs of training programs in the population sciences.

Data sets are a third type of infrastructure essential to the population sciences. Population data are expensive to collect; but, once collected, they can become resources available for broad use by the scientific community. Population scientists collaborate proactively to develop studies that will serve a broad range of scientific needs. The DBSB supports the development of these data resources through research or program project grants to outside investigators, and through collaboration with federal statistical agencies. Examples of data sets supported by the Branch

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are featured in sidebars elsewhere in this report; all major data sets that have received support since 1998 are listed in Appendix B.

The DBSB also invests in the dissemination of research data in several ways: providing funds for dissemination within research grants and infrastructure awards; supporting data archives and Web-based tools for dissemination through Small Business Innovation Research grants; and supporting workshops to train researchers in the use of complex data. The use of supported data sets is widespread:

- By the end of 2002, 248 copies of the Add Health public-use data had been distributed; contractual agreements for use of restricted data had provided access to 850 researchers; 221 articles were published or under review; and 67 public and private grants had been awarded for analysis of the data.
- The public-use data from the Child Supplement portion of the NLSY have resulted in more than 497 journal articles, 114 theses and dissertations, and 468 meeting and working papers.
- The Integrated Public Use Microdata Series provides access to high-precision samples drawn from U.S. censuses taken between 1850 and 1990. These data have been used as the basis for 284 published articles/books, 82 Ph.D. dissertations, and hundreds of working papers, conference presentations, and research reports.

As population research has advanced, its data sets have become increasingly complex. Simple files of individual-level data have given way to files that include information provided by the individual, data from family members, information on local communities or schools, geographic information, and sometimes biological measures. This increased complexity, coupled with the dramatic changes in the power of computing technology, have contributed to increasing concerns about the ability to protect confidentiality when sharing data among researchers. DBSB-supported investigators have been on the forefront of this issue, developing state-of-the-art models for protecting confidentiality, while still providing access to data. In October 2001, the Branch convened a workshop on the challenges posed by competing demands for data sharing and confidentiality. In 2004, the Branch plans to commit new infrastructure funds to mechanisms that can meet these challenges efficiently.

Responsibility for an extramural program in the population sciences is not limited to supporting research, training, and data collection and archiving. The results of research must also be disseminated to appropriate audiences, including policy analysts and policy makers, program administrators, intervention designers, and the public. Many of the scientists supported by the DBSB actively engage in dissemination themselves through Web sites, widely circulated research briefs, press releases, and presentations. For example, in 1998, initial results from *Welfare, Children and Families: A Three City Study* were provided to Congressman Shaw (R-FL); he then forwarded the information to every member of congress. During the years 1993 to 2002, the Branch designed *Today's Issues* to disseminate short, accessible summaries of important research findings to interested researchers and the public. (To view a copy of *Today's Issues*, go to <http://www.nichd.nih.gov/cpr/dbs/pubs/ti13.pdf>.) In 2002, the Branch gave funding to the Population Reference Bureau, a highly respected educational organization, for development of an infrastructure program to disseminate population research. This program will enable journalists and other audiences to have access to the latest demographic research funded by the NICHD. The DBSB staff has worked with the NICHD Public Information and

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Communications Branch (PICB) and with researchers at the University of Minnesota to publicize results from the first waves of the Add Health Study; the Branch is currently working with PICB to develop an accessible summary of study results to the public.

TOWARD THE FUTURE: CURRENT GOALS AND NEW INITIATIVES

In June 2001, the DBSB convened a two-day workshop to develop a research agenda that would guide Branch activities and priorities for the years 2002 through 2006. A group of 25 eminent population scientists worked together to identify scientific areas and issues that offered the most significant opportunities for developing and advancing population research. The report, *Goals and Opportunities: 2002–2006*, describes the process used to conduct the planning, summarizes discussions from the workshop, and presents a strategic plan developed by Branch staff on the basis of the workshop discussions. Elements of this plan included five new areas of emphasis:

- Demographic, behavioral, and social science research on race and ethnicity, on social and economic inequalities, and on their intersections with immigration and other demographic phenomena;
- Research on resource flows across generations and age groups, the mechanisms through which assets, values, and behaviors are transmitted across generations, and the impact of intergenerational flows on children, families, and society;
- A comprehensive population perspective on children and child health by supporting research on the status, well-being, and health of children in diverse populations, and on the influence of families, communities, and policies on child health and well-being;
- Basic research on sexuality and sexual behavior in relation to healthy development, the stability of family relationships, fertility, and the transmission of disease; and
- Population research at the aggregate level and develop theories and methods that unify macro- and micro-level processes in population research.

The report also identifies strategies to advance ongoing Branch programs in training, fertility and family, population movement and distribution, population and environment, mortality and health, and HIV/AIDS.

The DBSB has already launched several activities in response to its strategic plan. In 2003, along with six other Institutes, the NICHD issued a PA inviting social and demographic research on race and ethnicity in the United States that included a call for research on how immigration is changing the racial and ethnic character of the country's population. The Branch is also providing partial funding for an NAS panel on the Hispanic population of the United States. Grants resulting from an RFA on intergenerational resource flows will be funded shortly. In addition, the Branch has funded a cooperative agreement to develop a study of the social, behavioral, and biomedical determinants of disparities in child health; is expected to re-issue the PA on the SEED project in 2004; and has contributed to the development of the National Children's Study. Branch staff organized a trans-NICHD working group to discuss the Institute's mission in research on sexuality, and to explore responsible approaches to advancing

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research on this sensitive topic. The Branch has also begun to incorporate attention to macro-level and macro-micro linkages in its workshops, PAs, and RFAs.

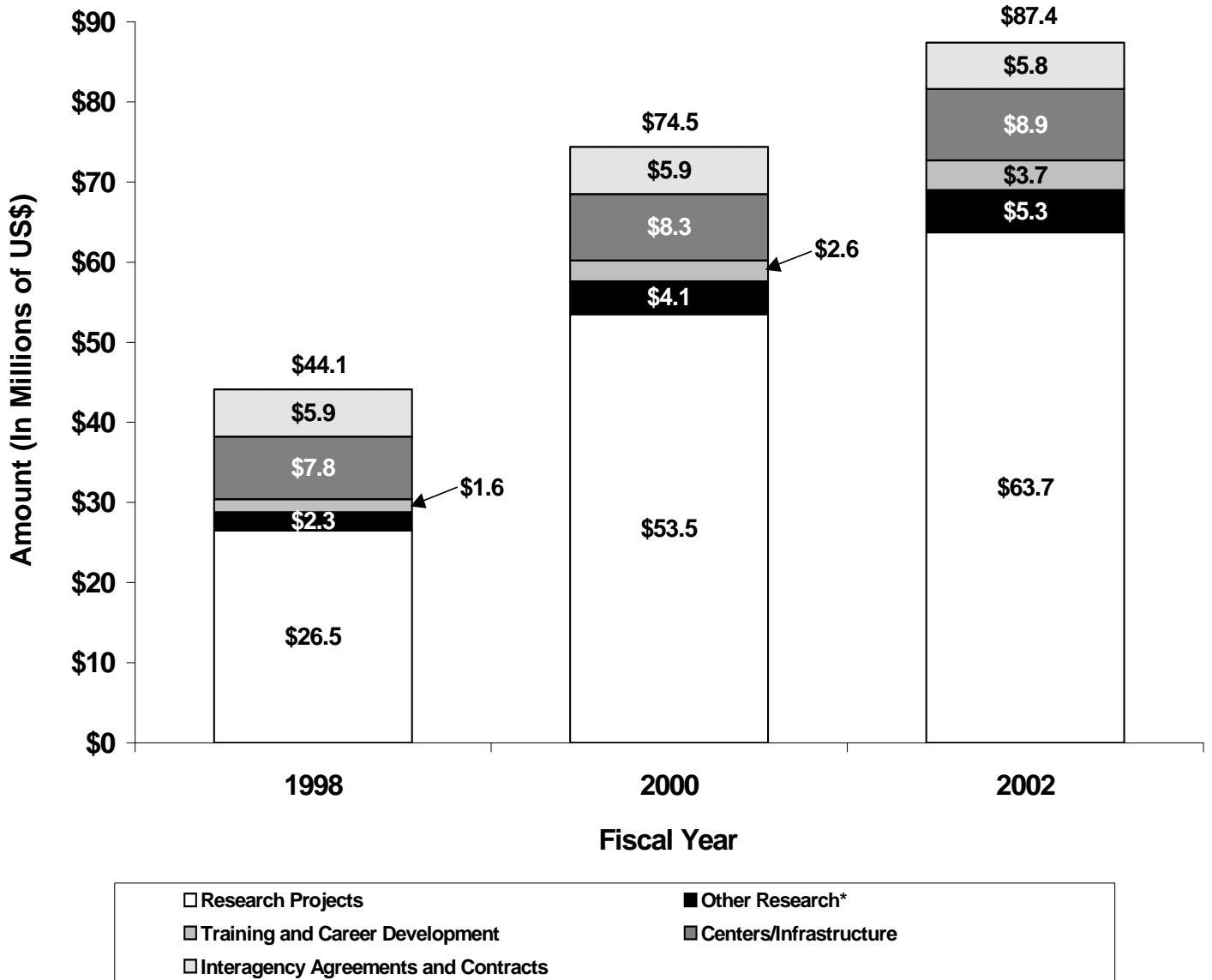
The Branch is also working to develop other major new initiatives. One example is a major planning activity to develop new models for studying family change. This effort is expected to lead to new, flexible strategies for research and data collection that will advance understanding of the determinants of shifts in family and fertility behaviors. Another activity is the development of an initiative on the work-family mismatch, which is likely to lead to development and testing of innovative approaches for easing the difficulties families and employers experience as a result of conflicting demands. In the population and environment area, as mentioned earlier in this report, the Branch is collaborating with the William & Flora Hewlett Foundation to support an NAS/NRC conference and to complete book that will pave the way for future advances.

And perhaps, most importantly, the DBSB will continue to invest in the basic research building blocks that have made Branch programs successful over the years. These efforts include active and ongoing engagement with the scientific communities that the Branch supports; high-quality data resources that allow researchers to address emerging scientific issues; and strong support for individual investigators and multi-disciplinary teams in pursuing new discoveries and insights through NICHD funding.

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FIGURES

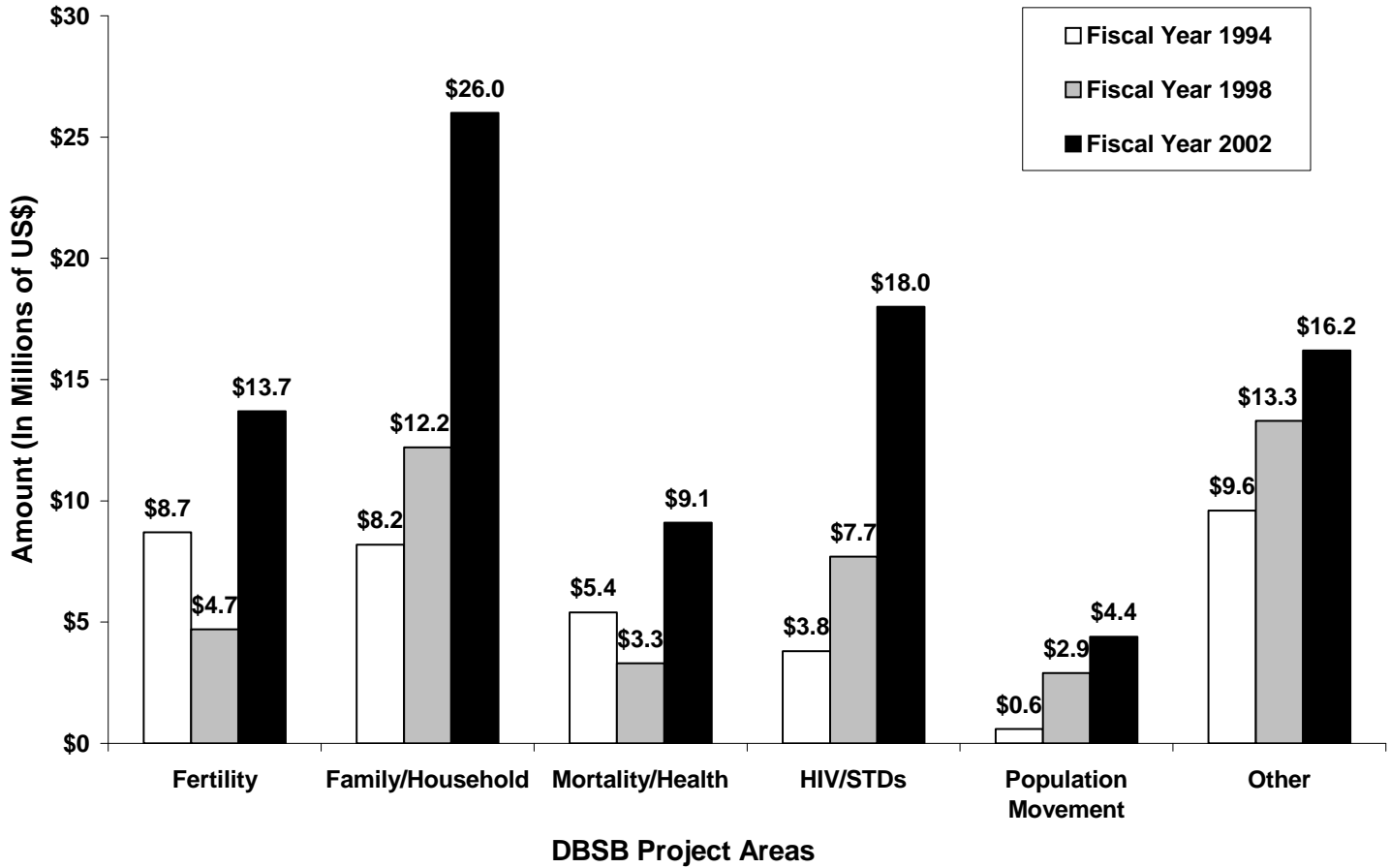
FIGURE 1: DBSB FUNDING ACTIVITIES BY PROGRAM MECHANISM, FISCAL YEARS 1998, 2000, AND 2002



* Other Research Includes R13, R21, R24, R25, U01, and Small Business Innovative Research grants.

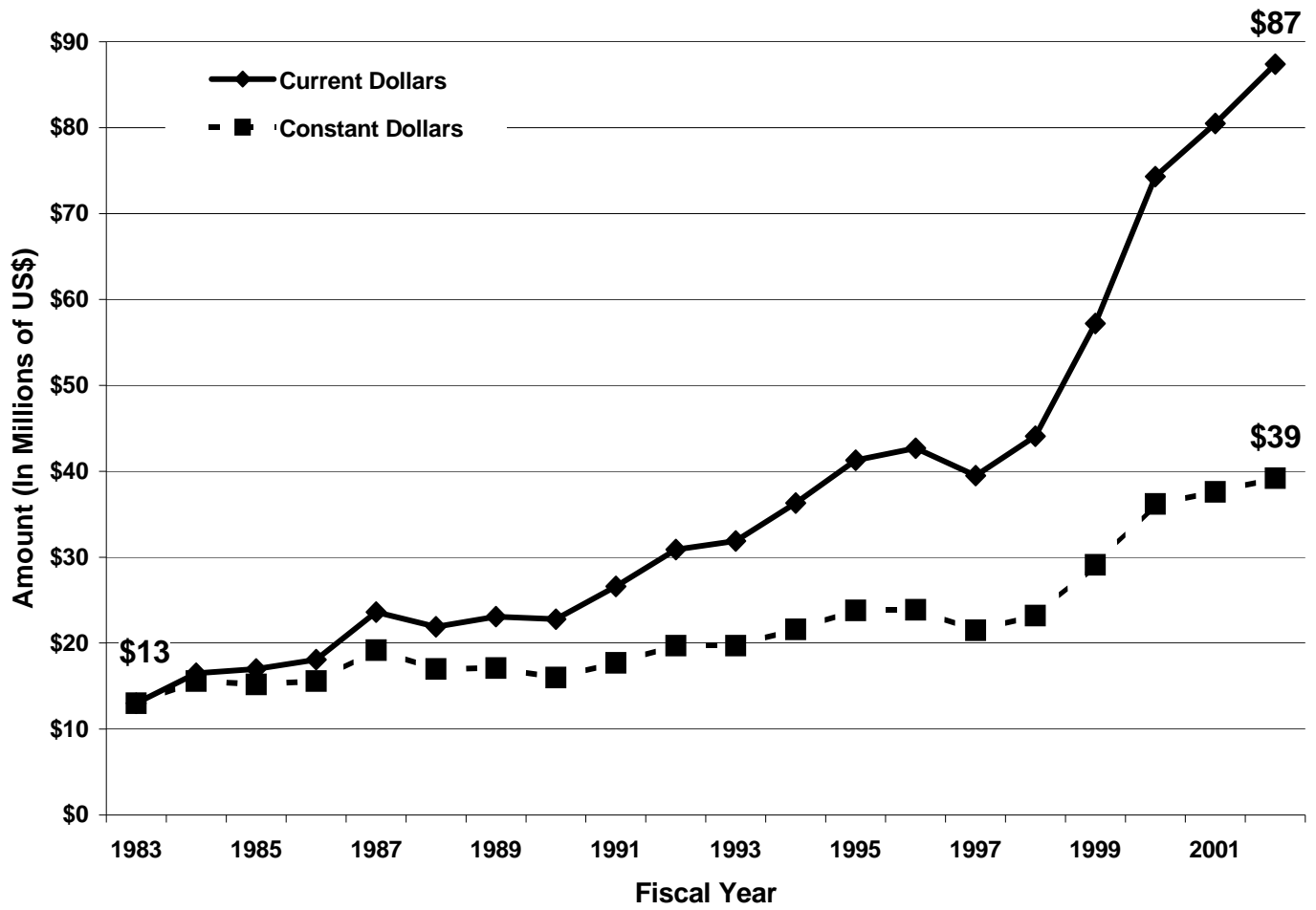
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FIGURE 2: DBSB PROJECT FUNDING, BY PROJECT AREA, FISCAL YEARS 1994, 1998, AND 2002



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FIGURE 3: DBSB FUNDING HISTORY, IN CURRENT AND CONSTANT DOLLARS, FISCAL YEARS 1983 THROUGH 2002



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**APPENDIX A: DBSB INFRASTRUCTURE SUPPORT
AND TRAINING PROGRAMS, FISCAL YEAR 2002**

INFRASTRUCTURE SUPPORT

P30 Centers

- Johns Hopkins University—Hopkins Population Center
- Princeton University—Office of Population Research
- State University of New York at Albany—Center for Social and Demographic Analysis
- University of Chicago—Population Research Center
- University of North Carolina, Chapel Hill—Carolina Population Center
- University of Pennsylvania—Population Studies Center
- University of Wisconsin, Madison—Center for Demography and Ecology

Population Research Infrastructure Grants

- Bowling Green State University—Center for Family and Demographic Research
- Brown University—Population Studies and Training Center
- Pennsylvania State University—Population Research Institute
- Population Reference Bureau—Center for Public Information on Population Research
- University of California, Los Angeles—California Center for Population Research
- University of Maryland at College Park—Center on Population, Gender, and Social Inequality
- University of Michigan, Ann Arbor—Population Studies Center
- University of Minnesota—Minnesota Population Center
- University of Texas, Austin—Population Research Center
- University of Washington—Center for Studies in Demography and Ecology

TRAINING CENTERS

- Brown University—Training in Demography
- Johns Hopkins University—Multidisciplinary Training in Population
- Pennsylvania State University—Population Research Institute
- Princeton University—Demography
- University of California Berkeley—Interdisciplinary Training in Demography
- University of Chicago—Interdisciplinary Training in Demography
- University of Michigan at Ann Arbor—Social Science Training in Population Studies
- University of North Carolina, Chapel Hill—Population Research Training
- University of North Carolina, Chapel Hill—Research Training in Population Statistics
- University of Pennsylvania—Graduate Training in Demography
- University of California, Los Angeles—California Center for Population Training Program
- University of Washington—Population Research Training
- University of Wisconsin, Madison—Demography and Ecology

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**APPENDIX B: LARGE SURVEY PROJECTS
SUPPORTED BY THE DBSB, 1998-2002**

- Add Health: A National Longitudinal Study of Adolescent Health
- Cebu Longitudinal Health and Nutrition Survey
- China Health and Nutrition Survey
- Chinese Health and Family Behavior Survey
- Chitwan Valley (Nepal) Family Study
- Current Population Surveys and Surveys of Income and Program Participation–Unicon Files
- Early Childhood Longitudinal Study–Birth Cohort
- Fragile Families and Child Well-Being Study
- Indonesian Family Life Survey
- Intergenerational Panel Study of Parents and Children
- Latin American Migration Project
- Integrated Public Use Microdata Series
- Los Angeles Study of Families and Communities
- Malaysian Family Life Surveys
- Mexican Migration Project
- Mexican-American Study Project–Follow-Up
- The Nang Rong (Thailand) Projects: Social Change; and Demographic and Environmental Change
- National Longitudinal Survey of Youth, 1979–Child Supplement
- National Longitudinal Survey of Youth, 1979–Young Adult
- National Longitudinal Survey of Youth–1997 Cohort
- National Survey of Families and Households
- National Survey of Family Growth
- New Immigrant Survey: A Pilot Study
- New Immigrant Survey
- Panel Study of Income Dynamics–Child Development Supplement
- Puerto Rican Maternal and Infant Health Project
- Russia Longitudinal Monitoring Survey
- Welfare, Children, and Families: A Three City Study

APPENDIX C: DBSB PERSONNEL

As of April 2003

Christine A. Bachrach, Ph.D.

Dr. Bachrach received her master's 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 the 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 small grants portfolio in the areas of fertility, infertility, contraceptive use, and adoption, serves as the program official for the Add Health Study, oversees the Population Research Infrastructure Program, and is active in the National Children's Study. She is currently the vice president of the Population Association of America.

Lynne Casper, Ph.D.

Dr. Casper earned a Ph.D. in sociology and demography from the Pennsylvania State University in 1992, an A.M. in sociology and social policy research from the University of Chicago in 1988, and a bachelor's degree in sociology and Spanish from the University of Wisconsin, Madison in 1984. Dr. Casper manages the extramural research portfolios in family and fertility and is responsible for the Branch's training program. She is an active member of the Federal Interagency Forum on Child and Family Statistics and co-facilitator of the Family and Child Well-Being Research Network. She also serves as the project officer and expert for many large data-collection efforts including the NLSY, the NSFH, and the NSFG. Before joining the Branch in February 2000, Dr. Casper was a senior demographer and statistician at the U.S. Census Bureau, where she conducted research in the area of family and household composition and well-being, child care, and voting.

Rebecca L. Clark, Ph.D.

Dr. Clark received her Ph.D. in sociology with specializations in demography and urban studies from Brown University in 1989. She manages the Branch's extramural portfolios on immigration, internal migration and population distribution, race and ethnicity, population and environment, and demographic methods; oversees several of the DBSB Population Centers; and manages the NICHD Mentored Population Research Scientist Development Award (K01) program. Before joining the Branch in February 2000, she was a senior researcher at the Urban Institute, where she did research on impacts of immigrants on the United States, federal expenditures for children, and other issues related to child well-being.

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 J.D. from the University of Maryland School of Law. He joined the 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 directs the Intergenerational Research Program within the DBSB, coordinates the NICHD Health Disparities Planning Group, and facilitates the Family and Child Well-Being Research Network.

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Rosalind King, Ph.D.

Dr. King received her Ph.D. in sociology and demography from the University of Pennsylvania in 2000. She manages the dissemination of research results from the Add Health Study and is the co-organizer of the conference on Workforce/Workplace Mismatch. Before joining the Branch in July 2002, she was a postdoctoral fellow at the University of North Carolina, Chapel Hill, where she did research on adolescent romantic relationships, social aspects of adolescent physical development, and other issues related to union formation and fertility.

Susan F. Newcomer, Ph.D.

Dr. Newcomer earned a Ph.D. in population studies and sociology in 1983, 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. Prior to joining the Branch in 1988, she was the national director of education for the Planned Parenthood Federation of America.

Frank R. Avenilla, M.S., Ph.D.

In 2003, Dr. Avenilla earned his doctorate in human development and family studies and demography from the Pennsylvania State University. He received a master's in human development and family studies from the Pennsylvania State University in 1999. He joined the Branch in 2000, as a social science analyst intern and supports the Branch's activities in the areas of family demography and child well-being. His research interests focus on adolescent development and the effects of poverty and sociodemographic factors associated to stratification and inequality on adolescent school achievement.

Janice Wahlmann

MS. WAHLMANN HAS BEEN WITH THE BRANCH SINCE THE BEGINNING OF 2000. HER RESPONSIBILITIES INCLUDE MANAGING GRANT FILES, TRAVEL, AND CONFERENCE PLANNING. PRIOR TO JOINING THE BRANCH, SHE WORKED FOR THE FOGARTY INTERNATIONAL CENTER.

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APPENDIX D: BRANCH SOLICITATIONS, 1998-2003*
*Includes Requests for Applications (RFAs), Program Announcements (PAs),
and Requests for Proposals (RFPs)*

2003

- PA 03-027 Social and Structural Impact of HIV/AIDS
- PA 03-057 Social and Demographic Studies of Race and Ethnicity in the United States
- RFA 03-001 Pathways Linking Education to Health*
- RFA 03-005 Mind-Body Interactions and Health: Exploratory/Developmental Research Program (R21)*
- RFA 03-004 Mind-Body Interactions and Health: Research Infrastructure Program (R24)*
- RFA 03-005 Health, Environment, and Economic Development*
- RFP 03-03 Designing New Models for Explaining Family Change and Variation

2002

- PA 02-043 Social and Cultural Dimensions of Health*
- PA 02-072 Methodology and Measurement in the Behavioral and Social Sciences*
- PAR 02-099 Educational Programs for Data, Methods, and Interdisciplinary Approaches to Population Research
- RFA 02-003 Partnerships for HIV/AIDS Research in African Populations
- RFA 02-006 Structural Interventions to Prevent HIV and Sexually Transmitted Disease (STD) Infections*
- RFA 02-007 HIV/STD Prevention Programs for Adolescents*
- RFA 02-008 Development of Community Child Health Research
- RFA 02-010 Sexual Relationships, Sexual Concurrence, and HIV
- RFA 02-020 Social and Behavioral Research on New Biomedical Methods for HIV/STD Prevention
- RFA 02-021 Population Research Infrastructure Program
- RFA 02-030 Intergenerational Family Resource Allocation

2001

- PA 01-068 Research on Social Networks and HIV Risk Prevention
- PA 01-096 Behavioral, Social, Mental Health, and Substance Abuse Research with Diverse Populations*
- PA 01-139 Research on HIV/STD Prevention Messages
- RFA 01-002 The Influence of Gender on HIV Risk
- RFA 01-010 Population Research Infrastructure Program
- RFA 01-015 Improving Contraceptive Practice and Delivery
- NOT 01-004 Expansion of the NICHD Mentored Research Scientist Development Award (K01): Population Research

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2000

- PA 00-032 Population Movement: Determinants and Consequences*
- PAS 00-108 The Science and Ecology of Early Development (SEED)
- PAS 00-136 Demographic Research on Sexual Behaviors Related to HIV
- RFA 00-004 Health Disparities: Linking Biological and Behavioral Mechanisms with Social and Physical Environments*
- RFA 00-005 Acceptability Research for HIV/STD Prevention
- RFA 00-011 Population Research Infrastructure Program

1999

- RFA 99-010 Abstinence and HIV/STD Prevention for Youth*
- RFA 99-011 Population Research Centers

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 98-015 Replication of Community-Based HIV Interventions for Youth
- RFA 98-014 Population Research Centers
- RFA 98-009 The NICHD Family and Child Well-Being Research Network

* Denotes solicitations co-sponsored by the DBSB.

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APPENDIX E: DBSB-SUPPORTED CONFERENCES AND WORKSHOPS, 1998-2002

Workshop on the Influence of Gender on HIV Risk

March 14, 2003

This grantee workshop focused on how norms and institutions related to gender affect HIV risk and prevention in various cultural contexts. Examples of relevant features of gender included differential access to resources, power differentials and dynamics, and cultural scripts for male and female behaviors in sexual and romantic relationships.

SEED Workshop on School Readiness

February 25-26, 2003

This meeting examined research on how school environments influence children's development of school readiness and facilitate children's transition to school. Researchers discussed: (1) characteristics of classrooms, teachers, and schools that foster successful transitions into school and positive development in the kindergarten year; (2) characteristics of early childhood programs that foster the development of skills, abilities, and other characteristics associated with school readiness; and (3) resource, policy, and training needs associated with improving school and preschool environments that would enhance school readiness and successful school transitions.

Training in the Demographic and Behavioral Sciences

February 24, 2003

At this workshop, principal investigators of DBSB T32 grants, directors of other major demography training programs, and other training experts met to discuss graduate and post-graduate training in demography. Discussion focused on the goals and structure of demography training programs, the characteristics of a good training program, student development, and minority recruitment and retention.

Workshop On Dual Protection

January 9-10, 2003

This workshop gathered current and past grantees to report findings from research studies on dual protection, that is, the use of methods to protect against both pregnancy and STIs (including HIV). Participants considered the prevalence of dual protection; determinants at the levels of the individual, couple, and broader contexts; and intervention programs to promote dual protection.

New Directions in Young Children's Socio-Emotional Measures

November 13, 2002

This workshop was the third in a series of three workshops that examined measures of child development and family processes available for use in large-scale surveys. This workshop focused on measures of socio-emotional development. The workshop was held under the auspices of the SEED program, and was co-sponsored by the NIMH and by the NICHD Family and Child Well-Being Research Network.

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

The Effects of Immigrant Legalization Programs on the United States: Scientific Evidence on Immigrant Adaptation and Impacts on U.S. Economy and Society

September 25, 2002

Top social scientists in the field of immigration convened to discuss the scientific evidence about the effects of immigrant legalization programs, the characteristics of today's unauthorized alien population, and the implications of this information for future immigrant legalization programs. The program featured NICHD-funded and other studies that have examined the effects of such programs on immigrant adaptation and social and economic outcomes for families and communities.

Work, Family, Health, and Well-Being

September 23, 2002

In collaboration with the Alfred P. Sloan Foundation, the DBSB sponsored a planning workshop to kick-off the NICHD-led research initiative on work and family mismatch. Workshop participants discussed and prioritized important topic areas within work and family research to be included in a later conference. Participants included noted work- and family-research experts from the fields of business management, demography, economics, epidemiology, occupational health, psychology, and sociology, as well as staff from DBSB, OBSSR, NCHS, the National Institute on Alcoholism and Alcohol Abuse, and the National Institute of Occupational Safety and Health.

Selecting Cognitive Measures for Children in Large-Scale Surveys

May 1, 2002

This workshop was the second in a series of three workshops that examined measures of child development and family processes available for use in large-scale surveys. This workshop focused on measures of cognitive development. The workshop was held under the auspices of the SEED program.

A Workshop on the Science of Intervention Replication

January 30-31, 2002

Grantees under a 1999 RFA on the replication of effective HIV-prevention programs met with the originators of the replicated programs to discuss challenges of transferring programs to new settings. Participants discussed strategies for balancing fidelity to the original program model with the flexibility needed to adapt programs to new populations.

Counting Couples: Improving Marriage, Divorce, Remarriage, and Cohabitation Data

December 13-14, 2001

As members of the Federal Interagency Forum on Child and Family Statistics, the NICHD and the U.S. Census Bureau organized a two-day conference to develop a plan of action to improve federally supported data on marriage, divorce, remarriage, and cohabitation. The conference reviewed marriage, divorce, remarriage, and cohabitation data currently available in the federal statistical system, and identified targets of opportunity that were presented to the Forum and member agencies as recommended paths for action. A published report on the conference is available from the DBSB. Conference sponsors included the Forum, the DBSB, and the NICHD Family and Child Well-Being Research Network.

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Workshop on Data Sharing

October 2001

The DBSB convened a panel of investigators with expertise in data collection, archiving, and dissemination and use of secondary data to explore the challenges associated with making data available for broad use by the scientific community, while protecting confidentiality. A paper summarizing the meeting is available at http://www.nichd.nih.gov/cpr/dbs/data_Access.pdf.

Population and Environment: A Workshop for NIH-funded Researchers

September 8, 2001

This workshop reviewed accomplishments and discussed the future research agenda for the NICHD Population and Environment Research Program. In 1995, the DBSB initiated a program to assess how population changes affect the physical environment, and to investigate how environmental change affects demographic factors, such as fertility, mortality, migration, and population distribution. Workshop participants identified knowledge gaps, planned for future research and the dissemination of research findings, and exchanged information on technological and methodological advances in the field.

Demographic and Behavioral Sciences Long-Range Planning

June 25-26, 2001

The DBSB convened a panel of 24 scientists to participate in the development of a Long-Range Strategic Plan for the Branch. The panel considered 20 "areas of opportunity" identified during the first year of this planning effort. Discussion focused on the significance of these areas, their scientific challenges and potential for advancing science, and their relative priorities. Dr. Reynolds Farley of the University of Michigan chaired this meeting.

Using the HOME in Large Scale Surveys: How Many Items, How Many Scales?

May 31, 2001

This workshop was the first in a series of three workshops that examined measures of child development and family processes available for use in large-scale surveys. This workshop focused on the HOME, a set of scales that measures aspects of the home environment relevant to child development. The workshop was held under the auspices of the SEED program.

Bias in Intervention Research

February 2001

This workshop engaged a small group of scientists and representatives of scientific organizations in a discussion of the sources, implications, and prevention of real and perceived bias in intervention research that targets youth risk behaviors, most specifically, sexual behavior. The three major sources of bias that were considered included: (1) cultural and structural characteristics of scientific communities and the larger environment in which they are embedded; (2) ideological beliefs, financial conflicts, and "stakeholder" conflicts of individual investigators and their organizations; (3) data collection practices that may cause bias in the measures of either intervention or outcome.

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

Linking Media Exposure and Subsequent Risk Behavior

November 30 - December 1, 2000

This conference brought together grantees funded under the NICHD PA *The Impact of Media on Adolescent Sexual Behavior*, as well as other scientists with expertise related to media-effects research. The conference considered challenges to developing research designs for studying the causal influence of media exposure on behavioral outcomes. Participants also explored avenues for collaboration. Sponsors included: DBSB, CPR, and NICHD.

Improving Contraceptive Use: Setting an Agenda for Research

October 2000

Scientists with expertise in basic and applied research on the use and delivery of contraception in the United States gathered to discuss the development of a new research agenda on improving contraceptive use. The goal was to provide “usable knowledge” that would help to identify feasible new strategies for addressing barriers to effective contraceptive use. Sponsors included: DBSB, CPR, NICHD, OPA, Division of Reproductive Health, and the CDC.

Inclusion of Language Minority Populations in National Studies

July 2000

This workshop explored the experience of those involved in large national surveys and other large national research projects in meeting the challenges associated with the diversity of languages and cultures. It also addressed what could be done to improve the inclusion of language minority groups in national studies and developed practice guidelines for their inclusion. Sponsors included: DBSB, the NICHD Center for Research for Mothers and Children, and the NIA.

Toward Higher Levels of Analysis: Progress and Promise in Research on Social and Cultural Dimensions of Health

July 27-28, 2000

This trans-NIH conference highlighted the contributions of social and cultural factors to health and illness. Results provided the basis for a research agenda to advance the social sciences to NIH health research and studies of the interdependence of social, behavioral, and biological influences on health. The OBSSR sponsored this conference; DBSB staff organized and co-chaired it.

Evaluation of Condom Efficacy

June 12-14, 2000

This meeting examined the efficacy of condoms for the prevention of a number of STIs, most particularly the human papilloma virus. A report summarizing the evidence and outlining research gaps was reduced. Sponsors included: the National Institute of Allergy and Infectious Diseases, NICHD, OAR, CDC, the U.S. Food and Drug Administration.

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

Improving Acceptability Research

October 16, 2000

This meeting examined the potential for innovative approaches to research on the acceptability of new methods for pregnancy and HIV prevention, including microbicides. The goal was 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 included experts who reviewed existing models for acceptability research and explored the potential for improved approaches that integrate insights from different research traditions. Sponsorship included the DBSB and the Contraception and Reproductive Health Branch.

Unintended Pregnancy in the United States

March 11-12, 1999

This meeting focused on the meaning and determinants of unintended pregnancy in the United States. Participants discussed research findings for service delivery, the design of fertility-related surveys, and future research plans.

The Ties that Bind: Perspectives on Marriage and Cohabitation

June 29-30, 1998

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 nonmarital union formation by sharing multi-disciplinary 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. A volume containing papers from the conference was published in 2000.

Informing Child Care Policy Through Research: Children’s Health, Safety, and Development in Child Care in Light of Regulations, Subsidies, and Child Care Quality

1998

This workshop showcased emerging research findings on subsidies, regulations, and quality of care in the context of policy makers’ concerns and needs for research that can guide and inform public policies.

The Add Health Users Workshops

1998, 1999, 2000, 2001, 2002

This series of annual workshops provided an opportunity for new and experienced investigators using data from the Add Health Study to share their research and discuss methodology issues related to using the data. Sponsors of past workshops have included DBSB, the Add Health Project at the University of North Carolina-Chapel Hill, the NIH Office of Research on Women’s Health, and the NIH OBSSR. Four full-scale workshops were held July 7-8, 1999, August 1-2, 2000, August 9-10, 2001, July 24-25, 2002; another event is planned for July 2003. A “mini-workshop” focused on topics related to HIV and pregnancy prevention was held April 23, 1998.

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APPENDIX F: INTERAGENCY AGREEMENTS*, 1998-2002

Includes only non-NIH projects supported with NICHD funds.

Excludes interagency agreements in which other agencies provided funds to NICHD projects.

U.S. Bureau of the Census

Forum on Child and Family Statistics, 2001
Nativity Status in the Current Population Survey, 1995-1999
1990 Census Super Sample, 1998
Improving the Coverage of Men in Surveys, 1997-1999

U.S. Bureau of Labor Statistics

National Longitudinal Survey of Youth, 1979, 1998-2002
National Longitudinal Survey of Youth, 1997, 1998-2002

National Center for Health Statistics

National Survey of Family Growth–Cycle 6, 1996-2002

Health Resources and Services Administration

Girl/Neighborhood Power, 1997-2001

Administration for Children and Families

Early Head Start Fatherhood Project, 1998-2000

Office of the Assistant Secretary for Planning and Evaluation, DHHS

Forum on Child and Family Statistics, 2001-2002
Conference on Abstinence Program Evaluation, 2000

National Center for Education Statistics

Early Childhood Longitudinal Study–Birth Cohort, 1998-2002
Forum on Child and Family Statistics, 1998-2000

Agency for Health Research and Quality

Development of Child Health Status Measures, 1996-1998
Medicaid and Managed Care for Children with Special Needs, 2001-2002

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APPENDIX G: DBSB ACTIVITIES, 1998-2002

WITHIN THE NICHD

- Minority and Disability Supplement Review Committee
- NICHD Data-Sharing Committee
- NICHD Health Disparities Planning Group
- NICHD Child Abuse and Neglect Planning Group
- NICHD Promotion Review Panel
- NICHD 40th Anniversary Coordinating Committee
- NICHD Training Policy Committee
- NICHD Human Sexuality Research Working Group
- NICHD Division of Scientific Review Reorganization Committee
- NICHD Center for Population Research Retreat Planning Committee
- Social Environment Working Group, National Children's Study (Co-Chair)

WITHIN THE NIH

- NIH Committee on Community Consultation
- Committee on NIH Data-Sharing Policy
- Toward Higher Levels of Analysis: Progress and Promise in Research on Social and Cultural Dimensions of Health, NIH OBSSR, Co-Chair
- NIH Implementation Committee, Office of Management and Budget circular A110 Revision
- 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, OAR
- Preventive Intervention Research at the Crossroads: Contributions and Opportunities from the Behavioral and Social Sciences, Conference Planning Committee, OBSSR
- Trans-NIH Work Group on the Early Childhood Longitudinal Study Year 2000 Birth Cohort, Chairperson
- Federal Women's Program Network
- Trans-NIH Bioethics Committee, Subcommittee on Third-Party Information in Research
- Extramural Scientist Administrator Training Event—Grants Policy Updates: Humans and Animals, Instructor
- Inclusion of Language-Minority Populations in National Studies: Challenges, Opportunities, and Best Practices, Conference Planning Committee and Publication Co-editor
- NIH Behavioral and Social Science Coordinating Committee, Subcommittee Re-issuing PA on Methodology and Measurement
- Project Officers/Program Officials Forum, NICHD Representative (Alternate)

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WITHIN THE FEDERAL GOVERNMENT

- Federal Interagency Forum on Child and Family Statistics: Executive Committee, Data Collection Committee
- Interagency Task Force on Teen Pregnancy Prevention, Working Group
- National Strategy to Prevent Teen Pregnancy, Working Group on Male Involvement
- Interagency Working Group on the International Conference on Population and Development Follow-up
- Surgeon General's Conference on Promoting Responsible Sexual Behaviors, Steering Committee and Group Facilitator
- Indo-U.S. Joint Working Group on Reproductive Health Research, Member
- DHHS Data Council Working Group on Racial and Ethnic Data
- Social and Behavior Sciences Working Group, National Human Research Protection Advisory Committee
- *Microbicides 2002* and *Microbicides 2002*, Conference Planning Committees
- *Prevention Works*, International AIDS Meetings, 1996-2002, Planning Committees
- Healthy People 2010, Adolescents, Family Planning, and Special Populations Working Groups

OUTSIDE THE FEDERAL GOVERNMENT

- National Campaign to Prevent Teen Pregnancy: Effective Programs and Research Task Force
- American Sociological Association, Family Section Nominations Committee; Population Section, Council; Chairperson, Student Award Committee; and Membership Committee
- Population Association of America, vice president, secretary treasurer, Board of Directors; Editor of *PAA Affairs*; Annual Meeting Planning Committee; Robert J. Lapham Award Committee
- Society for the Study of Social Biology, Board of Directors
- Society for Research on Child Development, Science and Policy Committee
- American Public Health Association, Development Chair, Family Planning and Reproductive Health Section
- The MEASURE Project, Advisory Board
- Public Technical Advisory Group, USINS Microfilm Digitization Application System (MiDAS)
- SOROS Foundation, Research Support Scheme
- Technical Work Group, SPRANS Abstinence Education Program Evaluation
- *Adoption Quarterly*, Editorial Board
- *Contraception*, Editorial Board
- *Journal of AIDS Education and Prevention*, Editorial Board
- *Journal of Marriage and the Family*, Editorial Board
- *Population Research and Policy Review*, Editorial Board
- Journal Reviewers: *Demography*, *Studies in Family Planning*, *Journal of Aging and Social Policy*, *The Journals of Gerontology*, *Journal of AIDS Education and Prevention*,

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Perspectives on Sexual and Reproductive Health, Journal of AIDS, Population and Development Review, Journal of Marriage and Family, American Sociological Review, Population Research and Policy Review, Journal of Family Issues, Social Forces, Social Problems, The Sociological Quarterly, American Journal of Sociology, and International Migration Review

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APPENDIX H: DBSB AWARDS, 1998-2002

EXTERNAL AWARDS

- Carl Shultz Award, American Public Health Association, Population, Family Planning, and Reproductive Health Section, Susan Newcomer, 2002
- American Sociological Association Otis Dudley Duncan Award for Distinguished Scholarship, for the book *Continuity and Change in the American Family*, Lynne M. Casper 2002
- DHHS Secretary's Award for Distinguished Service, the Fatherhood Initiative Team, including Christine Bachrach, Natasha Cabrera, Lynne Casper, and V. Jeffery Evans, 2001
- DHHS, Supporting Fatherhood Leadership Award, Christine Bachrach, Lynne Casper, and Jeffery Evans, 2000
- Hilary E. C. Millar Award for Innovative Approaches to Adolescent Health, Society for Adolescent Medicine, the NICHD for the Add Health Study, March 1999
- "Hammer Award" for Reinventing Government, National Performance Review, for the Fatherhood Initiative, a collaborative group including Christine Bachrach, Lynne Casper, Jeffery Evans, and Susan Newcomer, 1998
- "Hammer Award" for Reinventing Government, National Performance Review, for helping the Interagency Forum on Child and Family Statistics produce *America's Children: Key Indicators of Well-Being*, Lynne Casper, V. Jeffery Evans, and the NICHD Family and Child Well-Being Research Network, 1998
- Anchor Award, Interagency Forum for Child and Family Statistics Leadership Award, V. Jeffery Evans, 1998
- DHHS Secretary's Award, V. Jeffery Evans, 1998

NIH/NICHD AWARDS

- NIH Plain Language Award, for *Points to Consider When Planning a Genetic Study that Involves Members of Named Populations*, Christine Bachrach and other members of the Community Consultation Working Group, 2003
- NICHD Equal Employment Opportunity Special Achievement Award, Christine Bachrach, 2002
- National Institutes of Health Director's Award, Susan Newcomer, 2001
- NIH Award of Merit, Janice Wahlmann, 2001
- NIH Award of Merit, V. Jeffery Evans, 2000
- NIH Award of Merit, Natasha Cabrera, 2000