# A National Strategy to Prevent Teen Pregnancy

## ANNUAL REPORT *1998-99*

U.S. Department of Health and Human Services

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# Introduction

At the end of the second year of its National Strategy to Prevent Teen Pregnancy, the U.S. Department of Health and Human Services (HHS) is pleased to report that teen pregnancy rates continue to decline. The on-going decrease in teen pregnancy rates is encouraging and suggests that the Department's Strategy to prevent teen pregnancy is having a positive impact.

The President and Congress called on HHS to develop a National Strategy to address this serious challenge and to assure that at least 25 percent of communities in this country have teen pregnancy prevention programs in place – as mandated under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. The Department responded to this call by releasing a National Strategy to Prevent Teen Pregnancy in January of 1997. This Strategy presented a comprehensive plan to prevent teen pregnancies in the United States by strengthening, integrating, and supporting teen pregnancy prevention and other youth-related activities in communities across the country.

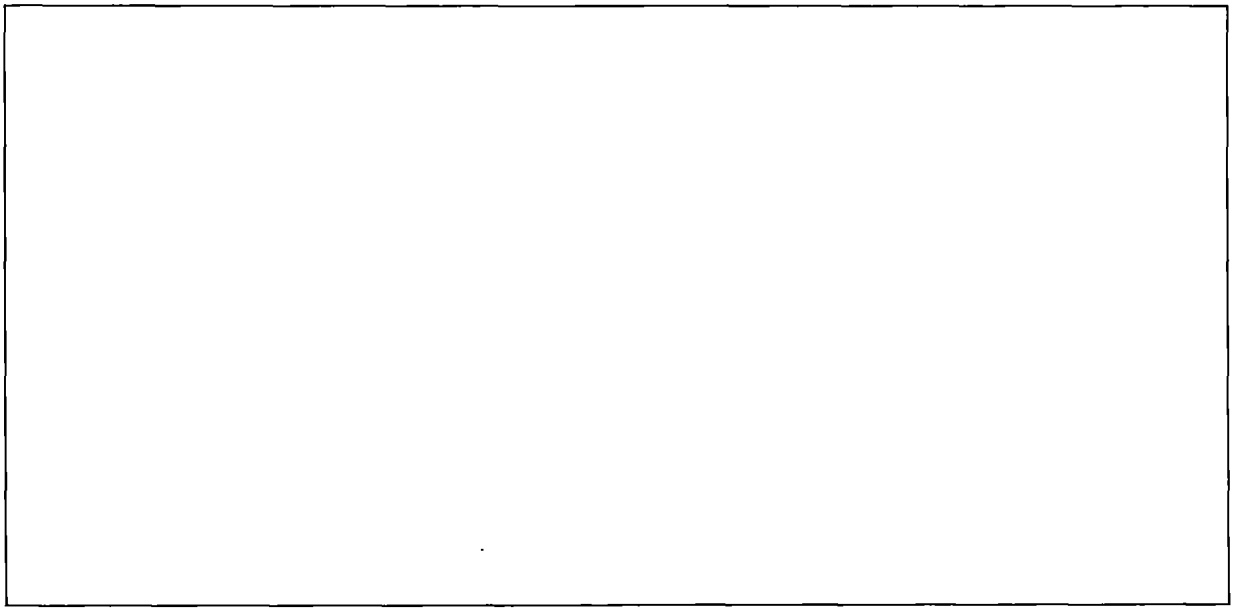
**More Good News.** Encouraging trends in teen pregnancy rates continue:

Teen birth rates declined for white, black, American Indian, Asian or Pacific Islander and Hispanic women ages 15-19, from 1991 through 1997.

The birth rate for black teens reached the lowest rate ever reported for blacks in 1997, and also declined more than any group between 1991 and 1997.

Teen birth rates have decreased in every state.

**Key Principles.** The National Strategy is guided by five key principles which shape and guide our prevention efforts. Based on ideas that are essential to all community efforts, as indicated by research and experience, the key principles are the cornerstone of the Department's Strategy.



1. Parents and other adult mentors must play key roles in encouraging young adults to avoid early pregnancy and to stay in school.

2. Abstinence and personal responsibility must be the primary messages of prevention programs.

3. Young people must be given clear connections and pathways to college or jobs that give them hope and a reason to stay in school and avoid pregnancy.

4. Public and private-sector partners throughout communities – including parents, schools, business, media, health and human service providers, and religious organizations – must work together to develop comprehensive strategies.

5. Real success requires a sustained commitment to the young person over a long period of time.

## TRENDS IN TEEN BIRTHS AND PREGNANCIES

The Department is pleased to report that, according to the latest data compiled from HHS' National Center for Health Statistics (NCHS) (through 1997), teen birth rates continue to decline steadily. Notably, these declines cut across ages (younger and older adolescents) and race and Hispanic origin. Further, fewer teenagers are having second children.

**Teen Birth Rates Declining Steadily**. Both national and state-level teenage birth rates have fallen since 1991. The overall rate for teenagers declined by 16 percent from 1991-1997 (62.1 births per 1,000 females aged 15-19 in 1991 to 52.3 in 1997). Between 1991 and 1997:

Teen birth rates have fallen in all states (the decline is not statistically significant for Rhode Island).[1]

Rates fell by 20 percent or more in 10 states and the District of Columbia.

The U.S. rate fell more for younger than for older teenagers. Birth rates dropped 21 percent for girls 10-14 years old, 17 percent for 15-17 year olds and 11 percent for 18-19 year olds.[1]

**Teen Birth Rates by Age.** Birth rates for teenagers differ substantially by age. In 1997, 83.6 of every 1,000 older teens had a baby, more than 2.5 times the rate for teens aged 15-17, which was 32.1 per 1,000. The declines in rates since 1991 experienced by older and younger teens partly reverse the 20 to 27 percent increase found during the late 1980s.[2]

The U.S. birth rate for teenagers declined 4 percent from 1996 (54.4 per 1,000 aged 15-19) to 1997, and 16 percent from 1991 to 1997.[1]

The rate for teens aged 15-17 years fell 5 percent between 1996 (33.8 per 1,000) and 1997, and 17 percent between 1991 (38.7 per 1,000) and 1997.

The rate for older teens aged 18-19 declined 11 percent since 1991 (94.4 per 1,000).

**Trends by Race and Hispanic Origin.** Birth rates for black teenagers have dropped steeply in the 1990s. Since 1991, black teenagers have shown the largest declines in teen childbearing.

The overall rate for black teens fell 24 percent from 1991 to 1997 (115.5 per 1,000 aged 15-19 in 1991 to 88.2 in 1997).

The rate for young black teenagers dropped 28 percent from 1991 to 1997 (84.1 per 1,000 aged 15-17 in 1991 to 60.8 in 1997).

The rate for older black teenagers declined 18 percent during 1991-97, from 158.6 to 130.1.

In addition, birth rates have fallen since 1991 for non-Hispanic white teenagers. The overall rate fell 17 percent (43.4 per 1,000 aged 15-19 in 1991 to 36.0 in 1997), but rates declined more for younger than for older teens. Teen birth rates have declined for Hispanic teenagers as well, but the declines began later (just since 1994) and have been smaller (10 percent). Overall, birth rates continue to be substantially higher for Hispanic and black teenagers than for non-Hispanic white teenagers; since 1994, Hispanic teens have had higher rates than any other group.

**Fewer Teenage Mothers Have Second Child.** One of the key HHS findings has been that the rate of second births to teenagers who have already had one child has declined 21 percent from 1991 to 1997 (221 per 1,000 in 1991 to 174 in 1997)[1,2]. In other words, the proportion of teen mothers who gave birth to a second child fell from 22 percent to 17 percent. The first birth rate for teenagers fell by 6 percent from 1991 to 1996 and then declined an additional 4 percent from 1996 to 1997; the first birth rate has thus declined 10 percent since 1991.

**Births to Unmarried Teens.** Birth rates for unmarried teenagers declined again in 1997 for the third consecutive year. Despite these declines, out-of-wedlock childbearing for teen remains a serious concern. Since 1994, the rate for teens 15-17 years has fallen 12 percent, and the rate for teens 18-19 dropped 7 percent. Despite these declines in birth *rates,* the *proportion* of teen births that were to unmarried teenagers continued to increase in 1997. Eighty-seven percent of births to 15-17-year-olds and 73 percent of births to 18-19-year-olds were non-marital in 1997.

**Data Collection and Analysis.** Accurate and timely reporting of trends and variations in teen birth rates is based on information reported on the birth certificates of all babies born in the United States. This information is provided to the National Center for Health Statistics (NCHS) by the state health departments through the Vital Statistics Cooperative Program. NCHS and the states share the costs for collecting and processing the data. The last three years have seen faster data collection and processing at the state level and by NCHS. Information can now be analyzed and released more quickly.

The preliminary files provided by NCHS' new statistical series contain very large samples; for example, the most recent preliminary file, for 1997 births, was based on over 99 percent of all births. Data from that file were published in October 1998, and the findings from the preliminary file have recently been validated with publication of the final data for 1997.[1,3]

More information on the collection and reporting of teen birth data is presented in Appendix I.

[1] Ventura SJ, Martin JA, Curtin SC, Matthew s TJ. Births: Final Data for 1997. *National Vital Statistics Reports;* Vol. 47, No. 18. Hyattsville, Maryland: National Center for Health Statistics. 1999.

[2] Ventura SJ, Matthews TJ, Curtin SC. Declines in Teenage Birth Rates, 1991-97: National and State Patterns. *National Vital Statistics Reports*, Vol. 47, No. 12. Hyattsville, Maryland: National Center for Health Statistics. 1998.

[3] Ventura SJ, Anderson RN, Martin JA, Smith BL. Births and Deaths: Preliminary Data for 1997. *National Vital Statistics Reports,* Vol. 47, No. 4. Hyattsville, Maryland: National Center for Health Statistics. 1998.

# BUILDING PARTNERSHIPS

Building partnerships remains a critical aspect of the Department's National Strategy to Prevent Teen Pregnancy. HHS is committed to sustaining current partnerships and creating opportunities for new partnerships to grow. Because HHS recognizes that each group and individual can make valuable contributions to prevention efforts, the Department is committed to involving a wide-range of partners in its work. HHS partnerships involve national, state, and local organizations; schools; health and social service organizations; business; religious institutions; tribes and tribal organizations; federal, state, and local governments; parents and other family members; and teens themselves. HHS seeks to develop partnerships among all groups and individuals concerned about teen pregnancy.

While valuing the potential of partnerships to increase cooperation, reduce duplication, pool resources, integrate services and ultimately, build communities, it is also important to recognize the challenges of developing and sustaining them. Partnerships, particularly at the community-level, take a long time to establish and require considerable energy to maintain. Reaching true community consensus on controversial issues is a difficult and time-intensive process. Collaboration is particularly challenging when partners come from different racial, ethnic, linguistic, religious, class and/or educational backgrounds - yet it is exactly this cross-sectional involvement that is the most valuable product of collaboration.

### *Community Partnerships*

HHS is involved in several projects and programs that promote partnerships in communities interested in preventing teen pregnancy. Following are highlights and updates of HHS efforts to build and strengthen partnerships in communities across the country.

**Get Organized: A Guide to Preventing Teen Pregnancy.** In partnership with the National Campaign to Prevent Teen Pregnancy, a three volume guide for states and communities to use in their fight against teen pregnancy is being developed. The guide includes chapters on important topics such as: "Promising Approaches", "Involving Teen Boys and Young Men", "Involving Parents", "Involving the Faith Community", "Involving Health Care Professionals", and "

Involving the Business Community." Other chapters will address issues that often challenge community leaders in their efforts to prevent teen pregnancy such as how to conduct a community needs assessment, how to raise funds for prevention programs, how to create an effective teen pregnancy prevention message, and how to move forward in the face of conflict.

**The Indian Health Service.** The Indian Health Service (IHS) is a direct care organization with most efforts concerning teen pregnancy concentrated on providing appropriate prenatal and neonatal care. There is, however, a growing effort to work with various organizations – federal, state, and local – to develop and implement strategies that deal with all issues surrounding teen parenthood, including prevention.

Working with IHS, the Center for American Indian and Alaskan Native Health at Johns Hopkins University is currently providing outreach workers to tribal members of three Navajo units and the White Mountain Apache. The workers conduct a curriculum-based outreach program on healthy pregnancies and well-child care, which includes family planning on an individual basis. With partnerships and funding from the C.S. Mott Foundation and the Ford Foundation, they are now in the planning phase of a program expansion to include fathers and male outreach workers.

**Girl Neighborhood Power! – Building Bright Futures for Success (GNP).** This five year national demonstration program, begun in 1997, centers on involving communities as active partners in helping girls (9-14 years old) successfully navigate adolescence and reach their maximum potential. Currently, the program consists of four community partners (Girls Inc. of Memphis, TN; Crispus Attucks of York, PA; City of Madison, WI; and Youth & Family Services Inc. of Rapid City, SD) and a national leadership consortium (Healthy Mothers, Health Babies Coalition, Inc. of Alexandria, VA).

GNP encourages and supports partnerships at both the local and federal levels. To be eligible for funding, communities were required to demonstrate local commitment through a broad-based coalition of community agencies and parental involvement. In addition, GNP is supported by several HHS agencies, including the Centers for Disease Control and Prevention, the National Institutes of Health, the Public Health Service's Office of Women's Health, the Administration for Children and Families, and the Health Resources and Services Administration.

This year, the community partners focused on strengthening local coalitions and neighborhood site development. Many valuable partnerships formed at the community level, for example, partnerships with the Association of Retarded Citizens, local churches, community centers, mental health providers, and local justice agencies.

To reach its goal of promoting the well-being of girls, GNP will continue to build strong partnerships among a network of organizations and individuals in order to communicate positive messages and provide meaningful opportunities for girls. Additional information on the promising approaches being used by GNP can be found in the next section.

**The Centers for Disease Control and Prevention (CDC) Community Coalition Partnership Programs for the Prevention of Teen Pregnancy.** The CDC supports and works closely in partnership with thirteen communities with high rates of teen pregnancy. These demonstration projects, begun in 1995, are currently in their second phase. In this phase coalitions of local public and private agencies and community organizations are working together to implement

their action plans, test promising interventions, build financial and programmatic sustainability, and conduct site-specific evaluations. CDC will continue to work with these innovative communities for the next several years. Further details about the promising approaches and evaluation efforts of this program will be discussed later in this report.

**Building and Sustaining Partnerships Report.** To better understand the potential of partnerships to enhance teen pregnancy prevention efforts, HHS published "Building and Sustaining Community Partnerships for Teen Pregnancy Prevention." This report, issued by the Assistant Secretary for Planning and Evaluation in July 1998, is based on an extensive literature review of various partnership relationships focusing on teenage pregnancy and other risk-taking behaviors. Research in the fields of violence prevention, substance abuse prevention, teen pregnancy prevention, youth development, community development, environmental protection, and general business enterprises were explored and reviewed. In addition, the report discusses the process of partnership development, including how to mobilize a community, organize, implement, and sustain a partnership, and provides models of community development and detailed case studies. By providing this publication, HHS hopes to assist in the development of teen pregnancy prevention partnerships across the country. Copies of this report are available at http://aspe.hhs.gov.

**Preventing Pregnancy through Youth Development.** Published by the Family and Youth Services Bureau (FYSB), "Preventing Adolescent Pregnancy: A Youth Development Approach", provides useful information and background on using a youth development approach with teen pregnancy prevention efforts. Topics discussed include: "Ideas for Getting Started" and " Building on Lessons Learned." This year, FYSB's National Clearinghouse on Families and Youth (NCFY) distributed over 5,000 copies of the guide to a diverse audience, including: federal, state, and local lawmakers, school representatives, private industry, non-profit organizations, and the academic community. In addition, NCFY produced an article based on this guide that was included in the December 1998 edition of the *Preventing Pregnancy for Youth: An Interdisciplinary Newsletter* (funded by the C.S. Mott Foundation). Copies of the book are available through the National Clearinghouse on Families and Youth at http://www.ncfy.com.

### *HHS Partnerships*

In addition to working directly with communities to form partnerships, HHS frequently works on broader collaborative efforts to improve teen pregnancy prevention efforts. The following are highlights and updates of major partnership efforts by HHS over the past year.

**The Girl Power! Campaign.** Since its formation in November 1996, the Girl Power! Campaign has successfully used multiple and varied partnerships to accomplish its goal of helping girls between the ages of 9 and 14 make the most of their lives. Because studies show that girls at this age have a tendency to neglect their own aspirations and interests, in addition to becoming less physically active, Girl Power! uses a comprehensive approach that addresses both health issues and the topics of self-worth, motivation, and opportunity. Given young girls' increased vulnerability at this stage to negative influences and mixed messages regarding health risk behaviors, the Girl Power! Campaign focuses on increasing their skills and competence in academics, arts, sports, and other beneficial activities. By encouraging girls to develop their skills and sense of self, Girl Power! hopes to decrease the likelihood that they will participate in

risky and unhealthy behavior.

As a multi-issue, national public education campaign, Girl Power!, led by the Center for Substance Abuse Prevention in the Substance Abuse and Mental Health Services Administration, has partnered with many national non-profit organizations, including over sixty national endorsing organizations and 300 state and local affiliations, to develop and implement unique Campaign promotional materials, public service announcements, and an award-winning web site (http://www.health.org/gpower). The success of working together is evidenced by the thousands of Girl Power! community programs throughout the country.

This year, the Girl Power! Campaign has formed many exciting partnerships to help promote its message. In cooperation with Girl Power!, the Girl Scouts of the USA developed an official Girl Power! Girl Scout patch and accompanying guides to be used as resources for earning the patch. Through a unique partnership with the Women's World Cup 1999, the campaign promoted and distributed Girl Power! products at selected matches through the 22-day soccer tournament held in the United States this summer. Other partnerships include the National Family Partnership, Avon Running, the WNBA's Washington Mystics basketball team, and the American Association of University Women.

Future products of the Girl Power! Campaign include a Community Education Kit featuring resources for Girl Power! programs. The Girl Power! Campaign plans to continue working with various national, state, and local organizations to improve the future for all young girls.

**Joint Work Group on School-Based Teen Pregnancy Prevention.** With support from the Centers for Disease Control and Prevention's Division of Adolescent and School Health, nine national non-governmental organizations (NGOs) are working together to help state and local education and health policy makers, school administrators, maternal and child health professionals, school health professionals, and other school personnel prevent unintended teen pregnancies. These organizations include the American Association of Maternal and Child Health Programs (AMCHP), American Association of School Administrators (AASA), American School Health Association (ASHA), Association of State and Territorial Health Officials (ASTHO), Council of Chief State School Officers (CCSSO), National Association of State Boards of Education (NASBE), National Conference of State Legislatures (NCSL), National Education Association (NEA), and the National School Boards Association (NSBA).

Through the Work Group, the NGOs and HHS learned about what their respective constituents needed to help schools implement effective teen pregnancy prevention programs. In its second year, the Work Group has been focusing on helping its constituents implement specific strategies to improve the effectiveness of programs such as collecting, interpreting, and disseminating epidemiological data about teen pregnancy; identifying effective school policies and programs; conducting outreach activities to parents, educators, and the public; helping schools engage parents in pregnancy prevention; helping schools work with community organizations in a shared effort; and helping schools implement youth development activities.

# SUPPORTING PROMISING APPROACHES

In 1999, HHS provided support to efforts ongoing since the first year of the Strategy. The Department of Health and Human Services has continued to ensure that at least 25 percent of communities had teen pregnancy prevention programs in place–as mandated by section 905 of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996.

In FY 1998, the Department estimated that _____ of communities had teen pregnancy prevention programs in place. This is a conservative number because it represents only HHS-funded programs that flow directly to communities. HHS also supports other teen pregnancy prevention efforts through its various state block grant programs. In addition, there are numerous activities supported by funding sources outside of HHS.

**Highlights of HHS Activities**. The National Strategy is built on the belief that successful teen pregnancy prevention efforts are specifically tailored to the unique needs, interests, and challenges of diverse individuals and communities. Although the National Strategy sends the strongest possible message to all teens that postponing sexual activity, staying in school, and preparing to work are the right things to do, the research has shown that girls and boys, for example, experience adolescence in different ways. Therefore, different approaches are required to meet the unique needs of different adolescent populations. This year the Department has continued to fund a broad spectrum of programs that actively involve family and community members, as well as young people themselves. In particular, HHS has promoted the involvement of boys and young men in teen pregnancy prevention.

***Abstinence Education***

The Department funds abstinence education through two programs. In 1996, the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) created a new program entitled the Abstinence Education Grant Program which is funded under Section 510 of Title V of the Social Security Act. The grants funded under this program must meet specific criteria defined in the legislation. In addition, the Department has been funding abstinence education through its Adolescent Family Life Program (AFL) since 1981. New AFL programs, initiated since 1997, now also conform to the PRWORA definition of abstinence.

**Abstinence Education Grant Program**. The Department's Health Resources and Services Administration, Maternal and Child Health Bureau (MCHB) is responsible for the administration of the Abstinence Education Grant Program. The law provides for a mandatory annual appropriation of $50 million for each fiscal year (FY) 1998 through 2002. Fifty-two states and territories applied for and received FY 1999 funding (one less than in FY 1998).

In March 1999, MCHB completed an annual program summary based on the states and territories' FY 1998 annual reports and FY 1999 grant applications. Multiple activities and contracts are being funded in the majority of states and territories. Thus, the following totals exceed the total number of states and territories (54) that received an FY 1998 and/or FY 1999 Abstinence Education Grant. While states and territories differed in their approaches, there were some general consistencies.

The most frequently funded state/territory activities are community-based projects (45[1]), program evaluations (41), state media campaigns (37), and technical assistance and training (36).

The most frequently funded local program activities are adult mentoring, counseling and supervision (32), social skills instruction, character-based education, and assets building (31), curriculum development and implementation (31), school-based programs (26), public awareness campaigns (24), parent education groups (21), peer mentoring and education (20), and before- and after-school programs (18).

The two age groups most frequently served by the states and territories are 13-14 year olds (51) and 9-12 year olds (50). Other frequently served age groups are 15-17 year olds (37) and 18-19 year olds (26).

Special population groups frequently targeted by the states/territories are parents (39), at-risk populations, such as youth of color, out-of-school youths, and youths in areas with high rates of out-of-wedlock pregnancies (26), males (25), and teachers and youth serving professionals (20).

**Adolescent Family Life Program (AFL).** As mentioned earlier, the AFL program's prevention approach, as required by statute, has always been abstinence-based; promoting the postponement of sexual activity as the most effective way for adolescents to prevent pregnancy and STD/HIV infection. In FY 1998, $9.0 million of the total $16.7 million AFL appropriation was spent to support 57 prevention projects using the abstinence-only definition under PRWORA. An additional $3.6 million was spent to continue support for 17 prevention and care projects originally funded in FY 1995 and $1.0 million to support seven research projects.
Many address self-esteem and decision-making, life, social, and negotiation skills. Specific components for parent involvement and education are incorporated by most and all are required to include an independent evaluation.

***Family Planning***

The Department, through the **Title X National Family Planning Program**, is a primary provider of subsidized family planning services, serving nearly 4.5 million persons annually. The Title X program has always played an important role in adolescent pregnancy prevention; approximately 30 percent of those receiving services are under 20 years of age. In addition to clinical services, outreach and education - including counseling to encourage continued postponement of sexual activity for adolescent clients who are not yet sexually active - are also important components of Title X services for adolescents. The program has also been expanding

[1]Number of States and Territories

adolescent pregnancy prevention through special initiatives sponsored regionally.

For example:

> Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee) has been funding community-based organizations to implement adolescent pregnancy prevention initiatives. Interventions include sexuality education, parent involvement, mentoring, peer counseling, tutoring, job skills training, career planning and recreational activities in various combinations.
>
> Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas) has funded a number of programs to coordinate the linkage of family planning providers with community-based organizations that serve hard to reach populations, including adolescents, in providing appropriate services and activities related to family planning and reproductive health.
>
> All ten regions have been supporting projects in Title X clinics designed to increase male responsibility with respect to reproductive health and family planning and to enhance young men's futures through training and employment. Selected clinics employ adolescent males, as well as provide them with on the job training in various aspects of clinic operation, family planning, and reproductive health education.

***Community Collaboratives***

The Community Coalitions Partnership Program and Girl Neighborhood Power! are two of the Department's cornerstone programs aimed at reducing teen pregnancy. Over the course of this year, the communities involved in these two programs progressed in their efforts to develop and maintain multi-sectoral collaborations responsible for planning, implementing and evaluating prevention strategies.

Since 1995, the CDC, through the **Community Coalition Partnership Program for the Prevention of Teen Pregnancy**, has supported demonstration projects in thirteen communities with high rates of teen pregnancy (Boston, Chicago, Jacksonville, Kansas City, Milwaukee, Oklahoma City, Orlando, Philadelphia, Pittsburgh, Rochester, San Antonio, San Bernardino, and Yakima). Moreover, eleven of the thirteen communities are actively working with Latino youth and Latino neighborhoods as part of their overall plan to prevent teen pregnancy. In Phase II of the demonstration, which began in 1997 and continues for five years, coalitions of local public and private agencies and organizations in communities are working on implementing their action plans, field testing promising interventions, building toward financial and programmatic sustainability of their programs, conducting site-specific evaluations, and participating in cross-site evaluations.

This year, each of the thirteen demonstration communities continued their efforts to develop and strengthen community-wide coalitions. They have continued to mobilize and organize community resources in support of comprehensive, risk-specific, effective and sustainable programs for the prevention of initial and repeat teen pregnancies. The communities are pursuing a wide variety of strategies to provide health, education, employment, recreation and other youth development services, programs and opportunities for youth and their families. Ongoing activities include: training for community leaders and neighborhood residents on

community engagement and empowerment; the selection of intervention programs and components that address the documented needs and assets of specific neighborhoods; field testing of promising approaches; parent-child communication workshops; the development of youth councils; the use of health communications to enhance the planning and delivery of programs; and fund development to sustain programs.

**Girl Neighborhood Power! - Building Bright Futures for Success (GNP)**, a five-year national demonstration program that started October 1997, fits under the umbrella of the Department's Girl Power! campaign. Its several purposes include: (1) promoting the health and well-being of girls and young female adolescents between the ages of nine and fourteen; (2) preventing the onset of health risk behaviors among girls during their adolescence; (3) connecting girls and the communities in which they live and supporting the growth of girls' citizenship; (4) developing leadership skills in girls and young female adolescents; and (5) fostering communities' and neighborhoods' investments in their youth.

The first year of this project included efforts to invest in neighborhood site development, to strengthen coalitions, and to develop a common process to monitor activities across sites. On average, the four neighborhood sites of each community partner enrolled about 50 girls (at least 200 girls per community partner) during the first project year. The racial and ethnic composition of participating girls varied by community site.

Although each community partner's programming is unique, several common themes have emerged across sites in this past year. Each community partner has:

developed mechanisms to help girls and their families identify physical and mental health needs, to enroll in Medicaid and the Children's Health Insurance Programs, and to access appropriate health care services;

convened an advisory council composed of girls;

worked to help girls with their schoolwork and to feel connected to their schools (school success is protective against engagement in health risk behaviors and helps young people to thrive as adolescents and as adults);

developed creative community service programs to enhance girls' connectedness to community, pride in citizenship, and leadership skills (examples include transforming a vacant lot into a community garden, gathering canned goods at Halloween ("trick or treat for others to eat"), developing public service announcements, and advocating for a Neighborhood Watch program); and

incorporated field trips, which broaden girls' horizons, into its regular programming activities and developed sports programming activities to improve girls' opportunities for and attitudes toward physical activity.

In addition to these two programs that target teen pregnancy, in 1998 the Family and Youth Services Bureau announced the award of more that $1 million in **State Youth Development Collaboration Projects**. FYSB awarded funding to nine states to develop and support innovative youth development strategies. Each of the following states received a grant of

$120,000: Arizona, Colorado, Connecticut, Iowa, Maryland, Massachusetts, Nebraska, New York, and Oregon.

The grants will support efforts that focus on all youth, including vulnerable youth in at-risk situations. Youth development programs have been shown to promote youth self-efficacy, build competencies and encourage young people to delay childbearing. Each state has designed a unique plan for implementing the project on the basis of identified youth needs and prior state activities with regard to youth development.

***Programs for Boys and Young Men***

Traditionally, adolescent pregnancy prevention research and programs have focused on adolescent girls. It has become increasingly clear, however, that adolescent boys and young men must share that focus. The National Strategy along with the Administration's Fatherhood Initiative have continued to work on ways to expand the Department's efforts to target boys and young men. In 1998, the Office of Population Affairs funded several research grants aimed at improving the knowledge of what works in male involvement by developing new program models. This year, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) funded a project to identify abstinence programs for males, and also supported several meetings to synthesize what is known thus far about male involvement programs.

**Title X Male Involvement Grants**. In FY 1998, the Office of Population Affairs funded ten research grants, through the Title X Family Planning Program, to support community-based organizations in developing, implementing, and testing approaches for involving young men in family planning education and reproductive health services programs. Research has shown that young men recognize unintended pregnancy as a serious problem and its prevention as a joint responsibility; nevertheless, drawing them into family planning/reproductive health information and service programs continues to be difficult. This year, the grantees completed their program development and began implementing new approaches to bringing family planning services and education components into programs where young males were already receiving other health, education, and social services.

While each program reflects the specific needs of its community, several themes predominate the interventions. Because most of the programs place significant emphasis on the role of adult men as guides, teachers or examples for younger men in their transition to adulthood, nearly every program is anchored on a strong mentoring component. This component is then often paired with community, cultural and recreational activities, as well as life skills instruction. (Several sites are using the nationally-known Wise Guys curriculum, while others have developed their own curricula for life skills and reproductive health education.) In addition, these programs have seen both the benefit and the appeal of youth development activities. Components such as academic tutoring, sports, and talent shows are used as incentives to draw young men into the project. Finally, some of the grant programs are targeting specific populations such as the Latino community by using culturally appropriate services and language.

**Abstinence Based Teen Pregnancy Prevention Programs Focusing on Males**. Consistent with the Department's focus on abstinence education, ASPE commissioned a paper, written by the South Carolina State University Policy Analysis Consortium, to identify and describe existing abstinence programs targeting boys and young men. The study will identify 66 programs that provide either abstinence-based (40%) or abstinence only (60%) programming to boys and girls or to boys only. The authors found that the majority of abstinence programs serve 9 to 14 year old boys. The most frequently used service approaches were teen support groups and mentoring types of activities as well as parent/teen classes. The matrix of existing programs will be published and will be regularly updated with new and promising strategies for reaching boys and young men with an abstinence message. A final report will be available in the Fall of 1999.

**Federal, State, and Local Strategies for Promoting Male Involvement in Teen Pregnancy Prevention.** The Department sponsored several meetings to identify innovative male involvement strategies that might be disseminated to a larger audience. The meeting results are being summarized in a report that outlines multi-pronged strategies for reaching a much wider population. The report draws upon the experiences of numerous local and one statewide (California) male involvement initiatives.

The report will first identify "stakeholder" audiences whose activities stand to benefit from male involvement and who have resources, networks and capacities to help promote and strengthen it. These audiences include: (1) regional, state and local public officials administering family planning, maternal and child health, education and family/social service programs; (2) teen pregnancy prevention programs; (3) responsible fatherhood programs; (4) community-based reproductive health programs; and (5) male serving programs in the armed services, juvenile justice, prison systems, and youth development and recreation programs.

Specific strategies designed to inform and collaborate with these stakeholder audiences and other community-based partners include creative use of the media and social marketing, regional and state forums and summits, peer-to-peer networking opportunities and technical assistance. The goal is to promote and support a view of boys and men wherever they live, learn, work or play as responsible members of families--sons, fathers, spouses, grandfathers.

The report (available in the Fall, 1999) will outline some inherent tensions and barriers to promoting male involvement and discusses the most critical challenge to be faced--identifying state and national leaders and vehicles to coordinate and steer the wide ranging efforts needed to effectively promote male involvement.

### *Welfare Reform*

Welfare reform included an incentive for states to reduce the incidence of out-of-wedlock childbearing and encourage the development of new approaches to pregnancy prevention. The **Bonus to Reward Decrease in Illegitimacy Ratio** will reward those states with the largest decrease in the ratio of out-of-wedlock to total births, provided they also show a decrease in

abortion rate relative to 1995. The bonus will be awarded in FY 1999 through 2002, based on data releases from NCHS. This provision is targeted toward all women, not just teenage mothers; however, in measuring state decreases in out-of-wedlock births, this measure would also include births among unmarried teens. Although the bonus is part of the TANF grant, the funds can be used to support a wide variety of programs extending beyond the TANF population.

In addition, the Substance Abuse and Mental Health Services Administration (SAMHSA) is supporting an initiative on teen parents and welfare reform that generates knowledge on the effects of welfare reform on parenting teens, and measures the effects of preventive interventions on teen parents and their children. The four objectives in support of this goal are: (1) prevention or reduction of alcohol, tobacco, and drug use; (2) improvement in academic performance; (3) reduction of subsequent pregnancies; and (4) improvement in life skills and general well-being. SAMHSA has awarded ten cooperative agreements which are in the process of collecting baseline data for the evaluation of the initiative.

# RESEARCH AND EVALUATION ACTIVITIES

***Research Activities–From Data Collection to Findings***

In the past year, the Department has continued its commitment to support research related to teen pregnancy. This commitment includes investment in long-term research to follow trends in important areas. With such a commitment, many of the Department's activities reported here are continuations of research initially highlighted in last year's report. Areas of research include:

Adolescent sexual activity

Timing of first intercourse

Use of contraceptives

Intent to become pregnant

Adolescent decision making

Male Involvement

***Data Collection.*** While often overlooked, the data sets used to conduct research in the area of teen pregnancy are vital to the Department's mission to prevent teen pregnancy. To conduct quality research, the Department has invested resources to gather and maintain high-quality, comprehensive data. These data serve as a critical foundation for the information we now have with regard to teen pregnancy and for the information we will need in the future. A brief description of each data set is in Appendix IV.

***Research Activities.*** The Department's research activities cover a wide spectrum of topics. Continuing research on the sexual activity of adolescents allows for an understanding of the patterns of sexual behavior. Examinations of whether and which adolescents intend to become pregnant or cause a young woman to become pregnant clarifies how adolescents feel about becoming pregnant and has important implications for the decisions they make, their physical and emotional well-being, and potentially for the well-being of their children. Research funding is also spent in designing, implementing and evaluating pregnancy prevention programs, so that resources may be used to replicate programs that are demonstrably effective.

Adolescent decision making impacts on many risk-behaviors, including sexual activity and contraceptive use, and is a vital factor not only in understanding how and why teens become or make someone pregnant. Knowledge of how adolescents make decisions also enhances the ability to create effective prevention and intervention programs. Research on male involvement in teen pregnancy highlights the role, often ignored, that men have in sexual, romantic, marital and parenting relationships. The couple relationship, as well as peer relationships, have

important influences on sexual risk behaviors.

**Adolescent Sexual Activity.** Research supported by the National Institute of Child Health and Human Development (NICHD) indicates that, between 1988 and 1995, a decrease has occurred in the proportion of teenagers aged 15-19 who had ever had sexual intercourse[1]. This decline occurred primarily among young men[2-3]. Research conducted by the NCHS revealed that the levels for young women remained stable[2-3]. These trends are departures from trends since the early 1970s, which had been toward increasing percents of sexually experienced teens.

**Young Women's First Intercourse.** NCHS and other researchers have found that many teenage girls are ambivalent about their first intercourse. More complete knowledge about adolescents' feelings about their first intercourse may help understand its timing, and clarify relationships between sexual initiation, contraceptive use, and teenage pregnancy. [4] Among women who had their first intercourse at age 13 or younger, 24 percent report the experience to have been non-voluntary, compared with 10 percent of those who were between 19-24 at first premarital intercourse. Yet, women's experiences are not simply voluntary or non-voluntary. Women were asked to rate, on a scale of 1-10; how much they wanted their first intercourse to occur. About one-quarter of respondents who reported their first intercourse as voluntary also rated it as more unwanted than wanted. Women whose first partner was seven or more years older than themselves were more than twice as likely as those whose first partner was the same age or younger to rate it more unwanted than wanted (36 percent vs. 17 percent). These same women were also less likely than other women to have used contraceptives at first intercourse.

**Contraceptive Use.** Research supported by NCHS indicates that the principal trend in contraceptive method choice in 1988-1995 was an increase in condom use, especially among black, Hispanic, or unmarried women under the age of 25. The increase in condom use at first intercourse, which dramatically increased in the 1980s and 1990s, was accompanied by a decrease in use of other methods that do not prevent HIV and STDs.[5]

Twenty-four percent of all black teens using contraception were using injectable or implant contraception, methods which are very effective against pregnancy.[5] The use of injectable and implant contraception may help to explain the decline in the second and higher order birth rates for teen mothers - teens who already had a child. This adoption of injectable and implant contraception and the increase in condom use at first intercourse and afterward may have been important factors in the sharp decline in black teen birth rates.[3,6] For white teens, declines in current sexual activity as well as the increases in condom use may be significant factors in declines in birth rates [2-5]. For further information, please see Appendix I.

**Unintended Pregnancies.** Research conducted by the NCHS indicates that a large proportion of recent pregnancies to women of all ages in the United States -- over 50 percent -- are unintended even though contraceptives are widely available and widely used.[7] Unintended pregnancies that were wanted, but came too soon, or that were not wanted at all, are associated with a woman's attitudes about her pregnancy at the time it was conceived.

The National Survey of Family Growth (NSFG) (see Appendix IV), which has long been the principal national source of information on intended and unintended pregnancy in the United States, traditionally classifies women's pregnancies as intended, mistimed, or unwanted. To

study whether young women were having inconsistent feelings about pregnancy, researchers developed a set of scales to measure these feelings.[8] The scales were used to show a woman's positive, negative, or conflicting (ambivalent) feelings about her pregnancy and were compared with the traditional measures of unintended pregnancies. Though she may not have actively wanted to get pregnant at the time she did, the young woman may have felt some attraction to what being pregnant would add to her life, for example, looking forward to the new experiences that having a baby would bring. These results affirm the impressions of many service providers that the strength of the motivation to prevent pregnancy, or ambivalence about preventing it, is a prime determinant of both the likelihood of getting pregnant and how effectively contraceptives are used among young and teenaged unmarried women. By measuring ambivalent feelings, service providers may be able to better address teen's feelings and concerns about pregnancy and contraception.

Many unintended pregnancies are pregnancies toward which the mother's attitude was not entirely negative -- as measured in a new series of questions asked of teens and young women under age 25 in the 1995 wave of the NSFG[9]. In 1995, as in 1988 and 1982, teenaged women had high levels of unintended pregnancy (about 78 percent of recent pregnancies in 1994)[10]. Teens 15-19 years of age were also more likely to have lower values on a "happiness to be pregnant" scale, which suggests that they had stronger negative or ambivalent feelings about their pregnancies than young women ages 20-24. Overall, the greatest amount of ambivalence was shown by teen women 15-19 years old.

**Adolescent Decision Making.** The Office of the Assistant Secretary for Planning and Evaluation (ASPE) funded a workshop in January, 1998 which was convened by the Board on Children, Youth, and Families (a joint activity of the National Research Council and the Institute of Medicine) to explore the role that decision making plays in adolescents' involvement in high-risk behaviors.

The changes associated with adolescence, including physical, cognitive, social, and emotional growth, impact decision making. Cognitive changes create an increased capacity for more complex and abstract reasoning. Social cognition—the way one thinks about one's social world, the people with whom one interacts, and the groups in which one participates—may change from adolescence to adulthood. External factors, such as the media—television, radio, movies, music videos—may influence decision making by helping to set both positive and negative social norms.

Research examined at this workshop can assist those involved in the development of programs designed to prevent health risk behaviors. Research on drug use prevention programs, for example, has found that promising programs: (1) are long term, (2) are designed to counter social influences, (3) begin in elementary or middle school, and (4) are supplemented by booster sessions throughout the high school years. Programs may not explicitly use a decision-making model, yet may incorporate decision-making skills such as providing information that teenagers need for effective decision making in a clear and personalized way; encouraging teenagers to take responsibility for their actions and to analyze their options; and showing adolescents how to discuss decisions in a group setting. The report is available on the web at http://aspe.hhs.gov.

**Male Involvement.** Research on male involvement is another important piece of the Department's research focus on teen pregnancy. Examples of programs in this area are highlighted in the section "Supporting Promising Approaches." Including males in the

examination of teen pregnancy means investigating how men feel about their sexuality and sexual relationships, attitudes of males regarding what it means to be a man, and attitudes towards and use of contraceptives. Further, male involvement can incorporate issues not directly involving sexuality such as family relationships and parenting, career and educational goals and opportunities among a host of other issues that directly affect young men in the United States.

One area of research in this area is the expansion of the NSFG (see Appendix IV for details on the current NSFG). The 6th cycle of the NSFG, due to be conducted in 2001 will include, for the first time, a national sample of men 15-49 years of age. It is anticipated that the expanded survey will be done every 3-4 years instead of every 6-7 years to more accurately monitor trends. Future improvements under consideration are to include populations of men who are often excluded from national surveys: the military and prisoners. These improved data can be expected to yield reliable national estimates of male sexual behavior and contraceptive use, attitudes toward marriage, cohabitation and fatherhood, extent to which births are wanted by males, and father-child contact and the father's role in raising his children. Further, these data are expected to allow for examinations of similarities and differences in attitudes and behaviors between men and women and subgroups of men and women.

**Attitudes Towards Sexual Activity.** Small research projects funded at the NIH are addressing adolescents' attitudes toward sexuality. Data collected under the AddHEALTH project (see Appendix IV) are demonstrating, among other things, that a young person's public profession of an intention to remain virgin does have a strong effect upon that person's abstaining from sex for the next year, even when controlling for other influences such as family structure, religiosity, and school success. Other researchers are able to examine how the strength of young people's sense of connection to school and family protect against initiating health risk behaviors, including early and unprotected sex.

***Evaluation–Assessing Promising Approaches***

The Department continues to be committed to learning what approaches have an effect on teen pregnancy and its related antecedents so that better interventions can be effectively designed. HHS continues to support ongoing evaluations and seeks to incorporate evaluation in HHS funded demonstration projects and programs. To expand knowledge in this area, the Department supports a number of efforts.

**Abstinence-Only Education Programs–National Evaluation.** The Department, through the Office of the Assistant Secretary for Planning and Evaluation (ASPE), is responsible for conducting an evaluation of the state abstinence-only education grants described in the Promising Approaches section of this report. The Balanced Budget Act of 1997 set aside funding to evaluate a select number of sites receiving funding from this program. In August, 1998, a contract was awarded for a three-year multi-site effort to improve knowledge about programs aimed at preventing teen sexual activity and its negative consequences. The process of site selection is well underway and is expected to be completed by the summer of 1999. Data collection will begin in the fall of 1999. The evaluation will focus on approximately six sites: five sites will involve random assignment experiments of particular programs and one site will involve a rigorous evaluation of a comprehensive community approach to abstinence-only education. Outcomes of interest will include--but will not be limited to--the four performance measures identified in the Department's program guidance. These four measures are:

The rate of pregnancy to teenagers aged 15 to 17

The proportion of adolescents aged 17 years and younger who engage in sexual intercourse

The incidence of sexually transmitted diseases among youths aged 15-19

The rate of births to teenagers aged 15-17

**Teenage Pregnancy Prevention Program Evaluation.** Much remains to be learned about what works to prevent teen pregnancy. Before large scale pregnancy prevention initiatives can be implemented, current knowledge about pregnancy prevention programs needs to be expanded to delineate which strategies are the most promising, which aspects of which programs demonstrate the strongest impact, and which programs are successful in affecting behavior across various communities and population characteristics, such as ethnicity and socio-economic status. To contribute to the expansion of this knowledge base, ASPE provided grants to enhance three existing evaluations of teen pregnancy prevention interventions that were rigorous in design and already had funding. The following are brief descriptions of these three evaluations.

California Adolescent Sibling Pregnancy Prevention Program (UCSD)

Researchers from the University of California, San Diego are evaluating the California Adolescent Sibling Pregnancy Prevention Program (CASSP) which targets the siblings of pregnant and parenting teens. The evaluation is providing important information about a significant subpopulation of girls who have been shown to be at elevated risk for teen pregnancy. There are two goals to the enhanced evaluation: (1) to analyze the differential impact of specific services and (2) to analyze community level factors that may be contributing to the risk of pregnancy for this population. The research around these two questions should add meaningfully to the knowledge base about solid teen pregnancy prevention practices. Basic knowledge about the high risk of the siblings of pregnant and parenting teens was funded under an earlier NIH grant.

Inwood House

Inwood House is a well-established agency in New York City that has long-established pregnancy prevention programs as well as an array of services for pregnant and parenting adolescents in middle through senior high school. The research team is currently comparing three differing levels of intervention (and no intervention) with respect to outcomes for students transitioning into high school. One of the interventions is an abstinence plus program funded by the AFL program.

The researchers are using ASPE funds to improve the quality of the abstinence program's comparison group while establishing comparison groups for the other two levels of intervention.

This enhanced study will provide an important comparison of interventions provided by the same agency, and undergirded by the same philosophical approach toward working with adolescents. The interventions differ in their emphasis on abstinence and in the breadth and intensity of services they provide.

Institute for Health Policy Studies (UCSF)

The Center for Reproductive Health Policy Research, at the Institute for Health Policy Studies (UCSF), is conducting a large scale evaluation of the California Community Challenge Grant Program. This program funds 112 sites in the state to provide services to pregnant and parenting teens and teen pregnancy prevention programs. Each site has implemented its own program and is given a choice of a variety of modules to complete process, outcome or impact evaluations. This has allowed the Center to provide an alternative to the "one size fits all" evaluation approach which would be less appropriate for these community-driven programs. The enhancement of the evaluation is developing comparison groups for these communities.

**Community Coalition Partnerships Program.** CDC's 13 community demonstration projects, described previously, are conducting site-specific evaluations, and participating in cross-site evaluations. These evaluations include process and progress evaluation, and additionally, in six of the communities, enhanced evaluations of the impact of the program, or of specific program components.

Process and Progress Indicators. Each of the demonstration sites is engaged in efforts to monitor its process and progress. In partnership with CDC and the Academy for Educational Development, the demonstration sites have collectively defined *Cross Site Process Indicators for Adolescent Pregnancy Prevention* in the following areas: (1) needs and assets assessment; (2) health outcomes; (3) defining the program; (4) project administration; (5) positioning for financial sustainability. The analysis of the cross-site indicators over the life of the project will enhance the communities' capacity to evaluate and strengthen their programs. Furthermore, the documentation of these aspects of program development may also benefit other communities seeking to address teen pregnancy.

Enhanced Evaluation Activities. Six of the 13 communities receive supplemental funding to support evaluations of the impact and outcome the demonstration projects have had in their communities. The studies underway include the following:

Longitudinal study measuring the timing and frequency with which youth use the activities and services supported by the coalitions.

An examination of changes in birth and STD rates in school populations based on whether the schools are in an intervention or comparison area.

Annual surveys of adult knowledge, attitudes and behaviors with regards to youth development activities and issues in the intervention and comparison communities.

Longitudinal study of parents and their children who participate in parent-child communication programs to assess changes in communication and connectedness.

Survey of households in intervention and comparison communities assessing community and neighborhood resources, family and youth assets, and adolescent risk behaviors to assess changes in inter-organizational relationships among key community agencies in intervention and comparison communities.

**Girl Neighborhood Power! (GNP) Evaluation.** The GNP initiative, described earlier in this report, has also stressed the importance of evaluation. Each project is responsible for developing and implementing its own evaluation for determining how successfully it has achieved its goals and objectives. In addition, the sites have together developed and agreed on the use of a common form to document and monitor project activities. Supplemental funding is being provided by the Office on Women's Health so that community partners will be able to use a common set of variables to explore how they influenced participating girls and their families, to measure the degree of community investment in programming for girls, and to explore how their projects' activities have affected participating neighborhoods.

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# APPENDIX II
# Measuring the Proportion of Communities with Teen Pregnancy Prevention Programs

Recent declines in the teen birth rate, and indications of further declines in the teen pregnancy rate, suggest that the numerous public- and private-sector efforts across the country to prevent teen pregnancy are having a positive impact. Measuring all factors that help adolescents postpone premature sexual activity and avoid pregnancy is difficult, however, since individual, family, and community characteristics are all influential. Nevertheless, measuring the proportion of communities that have at least one teen pregnancy prevention program in place (estimated by dividing the number of such communities by the number of communities in the United States) provides a rough sense of how many communities are responding to this problem with specific, targeted prevention efforts. In 1997, at least 31 percent of communities had HHS-supported teen pregnancy prevention and related programs.

To develop a sound, albeit conservative, estimate of this proportion, the estimate includes only those programs supported by HHS. HHS-supported programs which include teen pregnancy prevention services as a component are diverse, ranging from comprehensive health and social services to substance abuse treatment and HIV prevention education. In this report, the number of teen pregnancy prevention programs funded by HHS includes those programs funded in the year FY 1998 (including the latest year for which complete information on grants awarded is available).

To determine the number of communities with at least one program, the location of each program was identified based on the site of the services provided and/or the location of the grant recipient. A community with more than one program was counted only once. The estimate excludes HHS funding provided directly to states (e.g., Medicaid, Maternal and Child Health Block Grant) which states may use to fund activities in multiple communities. Since there is no single standard definition for community in the United States, the estimate uses a definition of community based on areas identified by the Commerce Department's Bureau of the Census. This definition includes all incorporated places with a population of 10,000 individuals or more (2,673) and all counties where, excluding these incorporated places, the remaining population reaches 10,000 or more (2,079), for a total of 4,752 communities. Under this definition, for example, Montgomery County, Maryland would consist of four communities, including three incorporated places of 10,000 or more inhabitants (Gaithersburg, Rockville, and Takoma Park) and one community representing the balance of the county's population, which exceeds 10,000.

Using these calculations, the resulting estimate of the proportion of communities in the United States with HHS-supported teen pregnancy prevention and related programs is at least XXX percent for FY 1998. This proportion represents about XXX communities across the country.

# APPENDIX III
# HHS Activities

The Department of Health and Human Services supports a variety of efforts to help communities develop comprehensive teen pregnancy prevention strategies that reflect five principles: parental and adult involvement, abstinence and personal responsibility, clear strategies for the future, community involvement, and a sustained commitment.

### *HHS Programs*

**State Children's Health Insurance Program (CHIP)** was established by the Balanced Budget Act of 1997 under Title XXI of the Social Security Act. This program, administered by the Health Care Financing Administration (HCFA) and Health Resources and Services Administration (HRSA), enables states to provide health insurance coverage to uninsured targeted low-income children. States have the opportunity to involve communities as they design and implement their CHIP programs so that the new programs, including teen pregnancy prevention programs, may be an additional avenue to provide services to adolescents at risk. As of April 1999, 53 states, territories, and the District of Columbia have submitted CHIP plans, of which 51 have been approved. The submitted plans include 27 Medicaid expansions, 14 separate State Child Health plans, and 12 combination plans.

**The Abstinence Only Education Program** was part of the Personal Responsibility and Work Opportunity Act of 1996 to enable states to provide abstinence education through activities such as mentoring, counseling, and adult supervision designed to promote abstinence from sexual activity until marriage. The program, administered by the Health Resources and Services Administration (HRSA), has a mandatory appropriation of $50 million for each Fiscal Year from 1998 through 2002.

**The Girl Neighborhood Power! - Building Bright Futures for Success** is challenging America's communities to become active partners in assisting 9- to 14-year-old girls to successfully navigate adolescence and achieve maximum potential. The initiative, administered by HRSA, strives to combine several elements including strong "no use" messages about tobacco alcohol, and illicit drugs with an emphasis on physical activity, nutrition, abstinence, mental health, social development, and future careers.

**The Center for Disease Control's Community Coalition Partnership Program for the Prevention of Teen Pregnancy** has supported demonstration grants for the prevention of teen pregnancies in 13 communities in 11 states since 1995. Coalitions of local and public and private agencies and organizations in communities with high rates of teen pregnancy have been working over the last two years to develop community action plans, coordinate efforts to reduce teen pregnancy, identify gaps in current programs and services, target existing resources, and design evaluation plans. CDC awarded approximately $250,000 per year for two years to 13 communities in 11 states to help these communities mobilize and organize their resources to support effective and sustainable teen pregnancy prevention programs. For FY 1998, a total of $13.7 million was made available to help the 13 community

coalition partnerships implement their action plans and evaluate their impact, as well as to support related data collection, evaluation, and dissemination activities.

**Reproductive Health and Family Planning Services** (under Title X of the Public Health Service Act) are provided to nearly 5 million persons each year, nearly one third of whom are under 20 years of age. Abstinence counseling and education are an important part of the Title X service protocol for adolescent clients. These services are provided by 84 grantees with more than 4,000 clinic locations. These sites offer reproductive health services including pregnancy prevention, family planning, and diagnosis of sexually transmitted diseases, either on site or by referral. The program has also launched an adolescent male initiative called the "Young Men/Family Planning Partnership Training Program." Under this initiative, Title X clinics employ male high school students as interns while also providing training in clinic operation and peer education; assisting in identifying career paths in allied health and related occupations; and increasing their use of services in a family planning setting.

**Healthy Schools, Healthy Communities,** a Health Resources and Services Administration program created in 1994, has established school-based health centers in 26 communities in 20 states to serve the health and education needs of children and youth at high risk for poor health, teenage pregnancy, and other problems. For the first three years of the program, $1 million each year was provided to fund health education and promotion programs that were coordinated with the health services grants.

**The Social Services Block Grant (SSBG)** (under Title XX of the Social Security Act) provides funding to prevent, reduce, or eliminate dependency; achieve or maintain self-sufficiency; prevent neglect, abuse, or exploitation of children and adults; prevent or reduce inappropriate institutional care; and provide admission or referral for institutional care when other forms of care are inappropriate. SSBG Grants are made directly to the 50 states, the District of Columbia, Puerto Rico, Guam, the Virgin Islands, American Samoa, and the Commonwealth of the Northern Mariana Islands to fund social services tailored to meet the needs of individuals and families residing within each jurisdiction.

**The Community Services Block Grant,** which operates in all 50 states, the District of Columbia, and the territories, enables local community agencies to provide low-income populations, including youth at risk, with job counseling, summer youth employment, GED instruction, crisis hotlines, information and referral to health care, and other services.

**The Independent Living Program**, run by the Administration for Children and Families, provides funds to states to support activities ranging from educational programs to programs that help young people who are making the transition from foster care to independent living to avoid early parenthood. This program supports activities in all 50 states and the District of Columbia.

**Youth Programs** including Runaway and Homeless Youth Programs, Transitional Living Programs, and the Youth Sports Program, address a wide range of risk factors for teen pregnancy. Together, these programs operate in 500 communities in 50 states and the District of Columbia.

**Healthy Start**, administered by HRSA, has 62 projects to reduce infant mortality in the highest-risk areas and to improve the health and well-being of women, infants, and their families. Among a broad array of services provided (including state prenatal hotlines), thousands of teenagers participate in prevention programs exclusively designed for adolescents. The programs encourage healthy lifestyles, youth empowerment, sexual responsibility, conflict resolution, goal setting, and the enhancement of self-esteem.

**Maternal and Child Health Services Block Grant** (Title V) funds support a variety of adolescent health programs in 57 states and jurisdictions, including adolescent pregnancy prevention programs, state adolescent health coordinators, family planning, technical assistance, and other prevention services.

**The Adolescent Family Life Program (AFL)**, created in 1981, supports research into the causes and consequences of adolescent pregnancy; demonstration projects that provide health, education, and social services to pregnant and parenting adolescents, their children, male partners, and families; and programs aimed at promoting abstinence among pre-adolescents and adolescents as the most effective way of preventing adolescent pregnancies, sexually transmitted diseases, and HIV/AIDS. In FY 1997, the AFL program funded 83 projects in 37 states and the District of Columbia. AFL is administered by the Office of Population Affairs.

**Empowerment Zones and Enterprise Communities** in 105 rural and urban areas in 43 states and the District of Columbia have been awarded grants to stimulate economic and human development and to coordinate and expand support services. As they implement their strategic plans, some sites are including a focus on teenage pregnancy prevention and youth development.

**Health Education in Schools** supports the efforts of every state and territorial education agency to implement local school health programs to prevent the spread of HIV and sexually transmitted diseases (STDs). Assistance is also provided to 13 states to build an infrastructure for school health programs. Efforts are targeted at preventing early sexual activity, STDs, HIV, drug and alcohol abuse, tobacco use, and injuries.

**Community and Migrant Health Centers**, including family and neighborhood health centers, operate in 3,032 community-based sites through 685 center grantees in all 50 states, the District of Columbia, and six territories. The centers provide primary and specialized health and related services to medically-underserved adolescents. Some centers include special hours or clinics for adolescent patients.

**Indian Health Service (IHS)** provides a full range of medical services for American Indians and Alaska Natives. IHS supports projects targeted at preventing teenage pregnancy, and its prevention and treatment programs also have a special emphasis on youth substance abuse, child abuse, and women's health care.

**Drug Treatment and Prevention Programs** include services to prevent first time and repeat pregnancies among teenagers. One hundred twenty-two residential substance abuse treatment programs for pregnant and postpartum women, as well as for women with dependent children, receive support to provide family planning, education, and counseling services in 39 states, the District of Columbia, and the Virgin Islands. Also, 25 programs to prevent substance use and other adverse life outcomes serve high-risk female teens in 13 states and the District of Columbia.

**Health Care and Promotion** under Medicaid provides Medicaid-eligible adolescents under age 21 with access to a comprehensive range of preventive, primary, and specialty services within its Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program.

**The Medicaid program** also funds family planning services at an enhanced match rate for states. The federal government pays 90 percent of state expenditures for Medicaid family planning services, while the state funds the remaining 10 percent. The enhanced match encourages states to fund family planning programs which include patient counseling and education concerning pregnancy prevention and reproductive health.

# APPENDIX IV
# HHS Funded Data Sets

**NSFG–National Survey of Family Growth.** The National Survey of Family Growth (NSFG), conducted by the National Center for Health Statistics (NCHS), is based on personal interviews with a national sample of women 15-44 years of age in the United States. Its main function is to collect data on factors affecting pregnancy and child bearing. Please see http://www.cdc.gov/nchswww/about/major/nsfg/nsfg.htm for more information.

**NSAM–National Survey of Adolescent Males.** The National Survey of Adolescent Males (NSAM), conducted by the Urban Institute and supported by the National Institute of Child Health and Human Development (NICHD), provides data exclusively on teenage males ages 15-19, specifically their contraceptive and sexual behavior. This data set complements the data on teenage females which is available from the NSFG. Please see http://silk.nih.gov/silk/DBSB/nsam.htm for more information.

**Add Health–National Longitudinal Study of Adolescent Health.** The National Longitudinal Study of Adolescent Health (Add Health), conducted by the Carolina Population Center, University of North Carolina and supported by the NICHD and seventeen other federal agencies, is a school based study of adolescents in grades 7 to12 which provides information on physical, mental, and emotional health status, and health behaviors, including sexual behavior and contraceptive use. It provides the first comprehensive view of the health and health behaviors of adolescents and the antecedents–personal, interpersonal, familial, and environmental–of these outcomes. This study will follow-up with these young people in to their late teens and early 20s. Please see http://www.cpc.unc.edu/addhealth/ for more information.

**YRBSS–Youth Risk Behavior Surveillance System.** The Youth Risk Behavior Surveillance System (YRBSS), established by the Centers for Disease Control and Prevention (CDC), monitors the prevalence of youth behaviors that most influence health. This national school-based survey focuses on priority health-risk behaviors established during youth that result in the most significant mortality, morbidity, disability, and social problems during both youth and adulthood. Please see http://www.cdc.gov/nccdphp/dash/yrbs/ov.htm for more information.

**NLSY–National Longitudinal Survey of Youth.** The NLSY, supported by the NICHD and the Bureau of Labor Statistics, is a national sample of approximately 12,000 men and women who were aged 14-21 in 1979. The sample is oversampled for the black and Hispanic population. Data have been collected annually through 1994 and every other year beginning in 1996 on topics which include employment, fertility, marriage, divorce, child care, and infant health. In 1986, and biannually since then, data were collected from and about the children of the female respondents. Please see http://stats.bls.gov/nlshome.htm for more information.

**NVSS– National Vital Statistics System.** The National Vital Statistics System (NVSS), operated by the National Center for Health Statistics (NCHS), CDC, is based on the collection of individual record data for every birth registered in the United States. Data are collected by each State and transmitted to NCHS through the Vital Statistics Cooperative Program (VSCP). Under this program, NCHS partially supports State costs of producing vital statistics through a contract with each State. Please see http://www.cdc.gov/nchswww/about/major/natality/natality.htm. for more information.

fed teen pregnancy

# HHS NEWS

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## NEW GUIDE TO HELP LOCAL COMMUNITIES ESTABLISH TEEN PREGNANCY PREVENTION PROGRAMS

HHS Secretary Donna E. Shalala released a new guide today to help communities and non-profit organizations establish successful local teen pregnancy prevention programs. The comprehensive guide, developed by the National Campaign to Prevent Teen Pregnancy, will be distributed nationwide for local health organizations' use.

Titled *Get Organized: A Guide to Preventing Teen Pregnancy*, the publication stresses a localized approach, a long-term commitment, and careful evaluation. It also provides novel approaches for addressing teen pregnancy, including ways to involve faith leaders and the business community, suggestions on how to target young men in prevention efforts, and mechanisms for channeling community views on pregnancy prevention into effective, localized strategies for addressing the overall issue.

"We've seen a continued decline in teen pregnancy and teen birth rates in the last several years, which has been very encouraging," Secretary Shalala said. "But we can't afford to stop our efforts now—too many teenagers are still jeopardizing their futures. By making this guide available to local communities, we hope to strengthen existing teen pregnancy prevention programs—and build others—that will coach girls and boys with common sense guidance, positive alternatives and the emotional support it takes to stand up to peer pressure."

According to a new report released today by the National Center for Health Statistics (NCHS), the teen birth rate is at its lowest level since 1987. After years of rising rates, teen births began to decline in 1991, continuing to decline every year and falling another 2 percent in 1998. Declines have been particularly marked in younger teens, with the birth rate for teenagers 15-17 years dropping 5 percent for 1998 to a record low of 30.4 per 1,000.

Despite this decline, however, four out of 10 American girls get pregnant at least once before they turn 20, leading to more than 900,000 teen pregnancies a year. Today's guide is a three-volume publication that includes strategies for collecting basic data, reaching out to religious leaders, raising money and conducting program evaluation.

"The National Campaign to Prevent Teen Pregnancy was created in response to the President and Vice President's challenge to parents and leaders all across our country," Secretary Shalala said. "The message was clear: winning the fight against teen pregnancy isn't the sole responsibility of parents, religion, school or the government. Winning this crusade is everyone's job--and the only way we'll win is if all of us join together."

- More -

The NCHS report also contains state-by-state data for 1991-1997. That data show that teen birth rates have declined in every state and the declines have exceeded 20 percent in ten states and the District of Columbia.

Founded in 1996, the National Campaign to Prevent Teen Pregnancy is a nonprofit, non-partisan initiative supported almost entirely by private donations. The campaign's mission is to prevent teen pregnancy by supporting values and stimulating actions that are consistent with a pregnancy-free adolescence. The campaign's goal is to reduce the teen pregnancy rate by one-third between 1996 and 2005.

Copies of today's report can be viewed or downloaded on the NCHS Home Page at: *http://www.cdc.gov/nchs.*

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Note: For other HHS Press Releases and Fact Sheets pertaining to the subject of this announcement, please visit our Press Release and Fact Sheet search engine at: *http://www.dhhs.gov/news/press/.*

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# Declines in Teenage Birth Rates, 1991–98: Update of National and State Trends

by Stephanie J. Ventura, M.A., T. J. Mathews, M.S., and Sally C. Curtin, M.A., Division of Vital Statistic

## Abstract

*Objectives*—This report presents national birth rates for teenagers for 1991–98; the percent change, 1991–98; State-specific teenage birth rates for 1991 and 1997; and the percent change, 1991–97.

*Methods*—Tabular and graphical descriptions of the trends in teenage birth rates by age group, race, and Hispanic origin of the mother are discussed.

*Results*—Birth rates for teenagers 15–19 years declined nationally between 1991 and 1998 for all age, race, and Hispanic origin populations, with the steepest declines recorded for black women. State-specific rates by age fell in all States, with most declines statistically significant; overall declines ranged from 9 to 32 percent.

**Keywords:** teenage fertility • State-specific birth rates • fertility trends • teenage pregnancy

## Teenage birth rate down 18 percent since 1991, close to record low

The birth rate (preliminary) for U.S. teenagers in 1998 was 51.1 live births per 1,000 women aged 15–19 years, 2 percent lower than the rate in 1997, and 18 percent lower than in 1991 (table 1 and figure 1) (1). The 1998 rate (preliminary) is close to the 1986 record low of 50.2 (2). The U.S. teen birth rate rose 24 percent from 1986 to 1991, when it reached 62.1, the highest level recorded in 20 years (64.5 in 1971). The previous peak period for teen birth rates was the late 1950's; the birth rate was highest in 1957, at 96.3 births per 1,000 (2).

The total of 484,975 births (preliminary number) to women aged 15–19 years in 1998 was slightly higher than the number in 1997 (483,220), but still 7 percent lower than the recent high in 1990 of 521,826. The small 1997–98 increase in the number reflects the 3-percent increase in the number of teenage females in the population between 1997 and 1998 (3).

Details of trends and variations in teenage childbearing in the 1990's, including some discussion of the health consequences and the demographic and behavioral changes accounting for the recent trends, have been published in a recent report (2). This report updates the findings through 1998 for national data and through 1997 for State statistics.

## Most teenage births are to unmarried women

The proportion of births to teenagers that were to unmarried teens continued to increase in 1998, according to preliminary data. The proportion unmarried rose to 78.8 percent for all teenage births, up from 78.2 percent in 1997. For teenagers 15–17 years, the percent increased from 86.7 to 87.4 percent, while for older teens, it rose from 72.5 to 73.5 percent (table A).

The total number of births to teenagers 16–17 years and the number of births to unmarried teenagers 15–17 years declined from 1997 to 1998. However, the total number declined even more than the number of nonmarital births. As a result the percent unmarried for teenagers 15–17 years continued to increase.

Although the proportion of teenage births that are nonmarital continues to rise, it is still the case that most births to unmarried women are not to teenagers. In 1998, 70 percent were to women aged 20 and older.

## Teenage birth and pregnancy rates fall

When data on live births are combined with information for induced abortions and fetal losses, pregnancy rates can be computed.

**Acknowledgments**

This report was prepared in the Reproductive Statistics Branch (RSB) of the Division of Vital Statistics (DVS). Melissa Park of RSB provided table review. The report was edited by Patricia Keaton-Williams, typeset by Jacqueline M. Davis, and graphics produced by John Chang of the Publications Branch, Division of Data Services.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

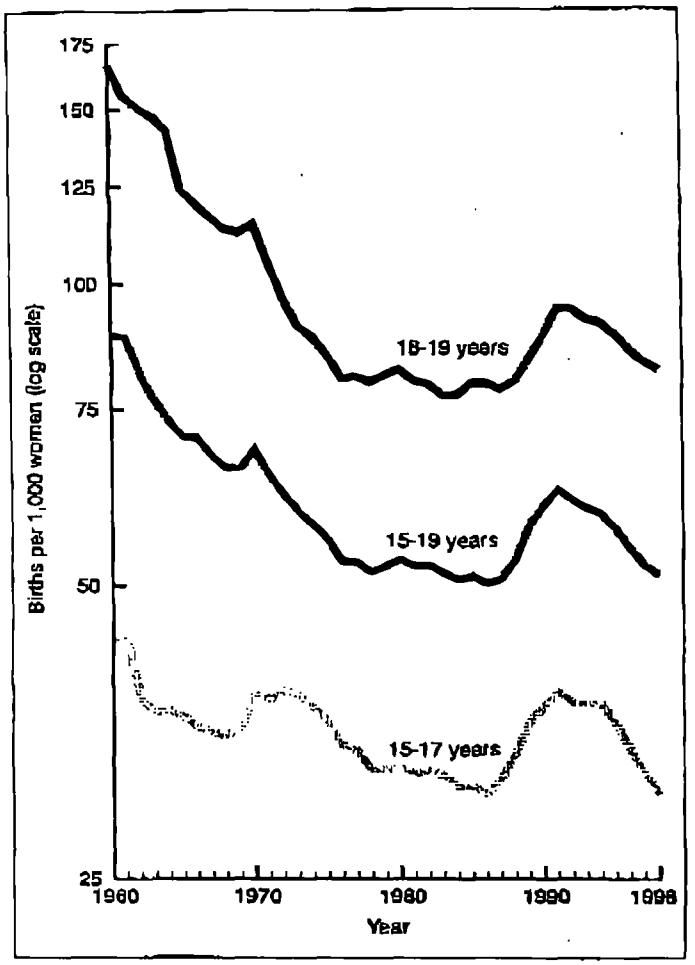


**Figure 1. Birth rates for teenagers by age: United States, 1960–98**

Because information on the latter two outcomes is not as current as information on live births, the most recent year for which teenage pregnancy rates can be computed is 1996. The estimated teen pregnancy rate in 1996 was 98.7 per 1,000 women aged 15–19, down 15 percent from its high point of 116.5 in 1991 (4). A consistent series of pregnancy rates for teenagers have been available since 1976; the 1996 rate is lower than the rate of any year since 1976.

**Table A. Number of total births and percent of births to unmarried women, all ages and women under 20 years: United States, final 1997 and preliminary 1998**

| Age of mother | Total births | | Births to unmarried women | | Percent unmarried | |
|---|---|---|---|---|---|---|
| | 1998 | 1997 | 1998 | 1997 | 1998 | 1997 |
| All ages | 3,944,046 | 3,880,894 | 1,292,534 | 1,257,444 | 32.8 | 32.4 |
| Under 20 years | 494,456 | 493,341 | 389,721 | 385,802 | 78.8 | 78.2 |
| Under 15 years | 9,481 | 10,121 | 8,762 | 9,595 | 92.5 | 93.7 |
| 15–19 years | 484,975 | 483,220 | 380,959 | 376,117 | 78.5 | 77.8 |
| 15–17 years | 173,252 | 180,154 | 151,445 | 156,253 | 87.4 | 86.7 |
| 18–19 years | 311,724 | 303,066 | 229,124 | 219,864 | 73.5 | 72.5 |

## Birth rates decline for teenagers in all age groups

The birth rate for the youngest teenagers, 10–14 years, fell to 1.0 per 1,000, its lowest level since 1969 (also 1.0) (table 1). Moreover, the number of births to teenagers in this age group fell, to 9,481 in 1998, down 6 percent from 1997 and down 27 percent from its recent high in 1994 (12,901 births).

The birth rate for teenagers 15–17 years declined 5 percent from 1997 to 1998, to 30.4 per 1,000, a record low for this age group. The rate has fallen 21 percent since 1991; this decline essentially reverses the 27-percent increase in the rate from 1986 (30.5) to 1991 (38.7). The number of births in this age group dropped to 173,252, the lowest number since 1987 (2).

The birth rate for teenagers 18–19 years declined 2 percent in 1998, to 82.0. This rate has dropped 13 percent since its 1992 high of 94.4. The number of births in this age group increased 3 percent, reflecting the 5-percent increase in the number of teenage females 18–19 years (3).

## Birth rates fall most steeply for black teenagers

Birth rates have dropped sharply for black teenagers since 1991, declining overall by 26 percent, from 115.5 in 1991 to 85.3 per 1,000 aged 15–19 (table 1, figure 2), lower than in any year since 1960, when data for black women first became available (2). The rate for Hispanic women has declined steadily since 1994 (107.7) and was 93.7 in 1998, dropping 13 percent in 4 years. Despite these declines, birth rates for black and Hispanic teenagers continue to be higher than those for other groups; the rates for Hispanic teens have been higher than the rates for black teens since 1994. Asian or Pacific Islander teenagers have the lowest rate (23.1 in 1998).

Birth rates have declined as well for non-Hispanic white (35.2 per 1,000 in 1998), American Indian (71.8), and Asian or Pacific Islander teenagers (23.1), with declines ranging from 16 to 19 percent since 1991 (table 1).

## Teenage birth rates vary greatly by State

Birth rates vary substantially by State. In 1997 the most recent year for which State-specific rates can be computed, the rates per 1,000 women aged 15–19 years ranged from 26.9 (Vermont) to 73.7 (Mississippi) (table 2). The highest rate reported was for Guam (106.3).

As previously reported, differences in overall rates by State reflect in part the differences in the composition of the teenage populations of the States by race and Hispanic origin (2,5,6). Rates are much higher for Hispanic and black teenagers than for non-Hispanic white teenagers (table 1). This pattern is found for all States (except Louisiana) for which reliable rates could be computed for each population (table 3). Therefore, States with relatively high proportions of Hispanic and/or black teenagers would be expected to have higher overall teenage birth rates. These compositional differences should be considered when comparing teenage birth rates across States (6).

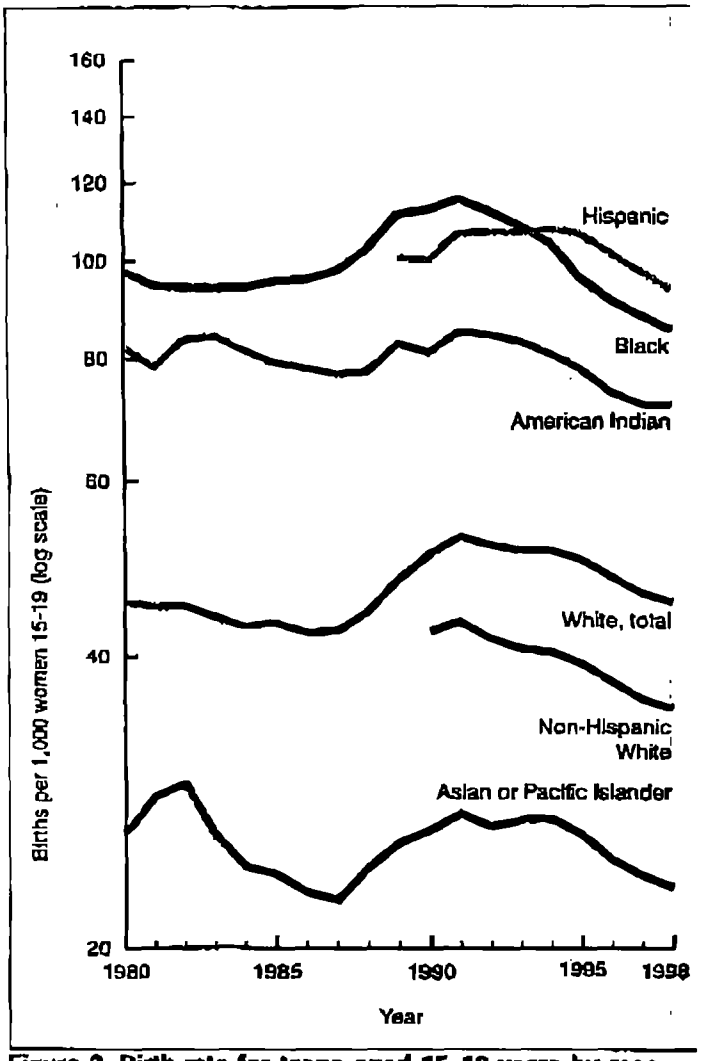


**Figure 2. Birth rate for teens aged 15–19 years by race and Hispanic origin: United States, 1980–98**

Between 1991 and 1997, birth rates for teenagers 15–19 years fell in all States and the District of Columbia and the Virgin Islands, with statistically significant reductions in all areas except Rhode Island and Guam (table 2 and figure 3). Declines exceeded 20.0 percent in 10 States and the District of Columbia.

Birth rates for teenage subgroups also vary greatly by State. Rates for teenagers 15–17 years fell significantly in all but six States, the Virgin Islands, and Guam, with declines exceeding 20.0 percent in 14 States and the District of Columbia. The rates for the District of Columbia, Maine, and Vermont declined at least 35 percent. State-specific rates for older teenagers 18–19 years also declined, with statistically significant reductions reported for all but six States, the District of Columbia, Puerto Rico, and Guam. The declines for older teenagers were generally smaller than those for younger teens; rates fell significantly by 20.0 percent or more in five States and the Virgin Islands.

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## List of detailed tables

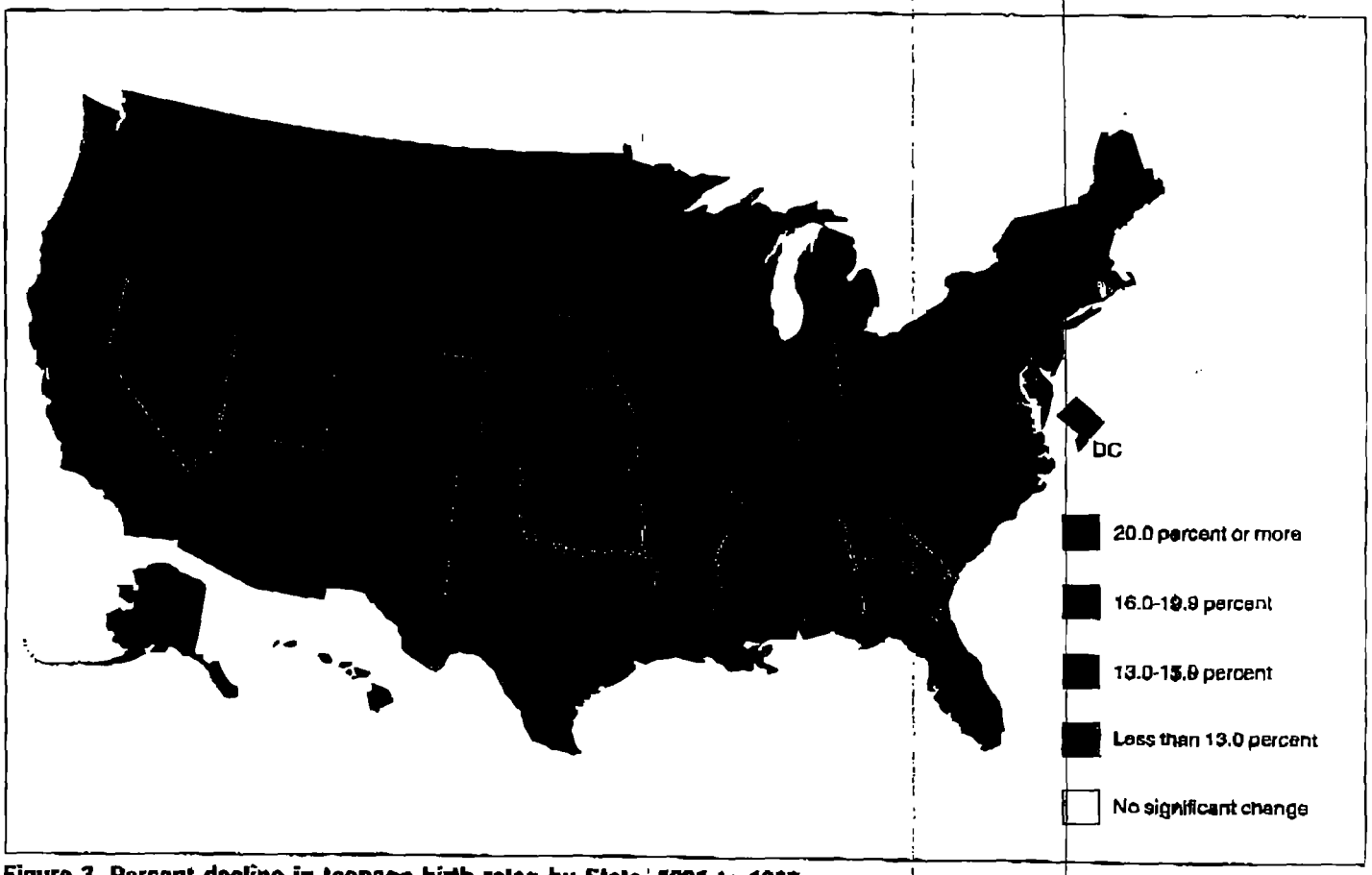


**Figure 3. Percent decline in teenage birth rates by State, 1991 to 1997**

## Table 1. Number of births to women under 20 years by age, race, and Hispanic origin of mother: United States, 1998 birth rates, 1991–98; and percent change in rates, 1991–98

[Rates per 1,000 women in specified group]

| Age, race, and Hispanic origin of mother | Number of births, 1998[1] | Birth rates | | | | | | | | Percent change in rates, 1991–98 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1998[1] | 1997 | 1996 | 1995 | 1994 | 1993 | 1992 | 1991 | |
| **10–14 years** | | | | | | | | | | |
| Total | 9,481 | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.4 | 1.4 | 1.4 | –28.6 |
| White, total | 4,821 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | –12.5 |
| Non-Hispanic white | 2,145 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | –20.0 |
| Black | 4,291 | 2.9 | 3.3 | 3.6 | 4.2 | 4.6 | 4.6 | 4.7 | 4.8 | –39.6 |
| American Indian[2] | 195 | 1.6 | 1.7 | 1.7 | 1.8 | 1.9 | 1.4 | 1.6 | 1.6 | 0.0 |
| Asian or Pacific Islander | 174 | 0.4 | 0.5 | 0.6 | 0.7 | 0.7 | 0.6 | 0.7 | 0.8 | –50.0 |
| Hispanic[3] | 2,721 | 2.1 | 2.3 | 2.6 | 2.7 | 2.7 | 2.7 | 2.6 | 2.4 | –12.5 |
| **15–19 years** | | | | | | | | | | |
| Total | 484,975 | 51.1 | 52.3 | 54.4 | 56.8 | 58.9 | 59.6 | 60.7 | 62.1 | –17.7 |
| White, total | 340,894 | 45.4 | 46.3 | 48.1 | 50.1 | 52.1 | 51.1 | 51.8 | 52.8 | –14.0 |
| Non-Hispanic white | 212,292 | 35.2 | 36.0 | 37.6 | 39.3 | 40.4 | 40.7 | 41.7 | 43.4 | –18.9 |
| Black | 126,865 | 85.3 | 88.2 | 91.4 | 96.1 | 104.5 | 108.6 | 112.4 | 115.5 | –26.1 |
| American Indian[2] | 8,174 | 71.8 | 71.8 | 73.9 | 78.0 | 80.8 | 83.1 | 84.4 | 85.0 | –15.5 |
| Asian or Pacific Islander | 9,043 | 23.1 | 23.7 | 24.6 | 26.1 | 27.1 | 27.0 | 26.6 | 27.4 | –15.7 |
| Hispanic[3] | 121,455 | 93.7 | 97.3 | 101.8 | 106.7 | 107.7 | 106.8 | 107.1 | 106.7 | –12.2 |
| **15–17 years** | | | | | | | | | | |
| Total | 173,252 | 30.4 | 32.1 | 33.8 | 36.0 | 37.6 | 37.8 | 37.8 | 38.7 | –21.4 |
| White, total | 116,699 | 25.9 | 27.1 | 28.4 | 30.0 | 30.7 | 30.3 | 30.1 | 30.7 | –15.6 |
| Non-Hispanic white | 68,657 | 18.4 | 19.4 | 20.6 | 22.0 | 22.8 | 22.7 | 22.7 | 23.6 | –22.0 |
| Black | 50,062 | 56.8 | 60.8 | 64.7 | 69.7 | 76.3 | 79.8 | 81.3 | 84.1 | –32.5 |
| American Indian[2] | 3,155 | 44.3 | 45.3 | 46.4 | 47.8 | 51.3 | 53.7 | 53.8 | 52.7 | –15.9 |
| Asian or Pacific Islander | 3,336 | 13.7 | 14.3 | 14.9 | 15.4 | 16.1 | 16.0 | 15.2 | 16.1 | –14.9 |
| Hispanic[3] | 48,265 | 62.3 | 66.3 | 69.0 | 72.9 | 74.0 | 71.7 | 71.4 | 70.6 | –11.8 |
| **18–19 years** | | | | | | | | | | |
| Total | 311,724 | 82.0 | 83.6 | 86.0 | 89.1 | 91.5 | 92.1 | 94.5 | 94.4 | –13.1 |
| White, total | 224,195 | 74.7 | 75.9 | 78.4 | 81.2 | 82.1 | 82.1 | 83.8 | 83.5 | –10.5 |
| Non-Hispanic white | 150,635 | 60.6 | 61.9 | 63.7 | 66.1 | 67.4 | 67.7 | 69.8 | 70.5 | –14.0 |
| Black | 76,803 | 126.8 | 130.1 | 132.5 | 137.1 | 148.3 | 151.9 | 157.9 | 158.6 | –20.1 |
| American Indian[2] | 5,019 | 118.0 | 117.6 | 122.3 | 130.7 | 130.3 | 130.7 | 132.6 | 134.3 | –12.1 |
| Asian or Pacific Islander | 5,707 | 36.2 | 39.3 | 40.4 | 43.4 | 44.1 | 43.3 | 43.1 | 43.1 | –11.4 |
| Hispanic[3] | 73,189 | 140.2 | 144.3 | 151.1 | 157.9 | 158.0 | 159.1 | 159.7 | 158.5 | –11.5 |

[1] Data for 1998 are preliminary.
[2] Includes births to Aleuts and Eskimos.
[3] Includes all persons of Hispanic origin of any race.

## Table 2. Birth rates for teenagers aged 15–19 years by age group and State, and percent change by age: United State and each State, 1991 to 1997

[Rates per 1,000 women in specified group]

| State | 1991 | | | 1997 | | | Percent change, 1991–97 | | |
|---|---|---|---|---|---|---|---|---|---|
| | 15–19 years | 15–17 years | 18–19 years | 15–19 years | 15–17 years | 18–19 years | 15–19 years | 15–17 years | 18–19 years |
| United States[1] | 62.1 | 38.7 | 94.4 | 52.3 | 32.1 | 89.1 | -15.8 | -17.2 | -5.6 |
| Alabama | 73.9 | 47.7 | 109.5 | 66.6 | 43.4 | 100.2 | -9.9 | -9.1 | -8.5 |
| Alaska | 65.4 | 35.3 | 111.7 | 44.6 | 25.1 | 73.6 | -31.8 | -29.0 | -34.1 |
| Arizona | 80.7 | 51.4 | 122.6 | 69.7 | 44.0 | 111.2 | -13.6 | -14.4 | -9.3 |
| Arkansas | 79.8 | 49.4 | 122.8 | 72.9 | 42.9 | 119.2 | -8.6 | -13.1 | -2.9** |
| California | 74.7 | 46.9 | 113.6 | 57.3 | 36.2 | 90.5 | -23.3 | -22.9 | -20.3 |
| Colorado | 58.2 | 35.3 | 91.4 | 48.2 | 29.9 | 77.2 | -17.2 | -15.5 | -15.5 |
| Connecticut | 40.4 | 26.3 | 59.4 | 36.1 | 22.5 | 58.1 | -10.6 | -14.5 | -2.2** |
| Delaware | 61.1 | 40.3 | 87.1 | 55.8 | 36.8 | 83.3 | -8.7 | -8.6** | -4.3** |
| District of Columbia | 114.4 | 102.8 | 125.5 | 91.0 | 65.9 | 122.4 | -20.5 | -35.9 | -2.5** |
| Florida | 68.8 | 44.0 | 102.9 | 57.7 | 35.1 | 94.2 | -16.1 | -20.2 | -8.4 |
| Georgia | 76.3 | 50.6 | 110.9 | 67.2 | 44.0 | 102.8 | -11.9 | -13.0 | -7.3 |
| Hawaii | 58.7 | 34.7 | 91.5 | 43.8 | 25.3 | 69.6 | -25.4 | -27.1 | -23.9 |
| Idaho | 53.9 | 29.3 | 90.8 | 43.3 | 23.3 | 72.5 | -19.7 | -20.6 | -20.2 |
| Illinois | 64.8 | 40.6 | 99.1 | 54.7 | 34.4 | 87.6 | -15.6 | -15.2 | -11.7 |
| Indiana | 60.5 | 35.2 | 95.2 | 54.2 | 32.1 | 87.6 | -10.4 | -8.7 | -7.9 |
| Iowa | 42.6 | 22.8 | 71.5 | 35.7 | 20.1 | 60.4 | -16.2 | -12.1 | -15.5 |
| Kansas | 55.4 | 29.4 | 94.1 | 48.5 | 27.5 | 81.7 | -12.5 | -6.4** | -13.2 |
| Kentucky | 68.9 | 42.6 | 105.5 | 59.6 | 35.4 | 95.0 | -13.5 | -17.0 | -9.9 |
| Louisiana | 76.1 | 51.1 | 111.4 | 66.3 | 42.1 | 101.4 | -12.9 | -17.6 | -9.0 |
| Maine | 43.5 | 23.8 | 70.1 | 32.0 | 15.4 | 58.3 | -26.4 | -35.0 | -16.8 |
| Maryland | 54.3 | 35.2 | 78.8 | 43.9 | 28.2 | 68.8 | -19.2 | -19.9 | -13.7 |
| Massachusetts | 37.8 | 25.2 | 52.9 | 31.7 | 19.1 | 50.8 | -16.1 | -24.3 | -4.0** |
| Michigan | 59.0 | 35.5 | 91.1 | 43.9 | 25.4 | 72.2 | -25.6 | -28.4 | -20.8 |
| Minnesota | 37.3 | 20.7 | 61.4 | 32.0 | 17.8 | 55.1 | -14.2 | -14.1 | -10.2 |
| Mississippi | 85.6 | 60.1 | 120.4 | 73.7 | 50.2 | 108.8 | -13.9 | -16.4 | -9.6 |
| Missouri | 64.5 | 38.7 | 100.7 | 51.5 | 29.6 | 86.3 | -20.2 | -23.7 | -14.2 |
| Montana | 46.7 | 23.6 | 83.0 | 37.6 | 20.1 | 65.2 | -19.5 | -14.8 | -21.4 |
| Nebraska | 42.4 | 23.6 | 69.2 | 37.2 | 21.3 | 61.6 | -12.3 | -9.8** | -10.9 |
| Nevada | 75.3 | 43.9 | 119.1 | 67.7 | 42.2 | 109.1 | -10.1 | -3.8** | -8.4 |
| New Hampshire | 33.3 | 17.1 | 53.8 | 28.6 | 14.0 | 53.0 | -14.1 | -18.2 | -1.4** |
| New Jersey | 41.6 | 26.3 | 62.9 | 35.0 | 21.3 | 56.7 | -15.9 | -19.0 | -9.9 |
| New Mexico | 79.8 | 50.0 | 124.4 | 68.4 | 44.4 | 106.3 | -14.3 | -11.2 | -14.5 |
| New York | 46.0 | 29.1 | 69.0 | 38.8 | 23.4 | 62.3 | -15.7 | -19.4 | -9.8 |
| North Carolina | 70.5 | 46.2 | 107.7 | 61.3 | 37.7 | 97.3 | -13.0 | -18.5 | -4.3 |
| North Dakota | 35.6 | 18.1 | 62.4 | 30.1 | 14.3 | 55.0 | -15.4 | -20.9 | -11.8 |
| Ohio | 60.5 | 36.2 | 93.8 | 49.8 | 28.6 | 82.6 | -17.7 | -21.1 | -12.0 |
| Oklahoma | 72.1 | 41.7 | 115.6 | 64.3 | 37.3 | 107.4 | -10.9 | -10.7 | -7.1 |
| Oregon | 54.9 | 31.3 | 90.7 | 46.9 | 27.0 | 78.2 | -14.6 | -13.7 | -13.8 |
| Pennsylvania | 46.9 | 29.2 | 70.5 | 37.3 | 21.8 | 61.3 | -20.5 | -25.0 | -13.0 |
| Rhode Island | 45.4 | 30.1 | 63.6 | 42.7 | 27.6 | 65.6 | -5.9** | -8.2** | 3.2** |
| South Carolina | 72.9 | 48.0 | 105.4 | 61.4 | 40.0 | 93.0 | -15.8 | -16.6 | -11.8 |
| South Dakota | 47.5 | 26.3 | 79.2 | 39.7 | 21.8 | 66.3 | -16.4 | -17.2 | -16.3 |
| Tennessee | 75.2 | 47.8 | 112.1 | 64.5 | 38.5 | 103.8 | -14.2 | -19.4 | -7.4 |
| Texas | 78.9 | 50.4 | 119.3 | 71.7 | 47.1 | 110.1 | -9.1 | -6.6 | -7.7 |
| Utah | 48.2 | 27.0 | 79.9 | 42.6 | 23.7 | 69.3 | -11.6 | -12.3 | -14.5 |
| Vermont | 39.2 | 21.3 | 62.0 | 26.9 | 12.1 | 51.2 | -31.4 | -43.3 | -17.6 |
| Virginia | 53.5 | 31.8 | 81.2 | 44.2 | 26.1 | 70.8 | -17.4 | -17.8 | -12.8 |
| Washington | 53.7 | 31.0 | 86.5 | 42.5 | 24.5 | 70.7 | -20.9 | -20.8 | -18.2 |
| West Virginia | 57.8 | 32.4 | 93.2 | 49.1 | 27.5 | 80.3 | -15.1 | -15.1 | -13.9 |
| Wisconsin | 43.7 | 24.9 | 71.2 | 35.9 | 21.4 | 58.8 | -17.8 | -13.7 | -17.4 |
| Wyoming | 54.2 | 26.4 | 98.6 | 43.3 | 23.3 | 75.8 | -20.1 | -12.1** | -23.1 |
| Puerto Rico | 72.4 | 50.8 | 105.9 | 77.8 | 57.6 | 106.6 | 7.5 | 13.4 | 0.7** |
| Virgin Islands | 77.9 | 48.6 | 124.0 | 66.0 | 45.6 | 96.7 | -15.3 | -6.2** | -22.0 |
| Guam | 95.7 | 55.0 | 156.1 | 106.3 | 61.4 | 178.2 | 11.1** | 11.6** | 14.2** |
| American Samoa | --- | --- | --- | 43.9 | 20.7 | 81.5 | --- | --- | --- |

** Not significant at $p<0.05$.
--- Data not available.
[1]Excludes data for Puerto Rico, Virgin Islands, Guam, and American Samoa.

NOTE: Birth rates by State in this table are based on population estimates provided by the U.S. Bureau of the Census (5) and, therefore, the rates shown here may differ from rates compiled on the basis of other population estimates.

## Table 3. Bir rates for teenagers 15–19 years by age race/Hispanic origin: United States each State, 1997

[Rates per 1,000 women in specified group]

| State | 15–19 years | | | | | 15–17 years | | | | | 18–19 years | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | White | | | | | White | | | | | White | | | |
| | All | Total | Non-Hispanic | Black | Hispanic[1] | All | Total | Non-Hispanic | Black | Hispanic[1] | All | Total | Non-Hispanic | Black | Hispanic[1] |
| United States | 52.0 | 46.3 | 36.0 | 88.2 | 97.3 | 32.1 | 27.1 | 19.4 | 60.8 | 66.3 | 89.1 | 75.9 | 61.9 | 130.1 | 144.3 |
| Alabama | 66.6 | 54.5 | 53.9 | 90.1 | 87.5 | 43.4 | 31.6 | 31.3 | 66.7 | * | 100.2 | 88.5 | 87.5 | 122.3 | * |
| Alaska | 44.6 | 33.6 | 32.3 | * | 73.6 | 25.1 | 17.2 | 16.3 | * | * | 73.6 | 57.6 | 56.0 | * | * |
| Arizona | 69.7 | 70.0 | 41.2 | 74.9 | 126.3 | 44.0 | 43.9 | 22.6 | 49.5 | 86.7 | 111.2 | 111.6 | 71.1 | 116.6 | 188.0 |
| Arkansas | 72.9 | 63.9 | 61.9 | 104.2 | 123.2 | 42.9 | 34.1 | 32.6 | 73.7 | 82.2 | 119.2 | 110.5 | 108.0 | 148.8 | * |
| California | 57.3 | 61.5 | 28.6 | 71.6 | 95.2 | 36.2 | 39.2 | 14.9 | 44.4 | 64.9 | 90.5 | 96.0 | 50.2 | 113.3 | 140.7 |
| Colorado | 48.2 | 47.2 | 31.1 | 69.8 | 112.9 | 29.9 | 29.4 | 16.2 | 41.1 | 83.5 | 77.2 | 75.2 | 54.7 | 113.1 | 159.4 |
| Connecticut | 36.1 | 30.6 | 17.6 | 78.2 | 115.5 | 22.5 | 18.4 | 9.2 | 53.3 | 79.9 | 58.1 | 50.2 | 31.3 | 118.2 | 171.0 |
| Delaware | 55.8 | 40.3 | 37.2 | 107.8 | * | 36.8 | 25.4 | 23.6 | 73.8 | * | 83.3 | 61.1 | 56.2 | 160.7 | * |
| District of Columbia | 91.0 | 22.0 | 7.1 | 139.4 | 88.6 | 65.9 | 27.0 | * | 79.0 | * | 122.4 | 19.7 | 7.3 | 285.7 | * |
| Florida | 57.7 | 48.0 | 42.9 | 82.2 | 65.3 | 35.1 | 27.2 | 23.2 | 53.2 | 42.0 | 94.2 | 81.9 | 75.9 | 137.4 | 99.0 |
| Georgia | 67.2 | 54.0 | 50.0 | 92.6 | 125.9 | 44.0 | 31.4 | 29.1 | 66.0 | 74.9 | 102.8 | 89.3 | 82.7 | 129.6 | 200.6 |
| Hawaii | 43.8 | 22.0 | 19.5 | 37.2 | 95.4 | 25.3 | 8.4 | 6.7 | * | 60.0 | 69.6 | 39.4 | 35.9 | * | 142.1 |
| Idaho | 43.3 | 43.3 | 37.6 | * | 101.8 | 23.3 | 23.3 | 19.5 | * | 63.4 | 72.5 | 72.3 | 64.1 | * | 156.1 |
| Illinois | 54.7 | 42.0 | 29.9 | 115.1 | 105.3 | 34.4 | 23.9 | 16.0 | 82.6 | 65.5 | 87.6 | 71.2 | 52.2 | 169.0 | 168.3 |
| Indiana | 54.2 | 49.5 | 47.8 | 99.1 | 97.1 | 32.1 | 28.1 | 26.8 | 68.5 | 65.2 | 87.6 | 81.9 | 79.4 | 148.2 | 143.8 |
| Iowa | 35.7 | 33.6 | 32.1 | 104.7 | 93.4 | 20.1 | 18.2 | 17.2 | 76.8 | 62.6 | 60.4 | 57.7 | 55.5 | 145.9 | 140.2 |
| Kansas | 48.5 | 44.5 | 39.7 | 105.3 | 106.3 | 27.5 | 24.3 | 20.6 | 71.3 | 72.7 | 81.7 | 76.6 | 70.1 | 158.7 | 159.3 |
| Kentucky | 59.6 | 56.6 | 56.2 | 90.9 | 102.0 | 35.4 | 32.6 | 32.4 | 65.7 | * | 95.0 | 92.1 | 91.3 | 125.2 | * |
| Louisiana | 66.3 | 48.1 | 46.5 | 94.0 | 34.7 | 42.1 | 26.8 | 26.8 | 66.0 | 25.4 | 101.4 | 80.0 | 81.2 | 132.6 | 46.6 |
| Maine | 32.0 | 31.9 | 31.7 | * | * | 15.4 | 15.4 | 15.3 | * | * | 58.3 | 58.0 | 57.8 | * | * |
| Maryland | 43.9 | 30.0 | 28.4 | 75.0 | 49.1 | 28.2 | 16.7 | 15.6 | 53.3 | 32.1 | 68.8 | 51.0 | 48.9 | 109.1 | 72.8 |
| Massachusetts | 31.7 | 28.0 | 19.9 | 75.4 | 115.0 | 19.1 | 16.2 | 10.1 | 47.5 | 77.9 | 50.8 | 46.0 | 34.8 | 123.9 | 176.9 |
| Michigan | 43.9 | 35.4 | 33.2 | 88.3 | 84.2 | 25.4 | 18.9 | 17.2 | 59.1 | 57.4 | 72.2 | 60.7 | 57.8 | 132.8 | 123.9 |
| Minnesota | 32.0 | 26.1 | 23.6 | 119.4 | 137.4 | 17.6 | 13.2 | 11.5 | 84.6 | 88.3 | 55.1 | 46.9 | 43.0 | 178.7 | 210.6 |
| Mississippi | 73.7 | 51.9 | 51.7 | 98.9 | * | 50.2 | 30.3 | 30.3 | 73.4 | * | 108.8 | 84.5 | 84.4 | 136.4 | * |
| Missouri | 51.5 | 44.3 | 43.5 | 97.8 | 79.3 | 29.6 | 23.6 | 22.9 | 67.8 | 54.3 | 86.3 | 77.3 | 76.3 | 148.6 | 111.7 |
| Montana | 37.6 | 31.0 | 30.0 | * | * | 20.1 | 14.7 | 14.0 | * | * | 65.2 | 56.5 | 54.8 | * | * |
| Nebraska | 37.2 | 33.3 | 29.4 | 101.2 | 99.5 | 21.3 | 18.2 | 15.6 | 71.7 | 62.3 | 61.6 | 56.2 | 50.3 | 151.5 | 156.3 |
| Nevada | 67.7 | 65.5 | 48.0 | 98.0 | 121.0 | 42.2 | 39.7 | 27.0 | 70.5 | 82.3 | 109.1 | 107.4 | 83.2 | 141.2 | 177.6 |
| New Hampshire | 28.6 | 28.7 | 28.3 | * | * | 14.0 | 13.8 | 13.4 | * | * | 53.0 | 53.5 | 53.2 | * | * |
| New Jersey | 35.0 | 26.0 | 14.1 | 79.8 | 78.7 | 21.3 | 14.5 | 6.7 | 55.4 | 52.0 | 56.7 | 44.3 | 26.2 | 116.7 | 117.4 |
| New Mexico | 68.4 | 69.0 | 40.6 | 54.0 | 91.3 | 44.4 | 45.2 | 22.6 | 39.2 | 63.4 | 106.3 | 106.3 | 69.5 | * | 134.4 |
| New York | 38.8 | 33.2 | 21.9 | 64.1 | 74.3 | 23.4 | 19.3 | 11.6 | 41.1 | 47.1 | 62.3 | 54.0 | 37.3 | 100.9 | 116.4 |
| North Carolina | 61.3 | 51.0 | 45.4 | 85.6 | 204.2 | 37.7 | 29.1 | 25.8 | 58.3 | 122.4 | 97.3 | 84.5 | 75.4 | 125.9 | 321.9 |
| North Dakota | 30.1 | 24.7 | 23.9 | * | * | 14.3 | 10.8 | 10.3 | * | * | 55.0 | 46.5 | 45.2 | * | * |
| Ohio | 49.8 | 42.1 | 41.1 | 100.4 | 83.8 | 26.6 | 22.5 | 21.8 | 68.0 | 53.6 | 82.6 | 72.3 | 71.0 | 151.0 | 128.7 |
| Oklahoma | 64.3 | 57.9 | 54.8 | 94.7 | 102.9 | 37.3 | 31.9 | 29.5 | 67.3 | 69.9 | 107.4 | 99.1 | 95.1 | 134.8 | 154.0 |
| Oregon | 46.9 | 46.1 | 38.8 | 72.4 | 126.2 | 27.0 | 26.1 | 21.0 | 50.6 | 85.6 | 78.2 | 77.9 | 67.4 | 105.5 | 186.9 |
| Pennsylvania | 37.3 | 29.4 | 25.8 | 100.7 | 117.5 | 21.9 | 15.8 | 13.1 | 69.2 | 84.4 | 61.3 | 50.5 | 45.7 | 151.7 | 169.3 |
| Rhode Island | 42.7 | 38.2 | 27.6 | 83.9 | 145.4 | 27.6 | 24.3 | 15.7 | 50.6 | 106.2 | 65.6 | 59.1 | 45.1 | * | * |
| South Carolina | 61.4 | 48.3 | 47.4 | 82.7 | 66.6 | 40.0 | 29.1 | 28.4 | 57.2 | 64.8 | 93.0 | 76.2 | 75.1 | 121.2 | * |
| South Dakota | 39.7 | 30.1 | 29.6 | * | * | 21.8 | 15.2 | 14.8 | * | * | 66.3 | 51.4 | 50.5 | * | * |
| Tennessee | 64.5 | 55.0 | 53.9 | 99.5 | 121.5 | 38.5 | 29.9 | 29.1 | 70.2 | 77.5 | 103.8 | 93.2 | 91.5 | 143.5 | * |
| Texas | 71.7 | 71.4 | 43.5 | 85.3 | 107.7 | 47.1 | 46.7 | 23.9 | 57.5 | 77.0 | 110.1 | 109.8 | 74.2 | 128.1 | 155.2 |
| Utah | 42.6 | 41.9 | 36.5 | * | 118.5 | 23.7 | 23.2 | 19.2 | * | 80.8 | 68.3 | 67.4 | 60.1 | * | 168.4 |

See footnotes at end of table.

## Table 3. Birth rates for teenagers 15–19 years by age and race/Hispanic origin: United States and each State, 1997—Con.

[Rates per 1,000 women in specified group]

| State | 15–19 years | | | | | 15–17 years | | | | | 18–19 years | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | White | | | | | White | | | | | White | | | |
| | All | Total | Non-Hispanic | Black | Hispanic[1] | All | Total | Non-Hispanic | Black | Hispanic[1] | All | Total | Non-Hispanic | Black | Hispanic[1] |
| Vermont | 26.9 | 27.4 | 27.6 | * | * | 12.1 | 12.3 | 12.4 | * | * | 51.2 | 52.0 | 52.7 | * | * |
| Virginia | 44.2 | 35.0 | 32.9 | 76.0 | 68.6 | 26.1 | 16.4 | 16.9 | 51.9 | 43.7 | 70.8 | 59.4 | 56.3 | 110.9 | 101.7 |
| Washington | 42.5 | 41.4 | 34.8 | 67.4 | 106.3 | 24.5 | 23.3 | 18.8 | 43.1 | 69.2 | 70.7 | 69.6 | 60.0 | 104.2 | 160.8 |
| West Virginia | 49.1 | 48.5 | 48.6 | 72.3 | * | 27.5 | 26.8 | 26.8 | 50.1 | * | 80.3 | 79.9 | 80.3 | 100.2 | * |
| Wisconsin | 35.9 | 27.2 | 24.5 | 127.9 | 103.6 | 21.4 | 14.6 | 12.8 | 88.9 | 65.3 | 59.8 | 46.9 | 42.9 | 197.6 | 166.7 |
| Wyoming | 43.3 | 42.4 | 40.2 | * | 72.5 | 23.3 | 22.2 | 20.3 | * | * | 75.8 | 75.0 | 72.4 | * | * |

* Figure does not meet standards of reliability or precision (based on fewer than 20 births or fewer than 1,000 women in specified group).
[1] Persons of Hispanic origin may be of any race.

NOTE: Rates by race and Hispanic origin cannot be computed for Puerto Rico, the Virgin Islands, Guam, and American Samoa, because populations are not available by race and Hispanic origin for these areas. Birth rates shown in this table are based on population estimates provided by the U.S. Bureau of the Census (5) and, therefore, may differ from rates computed on the basis of other population estimates.

## Technical notes

Data shown in this report for 1997 and earlier years are based on 100 percent of the birth certificates registered in all States and the District of Columbia. More than 99 percent of births occurring in this country are registered. Data shown for 1998 are preliminary, based on a sample file of more than 99 percent of births for that year (1). Tabulations by State also include Puerto Rico, the Virgin Islands, Guam, and American Samoa. However, totals shown for the United States do not include these areas.

Tabulations by race and Hispanic origin of mother are based on this information as reported on the birth certificate. Race and Hispanic origin are reported as separate items on the birth certificate. Although the overwhelming majority of Hispanic births (97 percent) are to white women, substantial differences in teenage childbearing patterns exist between Hispanic and non- Hispanic white women. Therefore data are shown separately for these groups.

Population data for computing birth rates were provided by the U.S. Bureau of the Census (3,5). Rates by State shown here may differ from rates computed on the basis of other population estimates. State rates are based on mother's place of residence. Population estimates by race and Hispanic origin are not available for Puerto Rico, Virgin Islands, Guam, and American Samoa. Rates are not available for American Samoa for 1991, because birth data were not collected.

Rates were not computed if there were fewer than 20 births in the numerator or fewer than 1,000 women in the specified group in the denominator. An asterisk is shown in place of the rate. Additional information on the tabulation of birth data by race, random variation, and relative standard error is provided in earlier reports (1,6).

## Contents



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**National Center for Health Statistics**

Director, Edward J. Sondik, Ph.D.
Deputy Director, Jack R. Anderson

**Division of Vital Statistics**

Director, Mary Anne Freedman

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Internet: www.cdc.gov/nchswww/



U.S. DEPARTMENT OF
HEALTH & HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics
6525 Belcrest Road
Hyattsville, Maryland 20782-2003

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**********
*** ACTIVITY REPORT ***
**********

| ST. TIME | CONNECTION TEL/ID | SENDER NAME | NO. | MODE | | PGS. | RESULT | |
|---|---|---|---|---|---|---|---|---|
| 10/08 16:58 | 62215 | | 1160 | TRANSMIT | ECM | 2 | OK | 00'36 |
| 10/10 08:49 | | | 6078 | AUTO RX | ECM | 2 | OK | 01'42 |
| 10/11 12:56 | 92379836 | | 1161 | TRANSMIT | ECM | 4 | OK | 02'20 |
| 10/11 14:27 | DOMESTIC POLICY | | 1162 | TRANSMIT | ECM | 24 | OK | 07'33 |
| | 65581 | | | | | | | |
| 10/11 14:50 | | | 6079 | AUTO RX | ECM | 4 | OK | 02'25 |
| 10/12 16:39 | | | 6080 | AUTO RX | ECM | 10 | OK | 02'44 |
| 10/13 15:51 | 67431 | | 1163 | TRANSMIT | ECM | 1 | OK | 00'18 |
| 10/13 16:56 | 202 395 6148 | | 6081 | AUTO RX | ECM | 21 | OK | 03'24 |
| 10/14 16:20 | | | 6082 | AUTO RX | ECM | 4 | OK | 01'56 |
| 10/14 16:30 | 93620493 | | 1164 | TRANSMIT | ECM | 2 | OK | 01'03 |
| 10/14 17:28 | | | 6083 | AUTO RX | ECM | 1 | OK | 00'19 |
| 10/14 17:29 | 202 395 7709 | | 6084 | AUTO RX | ECM | 25 | OK | 05'36 |
| 10/14 18:00 | 93620493 | | 1165 | TRANSMIT | ECM | 1 | OK | 00'28 |
| 10/14 18:26 | 93620493 | | 1167 | TRANSMIT | ECM | 1 | OK | 00'34 |
| 10/15 11:05 | 2022930633 | | 6085 | AUTO RX | ECM | 1 | OK | 00'29 |
| 10/15 14:48 | | | 6086 | AUTO RX | ECM | 1 | OK | 00'32 |
| 10/16 10:46 | | | 6087 | AUTO RX | ECM | 1 | OK | 00'26 |
| 10/17 18:13 | | | 6088 | AUTO RX | ECM | 3 | OK | 01'47 |
| 10/19 16:51 | 97769580 | | 1168 | TRANSMIT | G3 | 2 | OK | 01'17 |
| 10/19 18:27 | 708 2689 | | 6089 | AUTO RX | ECM | 2 | OK | 00'35 |
| 10/20 10:31 | NAT'L SECURITY | | 1169 | TRANSMIT | ECM | 11 | OK | 04'22 |
| | 98871963 | | | | | | | |
| 10/20 13:03 | 92260428 | | 1170 | TRANSMIT | ECM | 2 | OK | 01'15 |
| 10/20 13:22 | 912147682507 | | 1171 | TRANSMIT | ECM | 1 | OK | 00'23 |
| 10/20 16:03 | 65557 | | 1172 | TRANSMIT | ECM | 3 | OK | 00'39 |
| 10/21 09:18 | 916172522100 | | 1173 | TRANSMIT | ECM | 4 | OK | 01'28 |
| 10/21 09:24 | 54562 | | 1174 | TRANSMIT | ECM | 1 | OK | 00'42 |
| 10/21 10:19 | 61655 | | 1175 | TRANSMIT | ECM | 1 | OK | 00'26 |
| 10/21 10:30 | 92379836 | | 1176 | TRANSMIT | ECM | 2 | OK | 00'43 |
| 10/21 10:53 | 92379836 | | 1177 | TRANSMIT | ECM | 2 | OK | 01'00 |
| 10/21 10:55 | | | 6090 | AUTO RX | ECM | 1 | OK | 00'38 |
| 10/21 12:56 | | | 6091 | AUTO RX | ECM | 2 | OK | 00'48 |
| 10/21 13:05 | 2022243755 | | 6092 | AUTO RX | ECM | 3 | OK | 00'57 |
| 10/21 13:12 | 92240291 | | 1178 | TRANSMIT | ECM | 4 | OK | 00'35 |
| 10/21 17:19 | 93620493 | | 1179 | TRANSMIT | ECM | 2 | OK | 01'45 |
| 10/22 14:42 | 96220534 | | 1180 | TRANSMIT | ECM | 2 | OK | 00'23 |
| 10/22 15:10 | 96220534 | | 1181 | TRANSMIT | ECM | 2 | OK | 00'26 |
| 10/22 17:19 | DOMESTIC POLICY | | 6093 | AUTO RX | ECM | 2 | OK | 01'19 |
| | 202 456 5581 | | | | | | | |
| 10/22 17:47 | | | 6094 | AUTO RX | ECM | 2 | OK | 00'24 |
| 10/24 13:19 | | | 6095 | AUTO RX | ECM | 2 | OK | 01'19 |
| 10/25 09:48 | | | 6096 | AUTO RX | ECM | 13 | OK | 02'23 |

folic teen pregnancy

L N, Calle
fyi

THE NATIONAL CAMPAIGN TO PREVENT TEEN PREGNANCY

2100 M STREET NW SUITE 300
WASHINGTON DC 20037

PHONE: 202.261.5655
FAX: 202.331.7735
EMAIL: CAMPAIGN@TEENPREGNANCY.ORG
WEB: WWW.TEENPREGNANCY.ORG

December 3, 1999

Ms. Melanne Verveer
Chief of Staff
Office of the First Lady
The White House
Washington, DC 20500

Dear Ms. Verveer:

As you may know, I have chaired the Board of the National Campaign to Prevent Teen Pregnancy since it was established in February 1996. I took on this job because I was appalled by the teen pregnancy problem in this country. Every year, nearly one million teenage girls become pregnant — that means approximately 4 in 10 teenage girls get pregnant at least once before they reach age 20. This is wrong — for teens, for our society, and particularly for the children born to teenagers. I also became involved with the Campaign because I strongly believe that there is no more effective way of reducing persistent child poverty than by ensuring that more children are born to parents who are ready and able to care for them.

The Campaign's strategy for reducing teen pregnancy has two parts: (1) influencing cultural values and messages by working with the entertainment media, parents, faith communities, teens, and others, and (2) building a more coordinated and effective grassroots movement by working with states and local communities. The Campaign's approach at both levels is distinctive in at least three ways. First, we are non-ideological and have worked hard to reduce the conflict that too often has impeded action on this issue. Second, we rely extensively on high-quality research to inform everything we do. And third, we are working in highly leveraged ways with some of the most powerful individuals and organizations in America to change young people's lives.

Leveraging our efforts is particularly important. As a small organization working on a big problem in a big country, the Campaign must be very strategic in its work, getting the most bang for the buck. With this basic idea in mind, the Campaign is working to:

- **Build public awareness about the importance of the problem** of teen pregnancy by working with opinion leaders and others to create a consensus that more needs to be done. (Example: in the first nine months of 1999, the Campaign was mentioned in the print press over 500 times, including coverage in top-flight newspapers.)

- **Provide easily accessible sources of information** for individuals working in communities and at the national level to prevent teen pregnancy. (Example: the Campaign's website, www.teenpregnancy.org, provides data, ideas, and a teen forum. It received almost one million hits in October alone.)

- **Leverage funds to prevent teen pregnancy**, including those provided by states and by the federal government. (Example: legislation was recently introduced by the Co-Chairs of our House Advisory Panel that will provide more funds for both programs and evaluation.)

- **Improve the effectiveness with which those funds are spent** by encouraging programmatic innovation and by publishing credible research on the effectiveness of new or existing efforts. (Example: many state teen pregnancy prevention plans have been shaped by our advice and publications, especially our very well-received review of what programs work to prevent teen pregnancy.)

- **Change both adult and youth attitudes and knowledge** by working with the entertainment media that reaches tens of millions of households every day. (Example: our partnerships with Black Entertainment Television and the WB Network have reached up to 50 million households with shows that address teen pregnancy, and our work with *Teen People* is reaching eight million-plus teens every month with articles and advice pertaining to teen pregnancy prevention.)

- **Encourage parents to talk with their children** about love, sex, and relationships. (Example: our *Ten Tips for Parents* brochure has already reached a wide audience, including the 90 million readers of Ann Landers' advice column.)

- **Change the priorities and practices of other organizations** through work with churches, youth-serving organizations, health professionals, and school personnel that are heavily involved with young people. (Example: our partnership with NBC put materials on teen pregnancy into 68,000 schools; our *Nine Tips for Faith Communities* has been distributed to every Catholic diocese in the nation and reprinted in the Salvation Army's newsletter.)

- **Stimulate more, and more effective, efforts in local communities** through site visits, technical assistance, and publications dealing with the issues of greatest concern to local groups. (Example: the Campaign's new, three-volume manual, *Get Organized: A Guide to Preventing Teen Pregnancy,* provides concise tips for communities on how to develop teen pregnancy prevention programs and partnerships. The federal government as well as six leading national non-profit groups are disseminating the manual widely. In addition, Campaign staff have visited 43 states in the last few years to provide direct assistance to those working in the field.)

- **Encourage more youth-led efforts** to reduce risky behaviors and change peer norms in the process. (Example: each year we are training a new group of youth leaders recruited

from organizations that have a national reach, and our tips *for* teens *from* teens have been published in *Teen People*, Ann Landers, and many other places.)

These examples indicate how extensive the Campaign's activities are and how they reach all the way from home computers to Congress, from entertainment television to local communities.

The good news is that teen pregnancy and birth rates have declined — led by both less sexual activity among teenagers and better contraceptive use by teens who are sexually active. But we must not become complacent. Teen pregnancy rates in the U.S. remain much too high — two or three times those in other industrialized countries. And the hard truth is that yesterday's news about declining teen pregnancy and birth rates won't mean much to the boys and girls who turn 13 next year. For them, we must redouble our efforts to make sure that they benefit from the successes that their older brothers and sisters have begun to see. I am convinced that we will succeed only by engaging a whole new set of players in this issue — whether entertainment leaders and business executives, faith leaders and sports figures, or parents and teens.

I want to thank you for your continuing support of the Campaign and hope that you will consider a gift to help us this year. Your contribution will be used to support our current programs and continue the important progress that has been made thus far. Together, we can help to ensure a brighter future for this generation and the next.

Best wishes for a joyous holiday season,

Sincerely,

Tom Kean

Thomas H. Kean
Chairman

Enclosures

THE NATIONAL CAMPAIGN TO PREVENT TEEN PREGNANCY
2100 M STREET NW SUITE 300
WASHINGTON DC 20037

# BOARD MEMBERS

The Washington Post

SATURDAY, JUNE 12, 1999

## ANN LANDERS

**Dear Ann:**

**This article appeared in the Voices for Illinois Children magazine. It was helpful to me, and I believe it will help other parents as well. Please, Ann, print it in your column.**

*A Chicago Parent*

Parents of teenagers need all the help they can get these days. I'm grateful to you for sending it on. Here it is:

The National Campaign to Prevent Teen Pregnancy recently published Ten Tips for Parents to Help Their Children Avoid Teen Pregnancy. Here is an abbreviated version: Ten Tips for Parents

1. Be clear about your own sexual values and attitudes. Communication with your children about sex will be more successful when YOU are certain about these issues.

2. Talk with your children early and often about sex, and be specific! Initiate the conversation, and make sure it's a dialogue, not a monologue.

3. Supervise and monitor your children by establishing rules, curfews and standards of expected behavior, preferably through an open process of family discussion.

4. Know your children's friends and their families. Welcome them into your home, and talk openly.

5. Discourage early, frequent and steady dating. One-on-one dating before age 16 can lead to trouble.

6. Take a strong stand against your daughter dating a boy who is significantly older, and don't allow your son to develop an intense relationship with a girl who is much younger. The age difference between younger girls and older boys or men can lead girls into risky behavior.

7. Show your teenagers that there are options for the future that are more attractive than early parenthood. Help them set meaningful goals for the future, and discuss what it takes to make those goals come true.

8. School failure is often the first sign of trouble. Let your kids know that you value education highly.

9. Know what your kids are watching, reading and listening to. You can always turn the TV off, cancel subscriptions and place certain movies off limits.

10. These tips work best when they are part of strong, close relationships with your children that are built from an early age. Express love and affection clearly and often, and listen carefully to what your children say. Spend time with them, and engage in activities they like. Be supportive and interested in what interests them, and help them build self-esteem. Remember, it's never too late to improve a relationship with a child or teenager.

EDITORIAL

By DAVID GERGEN • EDITOR AT LARGE

# A sense of belonging

Back in the early 1980s, the Rev. Billy Graham paid a visit to Harvard and was greeted with a yawn. A few weeks ago, he returned to an entirely different atmosphere. Students camped out all night on Saturday so they could have a seat in Memorial Church when he preached on Sunday. His later appearance at the Kennedy School of Government drew a packed house, which turned into a religious revival as, one after another, young people proclaimed their faith in God.

There is something new in the air—and not just at Harvard. Across the land, Americans are hungering for something more than money and a new car. They are looking for answers that satisfy the soul and restore a sense of belonging to one another. We are a long way from there, but signs of cultural renewal are springing up all about us—and just in time.

*Across the land, Americans hunger for something more than money and a brand-new car.*

In 1994, William J. Bennett issued the first *Index of Leading Cultural Indicators*, one of his many contributions to the common weal. In his report, he provided a boxcar of graphs and charts substantiating his main conclusion. "In many ways, the condition of America is not good," he wrote. "Over the past three decades we have experienced substantial social regression.... Unless these exploding social pathologies are reversed, they will lead to the decline and perhaps even to the fall of the American republic."

Bennett set forth five areas of social life that concerned him. Witness some of the changes in the years since:

**Crime.** The national crime rate has declined seven years in a row, and latest numbers are the lowest since 1985. Violent crime has followed a similar downward slope, dropping more than 6 percent in 1998. The Centers for Disease Control and Prevention reports that gun deaths dropped 21 percent between 1993 and 1997, while firearm-related injuries are down 41 percent.

**Family and children.** While there was a slight uptick in 1997, the divorce rate for married women is hovering at its lowest rate since 1974. Abortion, which steadily increased from 1983 through 1990, has been declining in the 1990s. Statistics show there were at least 208,000 fewer abortions per year toward the end of the decade than at the beginning.

**Education.** While SAT scores are up 16 points since the beginning of the decade, overall student performance has not yet shown serious improvement. But, as reported here earlier, the "standards" movement is now catching on and represents the most promising reform in 30 years. Linked with charter and choice, educational gains could come sooner than we think.

**Youth behavior.** Teenage pregnancy has dropped seven years in a row, and as the National Campaign to Prevent Teen Pregnancy moves ahead, it could conceivably cut rates in half in the next few years. Teen drug use is also down, and the Partnership for a Drug-Free America reported last week that the number of teenagers who think refusal to use drugs is "really cool" is up to 40 percent.

**Popular culture and religion.** Charitable giving rose 16 percent from 1997 to 1998, the largest jump on record. We could be seeing the beginnings of a boom in philanthropy as donors create accounts at institutions like Fidelity and scan the AOL Web site to identify worthwhile charities. While membership in mainstream churches drifts downward, we are also seeing huge growth in large, new churches, many of them nondenominational. And conversation about God is returning to the dinner table, even as talk of sex seemingly diminishes.

Some say these trends simply reflect a better business climate. But the economy was bounding up in the 1960s and 1980s, too, and yet social indicators went south. More likely what we are seeing is an America that looked into the abyss and decided to change its mind.

No one should pop champagne corks yet. As Bennett warns in the introduction to his latest *Index*, "The nation we live in today is more violent and vulgar, coarse and cynical, rude and remorseless, deviant and depressed, than the one we once inhabited." We still have much to reverse and rebuild.

Nonetheless, these signs of cultural renewal should lift our sights as we head toward the holidays and a new century. Progress *is* possible. We still control our own destiny. One of our greatest strengths as a society is our resiliency—our capacity to snap back from bad times. Just in time, it seems, we're recovering our bearings. •

# How to combat the problem of teen pregnancy

**TOM KEAN**

*Former N.J. governor and president of Drew University*

As many of you know, I have been chairing the National Campaign to Prevent Teen Pregnancy since 1996. I took on the job because I was appalled by the the extent of the problem in this country.

Nearly 1 million teenage girls become pregnant a year. That means four in 10 teenage girls get pregnant at least once before they reach the age of 20. That is unacceptable for teens, for our society, and particularly for the children born to children.

I strongly believe there is no more effective way of breaking the cycle of poverty than making sure that more children are born to parents who are ready and able to care for them.

There is finally some good news. The 1990s have seen teen pregnancy begin to decline.

There are a number of possible reasons:

1) The fear of AIDS and other sexually transmitted diseases.

2) A change in attitude. A recent survey showed that two-thirds of the drop in sexual activity among teenage males was the result of a change in their attitude.

3) A strong economy with increases in the minimum wage and the Earned Income Tax Credit. More jobs mean more incentives to avoid early childbearing.

4) Welfare reform and, in particular, much tougher enforcement of child-support laws.

Despite all this, our teen pregnancy rates remain much too high — two or three times those of other industrialized countries.

In the National Campaign we have adopted a two-faceted approach: first, to influence cultural values by working with the media, parents, teens, and faith communities; and second, to build more effective grassroots movements by working with local communities.

Let's start with the media. Twenty-eight million people a week watch "ER." Thirty million read People Magazine, and more people watch soap operas than the news. We are working with writers and producers to convince children that although sex may seem glamorous, its consequences are not.

Woven into popular shows are simple messages such as "Not everyone is doing it," or "Contraception works, but only if you use it every time," and "If we want to reduce pregnancy among our daughters, we need to talk to our sons."

Our ideas are showing up in programs and magazines. For example, ABC's "One Life to Live" recently did a story line about a teen dealing with an unwanted pregnancy, and last week's issue of People magazine featured a story on what it's like to be pregnant. Basketball star Grant Hill is appearing in commercials for us in Teen People and Sports Illustrated.

> Our goal is to reduce teen pregnancy by one-third by the year 2005.

The media is the most visible but no more important than groups like Best Friends and Planned Parenthood. Most of all, parents must talk to their children and not just about the "birds and bees."

There must be ongoing conversations about sexual feelings and relationships, about dating and pressures, and about parents' own moral values. The Campaign's hottest-selling publication, already distributed to more than 150,000 people, is called "Ten Tips for Parents." It has appeared in Ann Landers' syndicated column featured in 12,000 newspapers reaching more than 90 million people.

Faith communities are doing their part. The Catholic Church has already sent our paperback, "Nine Tips to Help Faith Leaders and Their Communities to Address Teen Pregnancy," to every diocese in the nation. The Religious Coalition for Reproductive Choice has distributed thousands of copies as well — and so has the Salvation Army.

None of this would be effective unless we were also working with teens themselves. Over the last few years the Campaign Youth Leadership Team, a group of young people from around the country, has made a real difference. These teens help us to design the media messages, provide feedback, and come up with creative ways to involve other teens. They are our ambassadors in their communities and nationwide. We cannot change teen culture without the teens.

Woodrow Wilson was asked in 1920 why he was working so tirelessly on behalf of the League of Nations. He replied, "My clients are the children. My clients are the next generation."

We have made progress, but there is so much work still to do. Our goal is to reduce teen pregnancy by one-third by the year 2005. I'm convinced we can do it by bringing a whole new set of players into the arena — entertainment moguls, business executives, faith leaders, sports figures, parents, and teens — in other words, each and every one of us can make a difference.

fate teen pregnancy

NEWS

CONTACT: Susan Tew/Chris Kirchgaessner
212-248-1111
info@agi-usa.org

THE ALAN GUTTMACHER INSTITUTE
NEW YORK & WASHINGTON

120 Wall Street, NY, NY 10005

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# U.S. TEENAGE PREGNANCY RATE DROPS ANOTHER 4% BETWEEN 1995 AND 1996

## TEENAGE PREGNANCY DECLINES IN ALL STATES

Levels of teenage pregnancy continued their downward trend at both the national and the state levels in 1996. Nationwide, the teenage *pregnancy* rate, including births, abortions and miscarriages, declined 4% between 1995 and 1996, from 101.1 to 97.3 pregnancies per 1,000 women aged 15–19. The teenage *birthrate* also declined 4%, and the *abortion* rate declined 3% in this short period, according to new data released by The Alan Guttmacher Institute. ***Teenage Pregnancy: Overall Trends and State-by-State Information*** presents data for the last decade, including national trends by race and among Hispanics.

Teenage pregnancy rates in 1996 varied widely by state, from 50 pregnancies per 1,000 young women in North Dakota to 140 in Nevada and 256 in the District of Columbia. In all but one state—New Jersey—the teenage pregnancy rate was lower in 1996 than in 1992.

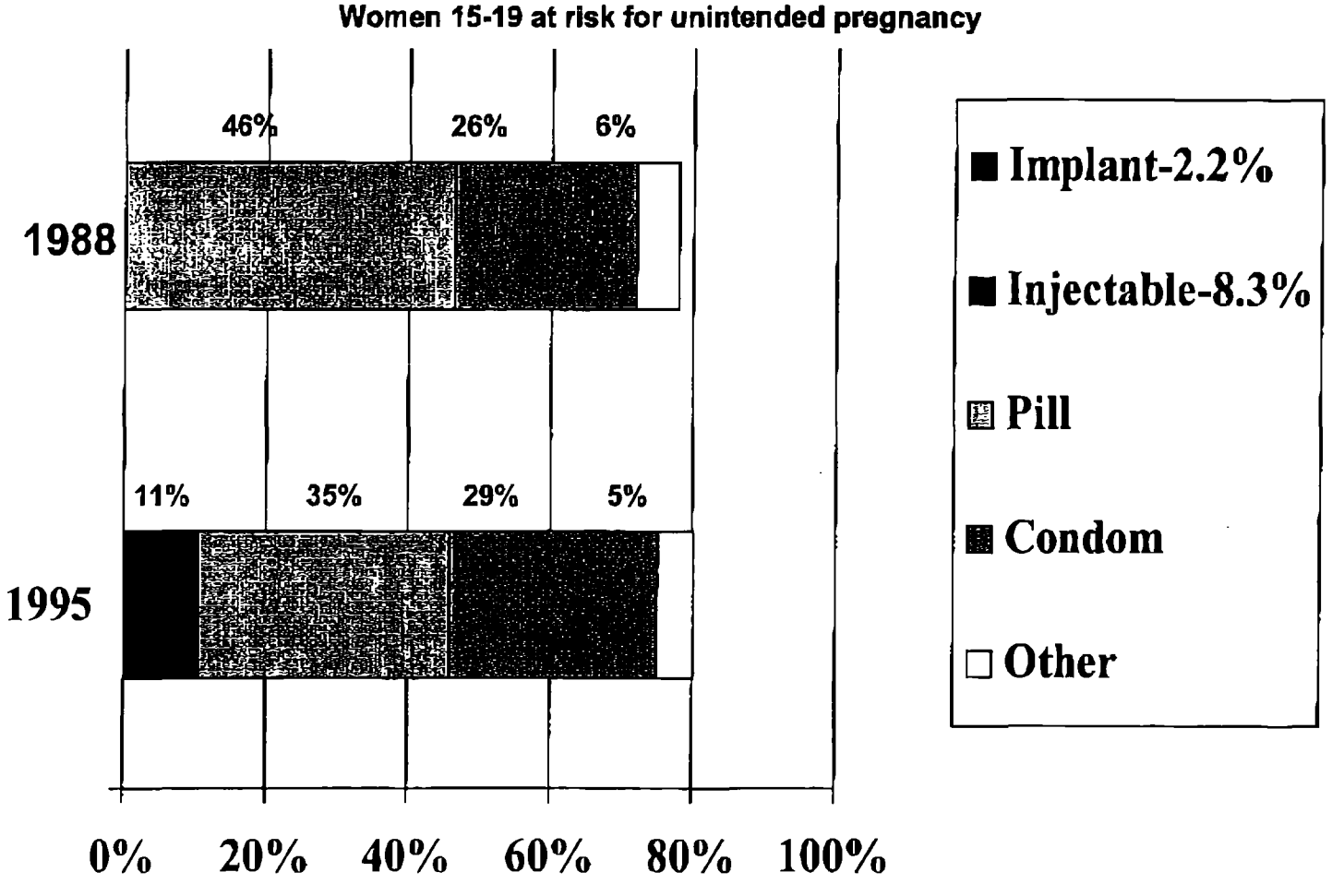
Steep decreases in the early 1990s in the pregnancy rate among sexually experienced teenagers accounted for most of the drop in the overall U.S. pregnancy rate. Most of this decline is due to slight increases in the proportion of sexually active teenagers using a contraceptive method; teenagers' using highly effective, long-acting methods; and modest reductions in failure rates among those using condoms and oral contraceptives.

"Many groups want to take credit for the drop in teenage pregnancy, but the credit truly goes to the teenagers. About 20% of the decrease since the late 1980s is because of decreased sexual activity, and 80% of the decrease is because of more effective contraceptive practice—the methods teenagers are choosing to use and how well they are using them. Many sexually active teenagers are using the highly effective contraceptive implant, Norplant, and injectable, Depo-Provera, which only became available in the early 1990s. Many factors undoubtedly account for these behavioral changes and are much harder to measure. But it is clear that efforts to promote both responsible sexual decision-making and effective contraceptive practice can have big impacts," comments Jacqueline E. Darroch, the Institute's vice president for research.

###

*The Alan Guttmacher Institute—www.agi-usa.org—is a nonprofit organization focused on reproductive health research, policy analysis and public education, with offices in New York and Washington, D.C.*

# Methods used by teens at risk for unintended pregnancy have changed




The Alan Guttmacher Institute

Tabulations from 1988 and 1995 NSFG

# Teenage Pregnancy

## Overall Trends and State-by-State Information

THE ALAN GUTTMACHER INSTITUTE
NEW YORK & WASHINGTON

120 Wall Street
New York, NY 10005
Phone: 212.248.1111
Fax: 212.248.1951
E-mail: info@agi-usa.org
Web site: www.agi-usa.org

**The Alan Guttmacher Institute**, April 1999

# Summary

Pregnancy, birth and abortion rates among U.S. teenagers continued their downward trend in 1996. Nationwide, the pregnancy rate declined 4% between 1995 and 1996, from 101.1 to 97.3 pregnancies per 1,000 women aged 15–19 (Table 1). The rate has dropped 9% since 1986 and, more significantly, 17% since peaking in 1990.

The birthrate for teenagers also declined 4% between 1995 and 1996, to 54.4 births per 1,000 women (Table 1). Although the 1996 rate was 8% higher than the 1986 rate, it was 12% lower than the peak rate of 62.1 births per 1,000 reached in 1991.

Teenagers' abortion rate declined 3% between 1995 and 1996 (Table 1). Since 1986, the rate has dropped 31%, to 29.2 abortions per 1,000 women aged 15–19. At the same time, the proportion of teenage pregnancies ending in abortion has fallen from 46% to 35%—a decline of 24%.

White and black adolescents have experienced declines in pregnancy rates, although the magnitude of the changes has varied considerably. Among black women aged 15–19, the nationwide pregnancy rate fell 20% between 1990 and 1996; among white teenagers, it declined 16% during that time (Table 1). The pregnancy rate among Hispanic teenagers, who can be of any race, increased between 1990 and 1992, but then fell 6% by 1996 (Table 2).

Roughly 880,000 pregnancies occurred among women aged 15–19 in 1996; 62% of these pregnancies were to 18–19-year olds (Table 3). California reported the highest number of adolescent pregnancies (126,300), followed by Texas, New York, Florida and Illinois (with about 40,000–80,000 each). The smallest numbers of teenage pregnancies were in Vermont, North Dakota, Wyoming, South Dakota and Alaska, all of which reported fewer than 2,000 pregnancies among women aged 15–19.

Teenage pregnancy rates in 1996 varied widely by state, ranging from 50 pregnancies per 1,000 women aged 15–19 in North Dakota to 140 per 1,000 in Nevada and 256 per 1,000 in the District of Columbia (Table 4). The highest state adolescent pregnancy rates after Nevada's were found in California, Arizona, Florida and Texas. Minnesota, New Hampshire, Maine and Iowa had the lowest rates after North Dakota's.

Wide variation is also seen in state teenage birthrates for 1996 (Table 4). The highest rates (70–75 births per 1,000 women aged 15–19) were found in Mississippi, Arkansas, Arizona, Texas and New Mexico; in the District of Columbia, 102 births occurred per 1,000 teenage women. The lowest rates (29–32 per 1,000) were in New Hampshire, Vermont, Maine, Minnesota and Massachusetts.

Statewide teenage abortion rates were highest (45–53 abortions per 1,000 women aged 15–19) in New York, Nevada, New Jersey, Maryland and California (Table 4); the rate in the District of Columbia was 121 per 1,000. Teenagers in Utah, North Dakota, South Dakota, West Virginia, Idaho and Iowa had the lowest abortion rates (8–12 abortions per 1,000).

Overall, 35% of pregnancies among 15–19-year olds ended in abortion in 1996 (Table 4). However, in New Jersey, nearly six in 10 (58%) teenage pregnancies ended in abortion; the proportion also exceeded 50% in New York, Massachusetts and the District of Columbia. By contrast, only 15% of pregnancies among teenagers in Utah ended in abortion; the proportion was also below 20% in Oklahoma, Mississippi, Kentucky, Arkansas, Louisiana and West Virginia.

Between 1985 and 1996, teenage pregnancy rates declined in 47 states; in the remaining three (Illinois, Indiana and Nevada) and the District of Columbia, rates declined between 1992 and 1996 (Table 5). In 27 states and the District of Columbia, teenage birthrates were higher in 1996 than in 1985; in all but one of these states, however, the rate was lower in 1996 than in 1992. Teenage abortion rates declined in every state between 1985 and 1996. In the District of Columbia, the rate was higher in 1996 than in 1985, but it declined between 1992 and 1996.

*This information is provided through the support of The Andrew W. Mellon Foundation and The Educational Foundation of America.*

# About the Tables

## Data Sources and Methodology

Pregnancies are calculated as the sum of births, miscarriages (including stillbirths) and abortions. The number of births to teenagers in each state and teenage birthrates were obtained from the National Center for Health Statistics.[1] The number of miscarriages was estimated as 20% of births plus 10% of abortion; these proportions attempt to account for miscarriages that occur after the pregnancy has lasted long enough to be noted by the woman (6–7 weeks after the last menstrual period).[2]

The number of abortions, however, is measured less directly. For 1996, the number of abortions obtained by teenage residents of each state was calculated by starting with the number of abortions in each state that were provided to teenagers (residents and nonresidents) and then reallocating abortions to the woman's state of residence. The number of abortions performed in each state for women of all ages was derived from a survey of all abortion providers conducted by The Alan Guttmacher Institute (AGI).[3] The number of abortions obtained by women aged 15–17 and 18–19 in each state was estimated by applying the proportion of abortions provided to women in these age-groups, as documented by the state abortion reporting system, to the AGI total number of abortions in the state. For states with no information on the age of women having abortions (California, Delaware, Florida, Iowa, New Hampshire and Oklahoma), the proportion of abortions obtained by teenagers was estimated on the basis of information from neighboring or similar states.

The reassignment of abortions to the woman's state of residence was also based on information provided by state abortion reporting agencies. For states that did not supply information on the state of residence of teenagers having abortions, the proportion of abortion patients who came from other states and the states from which they came were assumed to be the same for teenagers as for women of all ages. For states with no information about the state of residence of women having abortions, data or estimates of state of residence were obtained from nonhospital abortion facilities, again on the assumption that the proportion of nonresidents was the same for teenagers as for all women.

For the years before 1996, no data on the state of residence for teenagers were used, and teenagers were assumed to have obtained abortions in other states in the same proportions as other women.

All rates were calculated using population denominators estimated by the U.S. Bureau of the Census.[4] The 1990 census found slightly more teenagers than had been projected. National population estimates for earlier years were adjusted on the basis of these findings, but state estimates were not.

## Interpreting the Data

Because health department abortion statistics are imperfect or nonexistent in many states, care should be used in interpreting the teenage abortion and pregnancy data. For the six states with no information on the age of women having abortions, the teenage abortion rate was estimated from the overall abortion rate, which correlates highly (but not perfectly) with the rate for teenagers. For these states and several others, no information specific to teenagers was available indicating the state of residence of women having abortions in the state; the assumption that teenagers come from other states for abortions at the same rate as all women may not be completely accurate. In particular, minors in states with parental involvement requirements for abortion may travel to other states at higher rates than all women, and some of these minors may not have been reassigned to their state of residence. Time trends may also be affected, since before 1996, no data specific to teenagers were used to assign abortions to the teenager's state of residence.

Births and abortions have been recorded according to the woman's age at the time of the event, not the age when she became pregnant; pregnancy rates are therefore understated. For example, the rate for women aged 18–19 would be higher than that shown if pregnancies beginning at age 19 and ending at age 20 were included.

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3. Henshaw SK, Abortion incidence and services in the United States, 1995–1996, *Family Planning Perspectives*, 1998, 30(6):263–270 & 287.

4. U.S. Bureau of the Census, Estimates of the population of states by age, sex, race, and Hispanic origin: 1990 to 1996, Dec. 1997, <http://www.census.gov/population/estimates/state/sasrh/sasrh96.txt>.

**Table 1. Pregnancy, birth and abortion rates per 1,000 women aged 15–19, and abortion ratio (abortions per 100 pregnancies), by race, 1986–1996**

| Race and measure | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total** | | | | | | | | | | | |
| Pregnancy rate* | | | | | | | | | | | |
| All women 15–19 | 106.7 | 106.8 | 111.4 | 114.9 | 117.1 | 115.8 | 111.9 | 109.3 | 106.1 | 101.1 | 97.3 |
| Sexually active women 15–19 | 210.7 | 206.7 | 212.2 | 218.5 | 224.3 | 222.4 | 215.5 | 211.1 | 205.4 | 196.3 | 189.5 |
| Birthrate | 50.2 | 50.6 | 53.0 | 57.3 | 60.4 | 62.1 | 60.7 | 59.6 | 58.9 | 56.8 | 54.4 |
| Abortion rate | 42.3 | 41.8 | 43.5 | 42.0 | 40.6 | 37.6 | 35.5 | 34.3 | 32.2 | 30.0 | 29.2 |
| Abortion ratio† | 45.7 | 45.2 | 45.1 | 42.3 | 40.2 | 37.7 | 36.9 | 36.5 | 35.3 | 34.6 | 34.9 |
| **White** | | | | | | | | | | | |
| Pregnancy rate* | 90.0 | 89.6 | 93.0 | 95.8 | 98.3 | 97.0 | 93.0 | 90.9 | 88.9 | 86.0 | 82.6 |
| Birthrate | 42.3 | 42.5 | 44.4 | 47.9 | 50.8 | 52.6 | 51.8 | 51.1 | 51.1 | 50.1 | 48.1 |
| Abortion rate | 35.6 | 35.1 | 36.1 | 34.8 | 33.9 | 30.5 | 28.1 | 26.9 | 25.1 | 23.5 | 22.6 |
| Abortion ratio† | 45.7 | 45.2 | 44.9 | 42.1 | 40.1 | 36.6 | 35.2 | 34.5 | 33.0 | 32.0 | 32.0 |
| **Nonwhite** | | | | | | | | | | | |
| All | | | | | | | | | | | |
| Pregnancy rate* | 180.7 | 180.1 | 189.1 | 193.4 | 189.6 | 189.6 | 185.2 | 180.4 | 172.5 | 158.7 | 153.3 |
| Birthrate | 84.8 | 85.5 | 89.2 | 95.9 | 96.5 | 98.4 | 95.5 | 92.5 | 89.1 | 82.2 | 78.1 |
| Abortion rate | 71.8 | 70.4 | 74.6 | 71.3 | 67.1 | 65.1 | 64.2 | 63.1 | 59.6 | 54.6 | 54.2 |
| Abortion ratio† | 45.8 | 45.2 | 45.5 | 42.6 | 41.0 | 39.8 | 40.2 | 40.5 | 40.1 | 39.9 | 41.0 |
| Black | | | | | | | | | | | |
| Pregnancy rate* | u | u | u | u | 224.3 | 223.7 | 218.7 | 212.7 | 202.1 | 184.8 | 178.9 |
| Birthrate | 95.8 | 97.6 | 102.7 | 111.5 | 113.1 | 115.5 | 112.4 | 108.6 | 104.5 | 96.1 | 91.4 |
| Abortion rate | u | u | u | u | 80.5 | 77.4 | 76.2 | 74.9 | 69.7 | 63.2 | 62.9 |
| Abortion ratio† | u | u | u | u | 41.6 | 40.1 | 40.4 | 40.8 | 40.0 | 39.7 | 40.6 |

*Includes estimated number of pregnancies ending in miscarriages. †Denominator excludes miscarriages. *Notes:* Data are tabulated according to the woman's age at the pregnancy outcome and, for births, according to the mother's race (not the child's). No data are presented separately for nonwhite women other than blacks because of small numbers and the heterogeneity of the group. u=unavailable.

**Table 2. Pregnancy, birth and abortion rates per 1,000 Hispanic women aged 15–19, and abortion ratio (abortions per 100 pregnancies), 1990, 1992 and 1996**

| Measure | 1990 | 1992 | 1996 |
|---|---|---|---|
| Pregnancy rate* | 163.4 | 176.0 | 164.6 |
| Birthrate | 100.3 | 107.1 | 101.8 |
| Abortion rate | 39.1 | 43.2 | 38.6 |
| Abortion ratio† | 28.0 | 28.7 | 27.5 |

*Includes estimated number of pregnancies ending in miscarriages. †Denominator excludes miscarriages. *Note:* Data are tabulated according to the woman's age at the pregnancy outcome. Hispanic teenagers may be of any race.

**Table 3. Number of pregnancies among women aged 15–19, by state of residence, according to age-group, 1996**

| State | 15–17 | 18–19 | 15–19 |
|---|---|---|---|
| **U.S. total** | **337,530** | **542,640** | **880,170** |
| Alabama | 6,400 | 10,120 | 16,520 |
| Alaska | 640 | 1,130 | 1,770 |
| Arizona | 7,050 | 10,600 | 17,650 |
| Arkansas | 3,660 | 6,430 | 10,090 |
| California* | 49,110 | 77,190 | 126,300 |
| Colorado | 4,660 | 7,270 | 11,930 |
| Connecticut | 3,440 | 4,790 | 8,230 |
| Delaware* | 910 | 1,310 | 2,220 |
| Dist. of Columbia† | 1,400 | 2,000 | 3,400 |
| Florida* | 18,300 | 29,990 | 48,290 |
| Georgia | 11,270 | 16,950 | 28,220 |
| Hawaii | 1,510 | 2,440 | 3,950 |
| Idaho | 1,240 | 2,430 | 3,670 |
| Illinois | 17,380 | 25,130 | 42,510 |
| Indiana | 6,650 | 12,020 | 18,670 |
| Iowa* | 2,200 | 4,010 | 6,210 |
| Kansas | 2,720 | 4,760 | 7,480 |
| Kentucky | 4,600 | 8,070 | 12,670 |
| Louisiana | 6,700 | 10,650 | 17,350 |
| Maine | 840 | 1,580 | 2,420 |
| Maryland | 6,550 | 9,930 | 16,480 |
| Massachusetts | 5,160 | 9,010 | 14,170 |
| Michigan | 11,350 | 18,490 | 29,840 |
| Minnesota | 3,480 | 5,960 | 9,440 |
| Mississippi | 4,940 | 7,150 | 12,090 |
| Missouri | 6,060 | 10,350 | 16,410 |
| Montana | 790 | 1,440 | 2,230 |
| Nebraska | 1,350 | 2,520 | 3,870 |
| Nevada | 2,690 | 4,150 | 6,840 |
| New Hampshire* | 720 | 1,410 | 2,130 |
| New Jersey | 9,420 | 14,280 | 23,700 |
| New Mexico | 3,010 | 4,390 | 7,400 |
| New York | 23,960 | 37,740 | 61,700 |
| North Carolina | 9,770 | 15,470 | 25,240 |
| North Dakota | 390 | 840 | 1,230 |
| Ohio | 11,510 | 20,270 | 31,780 |
| Oklahoma* | 3,950 | 7,090 | 11,040 |
| Oregon | 3,740 | 6,310 | 10,050 |
| Pennsylvania | 10,090 | 17,040 | 27,130 |
| Rhode Island | 930 | 1,690 | 2,620 |
| South Carolina | 5,160 | 7,830 | 12,990 |
| South Dakota | 640 | 1,130 | 1,770 |
| Tennessee | 6,800 | 11,360 | 18,160 |
| Texas | 31,800 | 48,690 | 80,490 |
| Utah | 2,070 | 4,140 | 6,210 |
| Vermont | 420 | 790 | 1,210 |
| Virginia | 6,960 | 12,080 | 19,040 |
| Washington | 6,220 | 10,110 | 16,330 |
| West Virginia | 1,730 | 3,230 | 4,960 |
| Wisconsin | 4,250 | 7,300 | 11,550 |
| Wyoming | 580 | 930 | 1,510 |

*Abortion estimates are based on the proportion of abortions obtained by women of the same age in neighboring or similar states. †Distribution of abortions among teenagers into age-groups 15–17 and 18–19 is based on the proportion among all black teenagers nationally. *Notes:* Data are tabulated according to the woman's age at the pregnancy outcome. Even though abortions have been tabulated according to state of residence where possible, in states with parental notification or consent requirements for minors, the number of pregnancies shown may be too low because minors may have traveled to other states for abortion services. Pregnancies include estimates of the number of miscarriages. Numbers are rounded to the nearest 10.

**Table 4. Ranking of pregnancy, birth and abortion rates per 1,000 women aged 15–19, these rates by age-group, and abortion ratio (abortions per 100 pregnancies), all according to state, 1996**

| State | Pregnancy rate* | | | | Birthrate | | | | Abortion rate | | | | Abortion ratio‡ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rank† | 15–19 | 15–17 | 18–19 | Rank† | 15–19 | 15–17 | 18–19 | Rank† | 15–19 | 15–17 | 18–19 | |
| **U.S. total** | na | 97 | 62 | 153 | na | 54 | 34 | 86 | na | 29 | 19 | 46 | 35 |
| Alabama | 12 | 106 | 69 | 160 | 7 | 69 | 45 | 104 | 24 | 21 | 13 | 32 | 23 |
| Alaska | 35 | 75 | 46 | 117 | 29 | 46 | 26 | 75 | 33 | 18 | 13 | 25 | 28 |
| Arizona | 3 | 118 | 80 | 176 | 3 | 74 | 49 | 111 | 16 | 27 | 19 | 39 | 27 |
| Arkansas | 8 | 108 | 65 | 174 | 2 | 75 | 45 | 122 | 37 | 16 | 10 | 25 | 18 |
| California§ | 2 | 125 | 80 | 196 | 14 | 63 | 39 | 99 | 5 | 45 | 30 | 70 | 42 |
| Colorado | 21 | 90 | 58 | 141 | 25 | 50 | 30 | 80 | 15 | 28 | 20 | 41 | 36 |
| Connecticut | 29 | 86 | 58 | 131 | 42 | 37 | 24 | 58 | 8 | 37 | 26 | 55 | 50 |
| Delaware§ | 20 | 95 | 65 | 137 | 18 | 57 | 41 | 80 | 20 | 24 | 15 | 37 | 30 |
| Dist. of Columbia** | na | 256 | 185 | 349 | na | 102 | 79 | 133 | na | 121 | 82 | 173 | 54 |
| Florida§ | 4 | 115 | 71 | 185 | 16 | 59 | 37 | 94 | 6 | 40 | 24 | 65 | 40 |
| Georgia | 7 | 109 | 72 | 167 | 8 | 68 | 45 | 103 | 19 | 25 | 16 | 39 | 27 |
| Hawaii | 15 | 101 | 66 | 149 | 26 | 48 | 28 | 76 | 7 | 39 | 30 | 53 | 45 |
| Idaho | 38 | 70 | 40 | 114 | 27 | 47 | 26 | 78 | 45 | 12 | 7 | 19 | 20 |
| Illinois | 11 | 106 | 70 | 164 | 17 | 57 | 36 | 91 | 10 | 34 | 25 | 50 | 38 |
| Indiana | 25 | 88 | 52 | 143 | 19 | 56 | 33 | 91 | 30 | 19 | 11 | 30 | 25 |
| Iowa§ | 46 | 56 | 34 | 96 | 41 | 38 | 21 | 64 | 46 | 12 | 7 | 18 | 23 |
| Kansas | 34 | 79 | 47 | 130 | 24 | 50 | 28 | 84 | 35 | 18 | 12 | 26 | 26 |
| Kentucky | 24 | 89 | 54 | 140 | 15 | 61 | 37 | 98 | 43 | 14 | 9 | 21 | 18 |
| Louisiana | 19 | 97 | 62 | 148 | 9 | 67 | 43 | 102 | 41 | 15 | 10 | 23 | 19 |
| Maine | 47 | 57 | 32 | 96 | 48 | 31 | 17 | 55 | 34 | 18 | 11 | 28 | 36 |
| Maryland | 13 | 106 | 68 | 165 | 30 | 46 | 30 | 72 | 4 | 46 | 30 | 71 | 50 |
| Massachusetts | 33 | 79 | 48 | 126 | 46 | 32 | 20 | 51 | 9 | 37 | 22 | 59 | 53 |
| Michigan | 27 | 87 | 54 | 140 | 28 | 46 | 28 | 75 | 14 | 29 | 18 | 45 | 38 |
| Minnesota | 49 | 56 | 33 | 93 | 47 | 32 | 19 | 54 | 38 | 16 | 10 | 25 | 33 |
| Mississippi | 10 | 108 | 74 | 160 | 1 | 75 | 52 | 110 | 39 | 16 | 10 | 25 | 17 |
| Missouri | 30 | 86 | 52 | 140 | 20 | 54 | 31 | 90 | 29 | 19 | 13 | 30 | 27 |
| Montana | 40 | 65 | 39 | 107 | 40 | 39 | 21 | 66 | 36 | 17 | 11 | 26 | 31 |
| Nebraska | 41 | 62 | 38 | 101 | 39 | 39 | 22 | 64 | 42 | 14 | 8 | 22 | 26 |
| Nevada | 1 | 140 | 90 | 220 | 6 | 70 | 42 | 114 | 2 | 51 | 36 | 76 | 42 |
| New Hampshire§ | 48 | 57 | 31 | 100 | 50 | 29 | 15 | 51 | 25 | 20 | 12 | 35 | 42 |
| New Jersey | 18 | 97 | 63 | 152 | 44 | 35 | 23 | 55 | 3 | 50 | 32 | 78 | 58 |
| New Mexico | 6 | 110 | 73 | 168 | 5 | 71 | 46 | 111 | 22 | 22 | 16 | 32 | 24 |
| New York | 9 | 108 | 70 | 166 | 36 | 42 | 26 | 66 | 1 | 53 | 36 | 78 | 56 |
| North Carolina | 14 | 105 | 68 | 161 | 11 | 63 | 41 | 97 | 18 | 26 | 17 | 40 | 29 |
| North Dakota | 50 | 50 | 28 | 88 | 45 | 32 | 16 | 56 | 49 | 10 | 6 | 17 | 24 |
| Ohio | 32 | 81 | 48 | 131 | 22 | 50 | 30 | 83 | 32 | 18 | 11 | 29 | 27 |
| Oklahoma§ | 23 | 90 | 53 | 149 | 12 | 63 | 37 | 105 | 44 | 13 | 7 | 21 | 17 |
| Oregon | 22 | 90 | 55 | 146 | 21 | 51 | 29 | 85 | 17 | 26 | 18 | 40 | 34 |
| Pennsylvania | 39 | 70 | 42 | 112 | 38 | 39 | 24 | 63 | 26 | 20 | 12 | 34 | 34 |
| Rhode Island | 28 | 87 | 51 | 142 | 35 | 42 | 27 | 68 | 11 | 32 | 16 | 57 | 43 |
| South Carolina | 17 | 98 | 65 | 145 | 13 | 63 | 41 | 94 | 27 | 20 | 14 | 29 | 24 |
| South Dakota | 45 | 59 | 35 | 95 | 37 | 39 | 22 | 66 | 48 | 10 | 7 | 15 | 20 |
| Tennessee | 16 | 100 | 62 | 158 | 10 | 66 | 40 | 106 | 31 | 18 | 12 | 28 | 22 |
| Texas | 5 | 113 | 74 | 174 | 4 | 73 | 49 | 111 | 21 | 23 | 14 | 36 | 24 |
| Utah | 44 | 60 | 34 | 95 | 34 | 43 | 24 | 69 | 50 | 8 | 5 | 12 | 15 |
| Vermont | 43 | 60 | 34 | 103 | 49 | 30 | 15 | 54 | 23 | 22 | 14 | 35 | 42 |
| Virginia | 26 | 87 | 54 | 136 | 31 | 46 | 28 | 72 | 12 | 30 | 19 | 46 | 40 |
| Washington | 31 | 85 | 54 | 135 | 32 | 45 | 26 | 74 | 13 | 29 | 20 | 42 | 39 |
| West Virginia | 37 | 73 | 43 | 117 | 23 | 50 | 29 | 82 | 47 | 11 | 8 | 17 | 19 |
| Wisconsin | 42 | 61 | 37 | 100 | 43 | 37 | 22 | 61 | 40 | 15 | 10 | 24 | 29 |
| Wyoming | 36 | 74 | 46 | 120 | 33 | 44 | 25 | 75 | 28 | 20 | 15 | 27 | 31 |

*Includes estimated number of pregnancies ending in miscarriages. †Based on rates for women aged 15–19. ‡Denominator excludes miscarriages. §Abortion estimates are based on the proportion of abortions obtained by women of the same age in neighboring or similar states. **Distribution of abortions among teenagers into age-groups 15–17 and 18–19 is based on the proportion among all black teenagers nationally. *Notes:* Data are tabulated according to the woman's age at the pregnancy outcome. Even though abortions have been tabulated according to state of residence where possible, in states with parental notification or consent requirements for minors, the pregnancy and abortion rates may be too low because minors may have traveled to other states for abortion services. na=not applicable.

**Table 5. Pregnancy, birth and abortion rates per 1,000 women aged 15–19, by state of residence, selected years**

| State | Pregnancy rate* | | | | Birthrate | | | | Abortion rate | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1985 | 1988 | 1992 | 1996 | 1985 | 1988 | 1992 | 1996 | 1985 | 1988 | 1992 | 1996 |
| **U.S. total** | **110** | **111** | **112** | **97** | **51** | **53** | **61** | **54** | **44** | **43** | **35** | **29** |
| Alabama | 112† | 110† | 117 | 106 | 64 | 63 | 73 | 69 | 32† | 32† | 27 | 21 |
| Alaska | 144† | 111† | 109† | 75 | 66 | 57 | 64 | 46 | 59† | 38† | 30† | 18 |
| Arizona | 128 | 127 | 133 | 118 | 67 | 69 | 82 | 74 | 43 | 40 | 32 | 27 |
| Arkansas | 111 | 115 | 116 | 108 | 72 | 70 | 75 | 75 | 23 | 27 | 23 | 16 |
| California | 151† | 154† | 159† | 125† | 54 | 58 | 74 | 63 | 79† | 76† | 64† | 45† |
| Colorado | 112 | 102 | 111 | 90 | 46 | 49 | 58 | 50 | 51 | 39 | 37 | 28 |
| Connecticut | 96 | 107 | 96 | 86 | 33 | 36 | 39 | 37 | 52 | 58 | 44 | 37 |
| Delaware | 101† | 117† | 121† | 95† | 50 | 53 | 60 | 57 | 37† | 49† | 44† | 24† |
| Dist. of Columbia | 211 | 209 | 277 | 256 | 72 | 74 | 116 | 102 | 113 | 110 | 125 | 121 |
| Florida | 126† | 133† | 127† | 115† | 58 | 63 | 66 | 59 | 51† | 52† | 43† | 40† |
| Georgia | 132 | 122 | 127 | 109 | 70 | 69 | 75 | 68 | 44 | 37 | 34 | 25 |
| Hawaii | 125 | 134 | 138 | 101 | 48 | 49 | 54 | 48 | 61 | 68 | 67 | 39 |
| Idaho | 78 | 73 | 77 | 70 | 46 | 45 | 52 | 47 | 21 | 17 | 14 | 12 |
| Illinois | 103† | 112† | 112† | 106 | 50 | 54 | 64 | 57 | 38† | 43† | 33† | 34 |
| Indiana | 87 | 89 | 95 | 88 | 51 | 52 | 59 | 56 | 24 | 25 | 22 | 19 |
| Iowa | 67† | 69† | 67† | 58† | 33 | 33 | 41 | 38 | 25† | 27† | 16† | 12† |
| Kansas | 84 | 88 | 90 | 79 | 49 | 49 | 56 | 50 | 23 | 27 | 21 | 18 |
| Kentucky | 92† | 96 | 99 | 89 | 62 | 60 | 65 | 61 | 16† | 22 | 19 | 14 |
| Louisiana | 109 | 107 | 109 | 97 | 71 | 68 | 76 | 67 | 22 | 23 | 15 | 15 |
| Maine | 92 | 82 | 70 | 57 | 44 | 41 | 40 | 31 | 36 | 30 | 20 | 18 |
| Maryland | 121 | 129 | 118 | 106 | 47 | 51 | 51 | 46 | 59 | 61 | 52 | 46 |
| Massachusetts | 86 | 97 | 87 | 79 | 30 | 32 | 38 | 32 | 45 | 53 | 38 | 37 |
| Michigan | 107 | 111 | 108 | 87 | 44 | 47 | 57 | 46 | 50 | 49 | 37 | 29 |
| Minnesota | 62 | 69 | 64 | 56 | 30 | 31 | 36 | 32 | 24 | 29 | 19 | 16 |
| Mississippi | 113 | 106 | 122 | 108 | 77 | 73 | 84 | 75 | 19 | 16 | 19 | 16 |
| Missouri | 95 | 99 | 100 | 86 | 53 | 55 | 63 | 54 | 29 | 30 | 22 | 19 |
| Montana | 82 | 74 | 81 | 65 | 42 | 39 | 46 | 39 | 28 | 24 | 24 | 17 |
| Nebraska | 75 | 75 | 71 | 62 | 37 | 37 | 41 | 39 | 27 | 27 | 20 | 14 |
| Nevada | 125 | 142 | 145 | 140 | 53 | 65 | 71 | 70 | 57 | 59 | 54 | 51 |
| New Hampshire | 89† | 87† | 62† | 57† | 32 | 33 | 31 | 29 | 46† | 43† | 22† | 20† |
| New Jersey | 113 | 112 | 97 | 97 | 36 | 39 | 39 | 35 | 63 | 60 | 45 | 50 |
| New Mexico | 116 | 124 | 129 | 110 | 70 | 72 | 80 | 71 | 30 | 35 | 30 | 22 |
| New York | 117 | 116 | 120 | 108 | 39 | 40 | 45 | 42 | 64 | 61 | 60 | 53 |
| North Carolina | 114 | 122 | 121 | 105 | 57 | 61 | 70 | 63 | 41 | 45 | 34 | 26 |
| North Dakota | 60 | 57 | 59 | 50 | 34 | 31 | 37 | 32 | 17 | 18 | 13 | 10 |
| Ohio | 96 | 96 | 93 | 81 | 50 | 52 | 58 | 50 | 33 | 31 | 21 | 18 |
| Oklahoma | 113† | 105† | 100† | 90† | 67 | 62 | 70 | 63 | 29† | 27† | 14† | 13† |
| Oregon | 95 | 105 | 99 | 90 | 42 | 48 | 53 | 51 | 41 | 43 | 32 | 26 |
| Pennsylvania | 87 | 87 | 84 | 70 | 41 | 41 | 45 | 39 | 35 | 34 | 27 | 20 |
| Rhode Island | 89 | 86 | 96 | 87 | 37 | 38 | 48 | 42 | 40 | 36 | 36 | 32 |
| South Carolina | 102 | 114 | 110 | 98 | 61 | 65 | 70 | 63 | 26 | 33 | 23 | 20 |
| South Dakota | 70 | 69 | 74 | 59 | 42 | 44 | 48 | 39 | 18 | 15 | 14 | 10 |
| Tennessee | 104 | 110 | 112 | 100 | 60 | 64 | 71 | 66 | 29 | 31 | 24 | 18 |
| Texas | 131† | 117 | 123 | 113 | 73 | 69 | 79 | 73 | 39† | 31 | 26 | 23 |
| Utah | 75 | 69 | 65 | 60 | 49 | 44 | 46 | 43 | 15 | 15 | 9 | 8 |
| Vermont | 82 | 81 | 71 | 60 | 35 | 33 | 36 | 30 | 36 | 37 | 26 | 22 |
| Virginia | 106 | 106 | 101 | 87 | 47 | 46 | 52 | 46 | 45 | 46 | 35 | 30 |
| Washington | 103 | 109 | 107 | 85 | 43 | 47 | 51 | 45 | 48 | 47 | 42 | 29 |
| West Virginia | 87† | 78† | 85 | 73 | 55 | 50 | 56 | 50 | 19† | 17† | 16 | 11 |
| Wisconsin | 73† | 74 | 73 | 61 | 37 | 38 | 42 | 37 | 25† | 26 | 21 | 15 |
| Wyoming | 98 | 82 | 81 | 74 | 54 | 48 | 50 | 44 | 30 | 23 | 19 | 20 |

*Includes estimated number of pregnancies ending in miscarriages. †Abortion estimates are based on the proportion of abortions obtained by women of the same age in neighboring or similar states. *Notes:* Abortion data for 1996 are not exactly comparable with those for earlier years because of a change in the way state of residence was calculated. Data are tabulated according to the woman's age at the pregnancy outcome. Even though for 1996 abortions have been tabulated according to state of residence where possible, in states with parental notification or consent requirements for minors, the pregnancy and abortion rates may be too low because minors may have traveled to other states for abortion services.

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# Births: Final Data for 1997

by Stephanie J. Ventura, M.A.; Joyce A. Martin, M.P.H.; Sally C. Curtin, M.A.; and T.J. Mathews, M.S., Division of Vital Statistics

## Abstract

*Objectives*—This report presents 1997 data on U.S. births according to a wide variety of characteristics. Data are presented for maternal demographic characteristics including age, live-birth order, race, Hispanic origin, marital status, and educational attainment; maternal lifestyle and health characteristics (medical risk factors, weight gain, and tobacco and alcohol use); medical care utilization by pregnant women (prenatal care, obstetric procedures, complications of labor and/or delivery, attendant at birth, and method of delivery); and infant health characteristics (period of gestation, birthweight, Apgar score, abnormal conditions, congenital anomalies, and multiple births). Also presented are birth and fertility rates by age, live-birth order, race, Hispanic origin, and marital status. Selected data by mother's State of residence are shown including teenage birth rates and total fertility rates, as well as data on month and day of birth, sex ratio, and age of father. Trends in fertility patterns and maternal and infant characteristics are described and interpreted.

*Methods*—Descriptive tabulations of data reported on the birth certificates of the 3.9 million births that occurred in 1997 are presented.

*Results*—Birth and fertility rates declined very slightly in 1997. Birth rates for teenagers fell 3 to 5 percent. Rates for women in their twenties changed very little, whereas rates for women in their thirties rose 2 percent. The number of births and the birth rate for unmarried women each declined slightly in 1997 while the percent of births that were to unmarried women was unchanged. Smoking by pregnant women overall dropped again in 1997, but continued to increase among teenagers. Improvements in prenatal care utilization continued. The cesarean delivery rate increased slightly after declining for 7 consecutive years. The proportion of multiple births continued to rise; higher order multiple births (e.g., triplets, quadruplets) rose by 14 percent in 1997, following a 20 percent rise from 1995 to 1996. Key measures of birth outcome—the percents of low birthweight and preterm births—increased, with particularly large increases in the preterm rate. These changes are in large part the result of increases in multiple births.

**Keywords:** birth certificate • maternal and infant health • birth rates • maternal characteristics

## Highlights

**Births** in the United States declined very slightly in 1997, to 3,880,894, the lowest number since 1987. The **birth rate** also dropped in 1997, to 14.5 births per 1,000 total population, a record low for the Nation. The **fertility rate**, which relates births to the number of women of childbearing age, declined in 1997 to 65.0 births per 1,000 women aged 15–44 years, matching the record low reported in 1976.

**Fertility rates for women in racial and Hispanic origin subgroups** increased for Puerto Rican, American Indian, and Asian or Pacific Islander women, but declined for other groups by up to 3 percent. Rates differ considerably among groups, with Mexican women having the highest rate, 116.6 per 1,000 aged 15–44 years. Rates are successively lower for non-Hispanic black, Puerto Rican, American Indian, Asian or Pacific Islander, Cuban and non-Hispanic white women.

**The birth rate for teenagers** continued to decline in 1997, falling 4 percent to 52.3 births per 1,000 women aged 15–19 years. The rate for young teenagers 15–17 years declined 5 percent to 32.1 per 1,000, while the rate for older teenagers 18–19 years declined 3 percent to 83.6. During 1991–97, the rate for ages 15–19 years dropped 16 percent, while rates for teenagers 15–17 and 18–19 years fell 17 and

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11 percent, respectively. From 1991 to 1997, the rates for non-Hispanic black and Puerto Rican teenagers dropped 24 to 27 percent. Teenage birth rates fell significantly in all but one State during 1991–97. The teenage pregnancy rate has continued to fall in the 1990's, as reflected in concurrent declines in birth and abortion rates.

**Birth rates for women in their twenties**, the peak childbearing ages, changed little in 1997. The rate for women 20–24 years declined slightly to 110.0 per 1,000, while the rate for women 25–29 years rose 1 percent to 113.8 per 1,000. Birth rates for women in their twenties have been relatively stable over the past two decades.

**Birth rates for women in their thirties** increased 2 percent in 1997, to 65.3 per 1,000 for women aged 30–34 years, and to 36.1 for women aged 35–39 years. These rates have risen almost without interruption since the mid-to-late 1970's. However, the pace of increase has slowed in the 1990's, especially for women aged 30–34 years. **The birth rate for women aged 40–44 years** also increased in 1997, to 7.1 per 1,000.

The **first birth rate** declined in 1997 to its lowest level ever, 26.5 first births per 1,000 women aged 15–44 years. Among teenagers, first birth rates declined 3 to 5 percent. Rates for second births to teenagers who have had one birth changed little in 1997, after dropping substantially from 1991 to 1996. First birth rates for women in their thirties rose again in 1997, continuing a long-term trend.

**The birth rate for unmarried women** in 1997 was 44.0 births per 1,000 unmarried women aged 15–44 years, 2 percent lower than in 1996 and 6 percent lower than its highest level, 46.9 in 1994. The number of births to unmarried women declined slightly to 1,257,444 in 1997, while the percent of all births occurring to unmarried women was unchanged at 32.4 percent. The birth rate for unmarried teenagers fell 2 percent in 1997 to 42.2 per 1,000, down 9 percent from its 1994 high, 46.4.

**Cigarette smoking during pregnancy** continued to decline in 1997, to 13.2 percent of women giving birth. Tobacco use during pregnancy has fallen steadily since 1989. However, smoking among pregnant teenagers increased again in 1997, with particularly large increases for black and Puerto Rican teenagers. In general, smoking rates are lowest for Hispanic and Asian or Pacific Islander women. Maternal smoking has a strong adverse impact on infant birthweight. In 1997, 12.1 percent of births to smokers compared with 7.1 percent of births to nonsmokers weighed less than 2,500 grams (5 lb 8 oz).

**First trimester prenatal care** improved for the 8th consecutive year, rising from 81.9 in 1996 to 82.5 percent in 1997. Timely care has risen among all race/ethnic groups for the 1990's, but gains have been the most pronounced among groups with lower levels of care. Since 1989, first trimester care has risen by at least 20 percent among Mexican, Puerto Rican, Central and South American, and non-Hispanic black women, and by more than 15 percent among American Indian and Hawaiian mothers. Despite these improvements, rates of first trimester care are still low for American Indian, Mexican, and non-Hispanic black women.

Data on **method of delivery** show that the rate of cesarean delivery increased slightly between 1996 and 1997 (from 20.7 to 20.8 percent) after declining for 7 consecutive years. The rate in 1997 was 9 percent lower than in 1989 (22.8 percent). The primary cesarean rate was also 9 percent lower in 1996 and 1997 than in 1989 (14.6 first cesareans per 100 women who had no previous cesarean in 1996 and 1997 compared with 16.1 in 1989). The rate of vaginal birth following a previous cesarean delivery (VBAC) increased 50 percent between 1989 (18.9) and 1996 (28.3) but fell 3 percent from 1996 to 1997 (27.4). The percent of births delivered by forceps continued to decline (2.8 percent in 1997) while the percent by vacuum extraction rose (6.2 percent in 1997).

The remarkable rise in **multiple births** continued in 1997; the number of twin births rose 3 percent (from 100,750 to 104,137), and the number of triplets climbed 16 percent (from 5,298 to 6,148). Births in quadruplet and quintuplet and other higher order births were down slightly, however. The twinning rate has increased 11 percent since 1990 (from 22.6 to 26.8 per 1,000), and by 42 percent since 1980 (from 18.9 per 1,000). The higher order multiple birth rate has more than doubled just since 1991 (from 81.4 to 173.6 per 100,000), and has quadrupled since 1980 (from 37.0 per 100,000).

The rate of **preterm birth** (less than 37 completed weeks of gestation) increased sharply from 11.0 percent in 1996 to 11.4 percent in 1997. The percent of births born preterm has risen 8 percent since 1990, and more than 20 percent since 1981 (from 9.4 percent). The recent upward trend in this rate has been partly driven by the rise in multiple births that are at much greater risk of shorter gestations than singletons. (The preterm rate for singletons was 10.0 percent compared with 54.9 percent for twins, and 93.6 percent for higher order multiples.) The preterm birth rate was up for most racial/ethnic groups, but the largest rise (4 percent) was observed among births to non-Hispanic white mothers (from 9.5 to 9.9 percent).

The proportion of infants born **low birthweight** (LBW) rose again for 1997 to 7.5 percent (from 7.4 percent for 1996), the highest level reported since 1973. This rate has risen slowly over the last decade. Low birthweight was up slightly among non-Hispanic white (6.4 to 6.5 percent) and Hispanic mothers (6.3 to 6.4 percent). The current year rise in LBW was only partly attributable to the increase in multiple births; low birthweight among singleton births rose from 6.03 percent in 1996 to 6.08 percent in 1997. The 1997 level of low birthweight was unchanged among non-Hispanic black mothers from the previous year at 13.1 percent.

## Introduction

This report presents detailed data on numbers and characteristics of births in 1997, birth and fertility rates, maternal lifestyle and health characteristics, medical services utilization by pregnant women, and infant health characteristics. These data provide important information on fertility patterns among American women by such characteristics as age, live-birth order, race, Hispanic origin, marital status, and educational attainment. Up-to-date information on these fertility patterns is critical to understanding population growth and change in this country and in individual States. Data on maternal characteristics such as weight gain, tobacco and alcohol use, and medical risk factors are useful in accounting for differences in birth outcomes. Information on use of prenatal care, obstetric procedures, complications of labor and/or delivery, attendant at birth and place of delivery, and method of delivery by maternal demographic characteristics can also help to explain differences in birth outcomes. It is very important that data on birth outcomes, especially levels of low birthweight and preterm birth, be continuously monitored, because these variables are important predictors of infant mortality and morbidity.

A report of preliminary birth statistics for 1997 presented data on selected topics based on a substantial sample (about 99 percent) of the 1997 birth file (1). The selected measures included birth rates by age, race, and Hispanic origin of mother, and by live-birth order, and births by marital status, prenatal care, cesarean delivery, and low birthweight. Findings for these selected measures based on the preliminary data are essentially identical to those presented here based on final data.

In addition to the tabulations included in this report, more detailed analysis is possible by using the natality public-use data tape, which is issued for each year. Birth data are also available in CD-ROM format since 1991 (2).

## Methods

Data shown in this report are based on 100 percent of the birth certificates registered in all States and the District of Columbia. More than 99 percent of births occurring in this country are registered (3). Tables that show data by State also provide separate information for Puerto Rico, Virgin Islands, Guam, and American Samoa; however, data for these areas are not included in totals for the United States. Data for American Samoa are available for the first time in 1997.

In this report, tabulations of births beginning with 1980 data are by race of mother; for years prior to 1980, tabulations are by race of child. Details of the differences in tabulation procedure are described in the Technical notes. Text references to black births and black mothers or white births and white mothers are used interchangeably.

Race and Hispanic origin are reported independently on the birth certificate. In tabulations of birth data by race and Hispanic origin, data for Hispanic persons are not further classified by race because the vast majority of women of Hispanic origin are reported as white. Most tables in this report show data for these categories: white, total; white, non-Hispanic; black, total; black, non-Hispanic; and Hispanic. When data other than birth rates for Hispanic subgroups are shown, they are presented for the following five groups: Mexican, Puerto Rican, Cuban, Central and South American, and other and unknown Hispanic. When reporting birth rates for Hispanic subgroups, births to Central and South American women are added to births to other and unknown Hispanic women because more detailed population data for Central and South American women are not separately available. Data are shown for five Asian or Pacific Islander (API) subgroups: Chinese, Japanese, Hawaiian, Filipino, and "other" API. In addition, eight States report data on API subgroups included in the "other" API category (Vietnamese, Asian Indian, Korean, Samoan, Guamanian, and remaining API); see Technical notes. A report on births in 1992 to women in these API subgroups has been published (4).

U.S. and State-level birth and fertility rates in this report were computed on the basis of population denominators provided by the U.S. Bureau of the Census. Rates by State shown in this report may differ from rates computed on the basis of other population estimates. Additional information on the measurement of marital status, gestational age, and birthweight; the computation of derived statistics and rates; population denominators; random variation and relative standard error; and the definitions of terms are presented in the Technical notes.

Information on births by age, race, or marital status of mother is imputed if it is not reported on the birth certificate. These items were not reported for less than 1 percent of U.S. births in 1997. (See Technical notes for additional information.) All other maternal and infant characteristics (except items on which length of gestation is calculated) are not imputed; see Technical notes. Births for which a particular characteristic is unknown are subtracted from the figures for total births that are used as denominators before percents, percent distributions, and medians are computed. Thus, for example, the proportion of women receiving care in the first trimester of pregnancy is computed on the basis of births for which month pregnancy prenatal care began was reported. Levels of nonreporting vary substantially by specific item and by State. Table I in the Technical notes provides information on the percent of records with missing information for each item by State for 1997. Readers should note that the levels of incomplete reporting for some of the medical items are quite high in some States. Data for Connecticut, Hawaii, and Oklahoma are of particular concern.

## Demographic characteristics

### Births and birth rates

#### Number of births

The number of births in the United States declined very slightly in 1997, to 3,880,894, compared with 3,891,494 in 1996. Between 1995 and 1997 the number of births fell less than half of 1 percent. The 1997 total is 7 percent fewer than the number in 1990, the most recent high point in U.S. births and is the lowest recorded in a decade **(see tables 1–12 for national and State birth data by age, live-birth order, race, and Hispanic origin).** According to provisional data for 1998, births have increased about 2 percent.

**The number of births for most race and Hispanic origin groups increased in 1997 (tables 1 and 6).** Increases of 1 to 2 percent were reported for non-Hispanic black, Puerto Rican, American Indian, Filipino, Mexican, and Cuban births. The small overall decline in U.S. births reflects almost entirely the 1-percent decline in the number of births to non-Hispanic white women. Births to Central and South American, Chinese, and Japanese women also declined—by less than 1 percent. Hawaiian births fell 4 percent.

#### Crude birth rate

The crude birth rate in 1997 was 14.5 live births per 1,000 total population, a record low for the Nation. The 1997 rate was 1 percent lower than in 1996 and 13 percent lower than in 1990 (16.7). The previous low point for the U.S. birth rate was recorded in 1975 and 1976 (14.6). Provisional data for 1998 suggest a small increase in the birth rate.

#### Fertility rate

The fertility rate, which relates births to the number of women in the childbearing ages, was 65.0 live births per 1,000 women aged 15–44 years in 1997, less than 1 percent below the 1996 rate (65.3). The fertility rate for 1997 was 8 percent below the rate in 1990 (70.9), and matched the previous low recorded in 1976 **(table 1 and figure 1).** The decline in the fertility rate in the 1990's reverses an 8-percent rise from 1986 to 1990. Provisional data for 1998 indicate an increase in the fertility rate.

**Fertility rates for most race and Hispanic origin groups declined** in 1997 (tables 1 and 6). Rates declined less than 1 percent

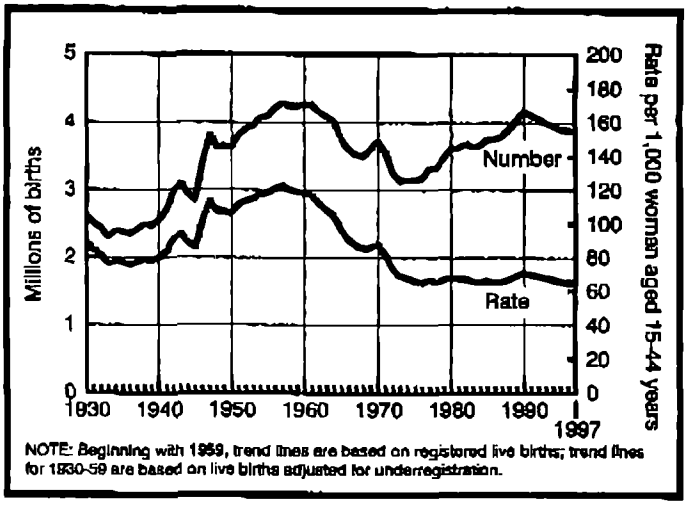



**Figure 1. Live births and fertility rates: United States, 1930–97**

each for non-Hispanic black (72.4 per 1,000) and non-Hispanic white women (57.0). The rates for Mexican women (116.6), Cuban women (57.4), and "other" Hispanic women (which includes all births to Central and South American and other and unknown Hispanic women) (87.6) fell by 2 to 3 percent each. The rates for Puerto Rican (71.7), American Indian (69.1), and API women (66.3) increased 1 percent each.

The modest reductions in fertility rates for non-Hispanic white and black women indicate a slowdown in the steady downward trend in these rates in the 1990's. During the years 1990–96, the fertility rate for non-Hispanic white women declined 9 percent, and the rate for non-Hispanic black women fell 19 percent. The increases in fertility rates for American Indian and API women in 1997 mark a halt, even if temporarily, in the general downward trend in these rates during the 1990's.

The fertility rate for Hispanic women in 1997 was the lowest reported since 1989 when data accounting for virtually all Hispanic births in the United States first became available. Trends in fertility for Hispanic women by subgroup for 1989–95 are presented in more detail in a recent report (5).

## Age of mother

***Teenagers***—The **birth rate for the youngest teenagers** was 1.1 births per 1,000 females 10–14 years in 1997, matching the rate reported in 1980–83 (**table 4**). This rate has declined steadily since 1994 (the rate was 1.4 in each year 1989 through 1994). The number of births to 10–14-year-olds fell 9 percent from 1996 to 1997, to 10,121, the lowest total reported since 1984 (9,965). The decline in the number of births to very young teenagers occurred solely as a result of the reduction in the birth rate; the number of female teenagers has increased steadily in the 1990's (6).

The **birth rate for teenagers 15–19 years** fell 4 percent to 52.3 per 1,000. This rate was 16 percent lower than the rate in 1991 (62.1) (**table A**). The recent declines in the teenage birth rate partly reverse the 24-percent increase that occurred from 1986 to 1991. State-specific birth rates for teenagers are discussed in the section "Births and birth rates by State."

**Birth rates for teenage subgroups 15–17 and 18–19 years** also fell between 1996 and 1997. The rate for teenagers 15–17 years declined 5 percent to 32.1 per 1,000. This rate fell by 17 percent from

**Table A. Birth rates for teenagers by age, race, and Hispanic origin of mother: United States, 1991, 1996, and 1997**

[Rates per 1,000 women in specified group]

| Year and age | Total[1] | Non-Hispanic | | Hispanic |
|---|---|---|---|---|
| | | White | Black | |
| 10–14 years | | | | |
| 1997 | 1.1 | 0.4 | 3.4 | 2.3 |
| 1996 | 1.2 | 0.4 | 3.8 | 2.6 |
| 1991[2] | 1.4 | 0.5 | 4.9 | 2.4 |
| 15–19 years | | | | |
| 1997 | 52.3 | 36.0 | 90.6 | 97.4 |
| 1996 | 54.4 | 37.6 | 94.2 | 101.8 |
| 1991[2] | 62.1 | 43.4 | 116.9 | 108.7 |
| 15–17 years | | | | |
| 1997 | 32.1 | 19.4 | 62.6 | 66.3 |
| 1996 | 33.8 | 20.6 | 66.6 | 69.0 |
| 1991[2] | 38.7 | 23.6 | 86.7 | 70.6 |
| 18–19 years | | | | |
| 1997 | 83.6 | 61.9 | 134.0 | 144.3 |
| 1996 | 86.0 | 63.7 | 136.6 | 151.1 |
| 1991[2] | 94.4 | 70.5 | 163.1 | 158.5 |

[1]Includes races other than white and black and origin not stated.
[2]See reference 5 for information on reporting areas in 1991.

1991 (38.7) to 1997 (**table 4 and figure 2**). The number of births to teenagers 15–17 years fell 3 percent from 1996 to 1997 to 180,154.

The birth rate for older teenagers 18–19 years declined 3 percent to 83.6 per 1,000. This rate fell 12 percent from 94.5 in 1992 (its recent high) to 1997. The number of births to older teenagers dropped just 1 percent in 1997 to 303,066.

**Teenage birth rates by race and Hispanic origin** vary substantially (**tables 3, 4, 8, and 9**). Rates in 1997 were highest for Mexican, non-Hispanic black, Puerto Rican, and American Indian teenagers and lowest for non-Hispanic white, Cuban, and API teenagers, a pattern that has been observed since 1994. Between 1996 and 1997, teenage birth rates declined for all race and Hispanic origin groups except Cuban and "other" Hispanic teenagers. Rates dropped 7 to 9 percent for Mexican and Puerto Rican teenagers, and 3 to 4 percent for American Indian, API, non-Hispanic white, and non-Hispanic black teenagers.

From 1991, when rates for teenagers generally were at a peak, to 1997, birth rates fell 24 to 27 percent for non-Hispanic black and Puerto Rican teenagers. Rates dropped 14 to 17 percent for non-Hispanic white, American Indian, and API teenagers. The rate for Mexican teenagers has declined 4 percent since 1991.

The factors accounting for the current downturn in teenage birth rates are discussed in a recent report (6). Briefly, the proportion of teenagers who are sexually experienced has stabilized in the mid-1990's, reversing the steady increases over the past two decades. Moreover, teenagers are more likely to use contraceptives at first intercourse, especially condoms (7,8).

Teenage pregnancy rates (based on the sum of live births, induced abortions, and fetal losses) have also declined in recent years (6, 9, 10, 11). The pregnancy rate for teenagers 15–19 years fell 12 percent from 117 per 1,000 in 1991 to 103 in 1995, reversing an 11-percent rise from 1986 to 1991 (6, 10). Further declines in the teenage pregnancy rate

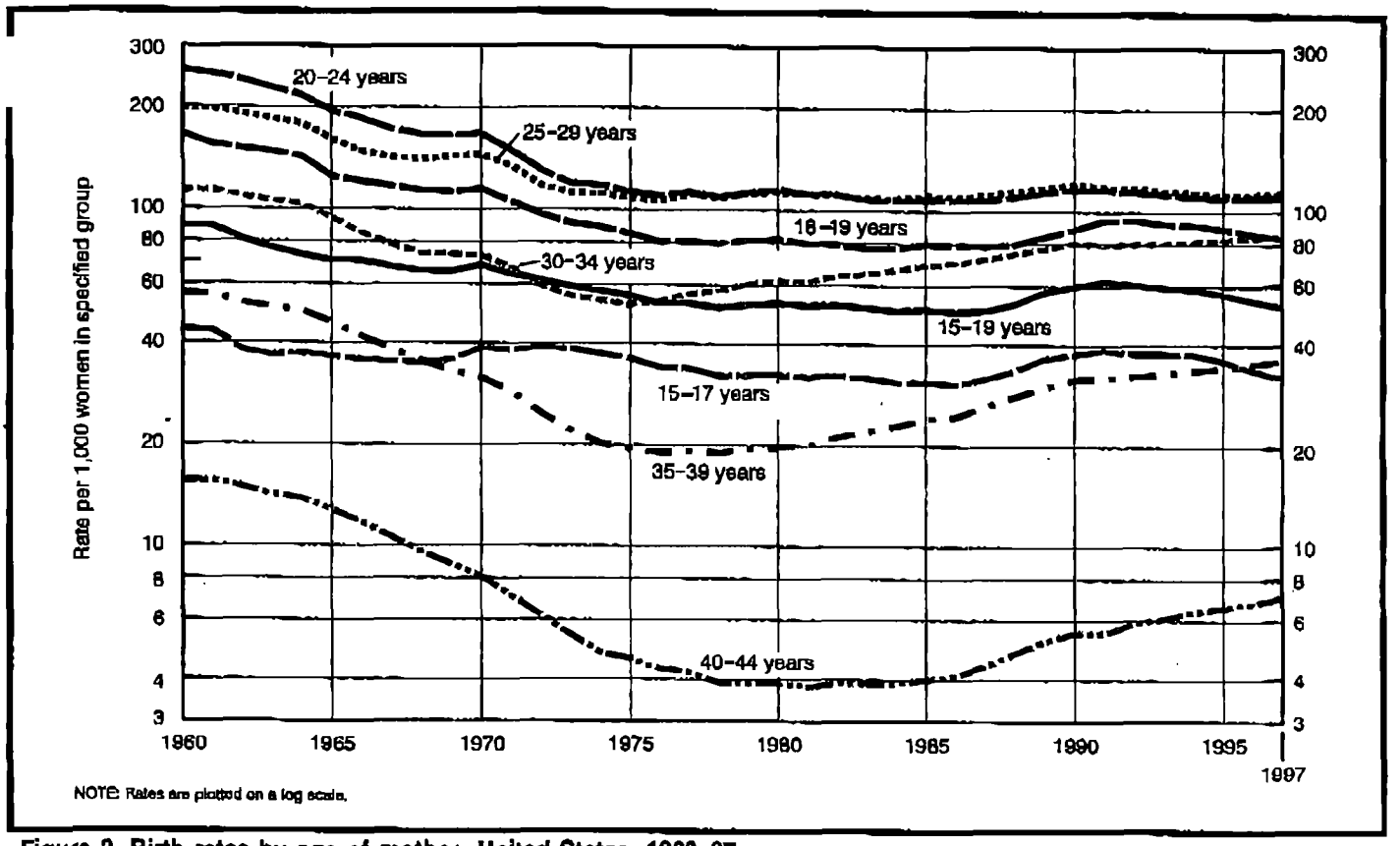



**Figure 2. Birth rates by age of mother: United States, 1960–97**

since 1995 are indicated by the steady decline in the teenage birth rate and declines in abortions among teenagers, according to preliminary data (12).

***Women aged 20 years and over: Women in their twenties***—The birth rate for women aged 20–24 years declined slightly in 1997, resuming the steady decline reported for 1990–95 (**tables 3, 4, 8, and 9**). The rate for women aged 20–24 years was 110.0 per 1,000 in 1997. The birth rate for women aged 25–29 years rose 1 percent in 1997 to 113.8 per 1,000; this rate increased for 2 consecutive years, following steady declines during 1990–95. The rates for women in their twenties, the principal childbearing ages, have been relatively stable over the past two decades.

Birth rates for women in age groups 20–24 and 25–29 years were consistently highest for Mexican women. For example, the rate for Mexican women aged 20–24 years, 204.9 per 1,000, was nearly three times the rate for API women in this age group (70.5).

***Women in their thirties***—Birth rates for women in their thirties rose 2 percent in 1997. Rates for women in these age groups have generally increased steadily since the late 1970's, a pattern unlike any other age group (**table 4**). The **rate for women aged 30–34 years** increased in 1997 to 85.3 per 1,000. This rate increased by 63 percent since 1975. Most of this increase occurred by 1990. The number of births to women aged 30–34 years dropped 1 percent in 1997, reflecting the 3-percent reduction in the number of women (13).

The **birth rate for women in their late thirties** increased 2 percent to 36.1 per 1,000 women aged 35–39 years. This rate has increased without interruption since 1978 (19.0) by 90 percent. Although the pace of increase slowed in the 1990's, the 1997 rate was still 14 percent higher than the rate in 1990 (31.7). Because the birth rate and the number of women each increased, the number of births to women aged 35–39 years rose again in 1997, to a record high, 409,710 (13). Among women in their thirties, birth rates were highest for API, Mexican, and "other" Hispanic women (**tables 3 and 8**).

***Women in their forties***—The **birth rate for women aged 40–44 years** increased from 6.8 per 1,000 to 7.1 in 1997. This rate rose 29 percent from 1990 (5.5) to 1997. From 1981 to 1997, the rate increased by 87 percent; the 1997 rate matches the previous high recorded in 1971. The number of births in this age group rose 6 percent to 76,084, the highest number reported since 1965.

The **birth rate for women aged 45–49 years** increased from 0.3 births per 1,000 in 1996 to 0.4 in 1997. The number of births to women in this age group rose 9 percent to 3,333, the highest number recorded since 1969 (3,398).

***Births to women aged 50 years and over***—In this report, statistics are shown for births to women aged 50–54 years in 1997, the first time this information is available since 1963. For the years 1964–96, mother's age was edited for ages 10–49 years (3). Additional information on the editing procedures is presented in the Technical notes. Because of the recent advances in fertility-enhancing therapies, an increasing number of women are giving birth at age 50 years and over. In 1997, 144 births were reported to women aged 50–54 years (**tables 2 and 7**). This number is too small for computing an age-specific birth rate. Therefore, in computing birth rates by age of mother, births to women aged 50–54 years have been included with births to women aged 45–49 years; the denominator for the rate is women aged 45–49 years.

Although sustained increases in birth rates have been most long-lasting for women aged 30 years and over (14), the pace of increase has slowed since 1990 as noted above (table 4). Among the factors contributing to the slowdown include declining birth expectations among childless women and relatively high proportions of currently childless women aged 35–44 years reporting impaired fecundity according to the 1995 National Survey of Family Growth (7, 15, 16).

### Live-birth order

The first birth rate dropped 1 percent in 1997 to 26.5 first births per 1,000 women aged 15–44 years (**table 5**). This was the lowest level ever recorded. The first birth rate dropped 9 percent compared with 1990 (29.0), its recent high point. The rate for third births rose slightly. Birth rates for other birth orders were unchanged.

While the first birth rate declined 1 percent overall, there were substantial differences in the trends by age of mother (**table 3**; tabular data not shown for 1996 and earlier years). Rates declined for teenage subgroups 15–17 and 18–19 years and for women aged 20–24 years by 3 to 5 percent; the rate was unchanged for women aged 25–29 years. In contrast, first birth rates rose 3 percent for women in their thirties. Reflecting these variations by age, the proportion of all first births occurring to women aged 30 years and over increased slightly in 1997 to 23 percent compared with just 5 percent in 1975 (14). First birth rates for API women aged 30–34 and 35–39 years were substantially higher in 1997 than for any other group.

The **birth rate for second births to teenagers** who have had a first birth was essentially unchanged in 1997 compared with 1996, after falling 21 percent from 1991 to 1996 (6). All of the decline in teenage birth rates in 1997 was thus due to declines in first birth rates.

### Total fertility rate

The total fertility rate (TFR) indicates the number of births that a hypothetical group of 1,000 women would have if they experienced throughout their childbearing years the age-specific birth rates observed in a given year. This measure shows the potential impact of current fertility patterns on completed family size. Because it is computed from age-specific birth rates, the TFR is age-adjusted; it is not affected by changes over time in age composition.

The TFR in 1997 was 2,032.5, less than 1 percent higher than in 1996 (**tables 4 and 9**). The TFR has increased from 1995—by 1 percent overall—following a 3-percent decline from 1990 to 1995. The increase in the TFR resulted from the rise in age-specific birth rates for all women in age groups 25–49 years, which more than compensated for the declines in the teenage birth rates.

The U.S. total fertility rate remains below "replacement" level (2,100), the rate at which a given generation can exactly replace itself. The TFR has been below "replacement" since 1971 (2,266.5). TFR's vary substantially among racial and Hispanic origin groups. In 1997, as in recent years, the TFR was above "replacement" for Mexican, non-Hispanic black, and Puerto Rican women. Rates were below "replacement" for American Indian, API, Cuban, and non-Hispanic white women (**tables 4, 9, 13, and 14**). Changes between 1996 and 1997 in most TFR's were 2 percent or less. State-specific TFR's for 1997 are discussed in the next section.

## Births and birth rates by State

Birth data by race and by Hispanic origin for 1997 are shown in **tables 10–12** for the 50 States and the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and American Samoa. The American Indian, Asian or Pacific Islander (API) and Hispanic populations (and Hispanic subgroups) are highly concentrated geographically.

The **number of births** increased in 28 States and Puerto Rico, the Virgin Islands, and Guam and declined in 22 States and the District of Columbia. Increases and declines of up to 2 percent were found in 41 of the States, Puerto Rico, and Guam. The number increased 4 percent in Georgia and Oklahoma and 6 percent in the Virgin Islands and declined 6 percent in Hawaii and the District of Columbia.

**Crude birth rates** by State ranged from 11 births per 1,000 population (Maine, Vermont, and West Virginia) to 21 per 1,000 (Utah) (**table 10**). Birth rates per 1,000 total population declined in 32 States and the District of Columbia, increased in 9 States, Puerto Rico, the Virgin Islands, and Guam, and were unchanged in 9 States; changes were no more than 2 percent in most States. Changes were not significant in 29 of the States and the District of Columbia or in Puerto Rico, the Virgin Islands, and Guam. Statistically significant declines of 4 to 5 percent were recorded for California, Hawaii, and South Dakota, whereas Oklahoma recorded a significant increase of 4 percent.

**Fertility rates per 1,000 women aged 15–44 years** ranged from a low of 50 (Maine and Vermont) to a high of 89 (Utah) (**table 10**). Rates declined in 21 States and the District of Columbia, increased in 25 States, Puerto Rico, the Virgin Islands, and Guam, and were unchanged in 4 States. Changes in most States were no more than 2 percent and were not statistically significant in 33 States and the District of Columbia, Puerto Rico, the Virgin Islands, and Guam. Significant declines of 5 percent each were reported for Hawaii and South Dakota, while a 4-percent increase was found for Oklahoma.

State-specific **total fertility rates** for 1997 are shown in **table 10**. These rates provide a summary measure of lifetime fertility at the State level; rates for 1980, 1990, and 1996 have been published (17–19). Rates by State for 1997 vary substantially, from a low of 1,573.5 (or 1.57 births per woman) for Vermont to a high of 2,632.0 (2.63 births per woman) for Utah. Differences in the TFR's and changes between 1996 and 1997 by State are quite similar to those in the general fertility rate.

## Birth rates for teenagers

Birth rates for teenagers by age group and State are shown for 1997 in table 10. Rates per 1,000 women aged 15–19 years ranged by State from 26.9 (Vermont) to 73.7 (Mississippi). The highest rate was reported for Guam, 106.3. Birth rates for teenagers have been declining in the United States since 1991. Between 1991 and 1997, teenage birth rates fell in all States and the District of Columbia and the Virgin Islands; declines were statistically significant in all States except for Rhode Island (**table B**). Declines exceeded 20.0 percent in 10 States and the District of Columbia. More detailed information on current trends and variations in State-specific teenage birth rates by age, race, and Hispanic origin is presented in a recent report (6).

## Sex ratio

There were 1,985,596 male live births in 1997 compared with 1,895,298 female live births. These numbers yielded a sex ratio of

**Table B. Birth rates for teenagers 15–19 years by State, 1991 and 1997, and percent change, 1991–97: United States and each State, Puerto Rico, Virgin Islands, Guam, and American Samoa**

[Birth rates per 1,000 estimated female population aged 15–19 years in each area]

| State | 1991 | 1997 | Percent change, 1991–97 | State | 1991 | 1997 | Percent change, 1991–97 |
|---|---|---|---|---|---|---|---|
| United States[1] | 62.1 | 52.3 | –15.8 | Nebraska | 42.4 | 37.2 | –12.3 |
| | | | | Nevada | 75.3 | 67.7 | –10.1 |
| Alabama | 73.9 | 66.6 | –9.9 | New Hampshire | 33.3 | 28.6 | –14.1 |
| | 65.4 | 44.8 | –31.6 | New Jersey | 41.5 | 35.0 | –15.9 |
| Arizona | 80.7 | 69.7 | –13.6 | New Mexico | 79.8 | 68.4 | –14.3 |
| A | 79.8 | 72.9 | –8.6 | New York | 46.0 | 38.8 | –15.7 |
| California | 74.7 | 57.3 | –23.3 | North Carolina | 70.5 | 61.3 | –13.0 |
| Colorado | 58.2 | 48.2 | –17.2 | North Dakota | 35.8 | 30.1 | –15.4 |
| Connecticut | 40.4 | 36.1 | –10.6 | Ohio | 60.5 | 49.8 | –17.7 |
| Delaware | 61.1 | 55.8 | –8.7 | Oklahoma | 72.1 | 64.3 | –10.8 |
| District of Columbia | 114.4 | 91.0 | –20.5 | Oregon | 54.9 | 46.9 | –14.6 |
| Florida | 68.8 | 57.7 | –16.1 | Pennsylvania | 46.9 | 37.3 | –20.5 |
| Georgia | 76.3 | 67.2 | –11.9 | Rhode Island | 45.4 | 42.7 | –5.9** |
| I | 58.7 | 43.8 | –25.4 | South Carolina | 72.9 | 61.4 | –15.8 |
| Idaho | 53.9 | 43.3 | –19.7 | South Dakota | 47.5 | 39.7 | –16.4 |
| Illinois | 64.8 | 54.7 | –15.6 | Tennessee | 75.2 | 64.5 | –14.2 |
| Indiana | 60.5 | 54.2 | –10.4 | Texas | 78.9 | 71.7 | –9.1 |
| Iowa | 42.6 | 35.7 | –16.2 | Utah | 48.2 | 42.6 | –11.6 |
| Kansas | 55.4 | 48.5 | –12.5 | Vermont | 39.2 | 26.9 | –31.4 |
| Kentucky | 68.9 | 59.6 | –13.5 | Virginia | 53.5 | 44.2 | –17.4 |
| Louisiana | 76.1 | 66.3 | –12.9 | Washington | 53.7 | 42.5 | –20.9 |
| Maine | 43.5 | 32.0 | –26.4 | West Virginia | 57.8 | 49.1 | –15.1 |
| Maryland | 54.3 | 43.9 | –19.2 | Wisconsin | 43.7 | 35.9 | –17.8 |
| usetts | 37.8 | 31.7 | –16.1 | Wyoming | 54.2 | 43.3 | –20.1 |
| Michigan | 59.0 | 43.9 | –25.6 | | | | |
| Minnesota | 37.3 | 32.0 | –14.2 | Puerto Rico | 72.4 | 77.8 | 7.5 |
| Mississippi | 85.8 | 73.7 | –13.9 | Virgin Islands | 77.9 | 66.0 | –15.3 |
| Missouri | 64.5 | 51.5 | –20.2 | Guam | 95.7 | 106.3 | 11.1** |
| Montana | 46.7 | 37.6 | –19.5 | American Samoa | --- | 43.9 | --- |

** Not significant at $p < 0.05$.

--- Data not available.

[1] Excludes data for Puerto Rico, Virgin Islands, Guam, and American Samoa.

1,048 male per 1,000 female live births (**tables 13 and 14**). The sex ratio has changed very little over the last 50 years and was 1,047 in 1996. Similar to previous years, Asian or Pacific Islander mothers had the highest sex ratio (1,072), followed by non-Hispanic white mothers (1,052), Hispanic mothers (1,040), American Indian mothers (1,036), and non-Hispanic black mothers (1,031).

## Month of birth

Monthly birth rates in 8 months of 1997 were below the rates for the same months observed in 1996. The peak months of occurrence of births in 1997 were July, August, and September (**table 15**). When the seasonal component is removed from the monthly birth rates, the underlying trends can be observed. All months except for April, June, and December had the lowest seasonally adjusted birth rates in at least 20 years. The rate for August 1997 was the lowest observed in the more than 60 years for which monthly seasonal adjustments are available (3, 20).

## Day of the week of birth

Variation in the daily pattern of births can be measured by an index of occurrence. In 1997 the Sunday index was 73.2, an indication that there were nearly 27 percent fewer births on Sundays than the daily average, considered to be 100.0. The Saturday index was 81.5. As in past years, births occurred most frequently on Tuesdays with an index of 113.8 in 1997 (**table 16**).

A weekend deficit is apparent for vaginal and cesarean deliveries, but is far larger for cesarean deliveries, particularly repeat cesareans. In 1997 the Sunday index for vaginal births was 78.2, compared with 63.9 for primary cesareans and 37.7 for repeat cesareans.

## Births to unmarried women

**The birth rate for unmarried women** in 1997 was 44.0 births per 1,000 unmarried women aged 15–44 years, 2 percent lower than in 1996 (44.8), and 6 percent below its highest level, 46.9 in 1994. **The number of births to unmarried women** declined slightly, to 1,257,444 in 1997. **The percent of all births occurring to unmarried women** was unchanged at 32.4 percent in 1997. (See **table C and tables 17 and 18.**)

**The procedures for reporting the mother's marital status changed in California, Nevada, and New York City** beginning January 1, 1997. California and Nevada now report the mother's marital status from a direct question. The question is on the California birth certificate. Nevada obtains this information from the electronic birth registration process; the question does not appear on certified or paper copies of the Nevada certificate. New York City infers marital status and changed its procedures beginning in 1997. The reporting changes in California and New York City, which account for 17 percent of U.S. births, are

**Table C. Number, rate, and percent of births to unmarried women, and birth rate for married women: United States, 1980 and 1985–97**

| Year | Births to unmarried women | | | Birth rate for married women[3] |
|---|---|---|---|---|
| | Number | Rate[1] | Percent[2] | |
| 1997 | 1,257,444 | 44.0 | 32.4 | 84.3 |
| 1 | 1,260,306 | 44.8 | 32.4 | 83.7 |
| 1995 | 1,253,976 | 45.1 | 32.2 | 83.7 |
| 1994 | 1,289,592 | 46.9 | 32.6 | 83.8 |
| 1993 | 1,240,172 | 45.3 | 31.0 | 86.8 |
| 1992 | 1,224,876 | 45.2 | 30.1 | 89.0 |
| 1991 | 1,213,769 | 45.2 | 29.5 | 89.9 | |
| | 1,165,384 | 43.8 | 28.0 | 93.2 |
| | 1,094,169 | 41.5 | 27.1 | 91.9 |
| | 1,005,299 | 38.5 | 25.7 | 90.8 |
| 1987 | 933,013 | 36.0 | 24.5 | 90.0 |
| | 878,477 | 34.2 | 23.4 | 90.7 |
| 1 | 828,174 | 32.8 | 22.0 | 93.3 |
| | 665,747 | 29.4 | 18.4 | 97.0 |

[1]Births to unmarried women per 1,000 unmarried women aged 15–44 years.
[2]Pe of all births to unmarried women.
[3]Births to married women per 1,000 married women aged 15–44 years.

discu in some detail in this section (and the Technical notes) beca of their potential impact on national statistics on births to unmarried women. Prior to 1997, the mother's marital status was inferred in California by comparing the surnames of the mother, father, and child. Beginning in 1997, two changes were implemented. First, a law went into effect mandating that the father's name could not be included on the birth certificate unless the parents were married or a paternity affidavit was filed. Second, a direct question on the mother's marital status, similar to the one in effect in most other States, was added to the California birth certificate (see Technical notes). Reporting procedures for marital status in California, as well as the procedures in Nevada, are now essentially the same as those in most other States.

The mother's marital status is inferred in New York City, but the procedures for inferring this information changed beginning in 1997. Beginning in 1997, the mother is assumed to be unmarried if the father's name is missing from the birth certificate, or if a paternity affidavit was filed; these are the same procedures that have been in effect in the balance of New York for many years. Prior to 1997, the inferential criteria in New York City had also included a comparison of the surnames of the mother and father.

A comparison of the changes in nonmarital births for the entire United States and for California and New York City separately shows that these changes had little impact on the national totals and relatively little impact on the total numbers for California. As a direct result of the reporting changes in California, the national numbers and proportions of nonmarital births tended to increase for women aged 15–24 years and to decline for women aged 25 years and over. When the inferential procedures were in effect prior to 1997, births to older women who had retained their birth surname after marriage were often erroneously inferred as nonmarital because the parents' current surnames did not match. For California, the changes in nonmarital birth patterns by age were compensating, so that the overall levels of nonmarital births are only modestly higher in 1997 compared with 1996. There is a similar effect for Nevada, although the percent unmarried based on the direct question is somewhat lower than the percent based on the inferential procedures; see Technical notes. The reporting changes in New York City affected the overall data and the data by age, with large decreases found for all age groups. If these reporting changes had not occurred, statistics for nonmarital births would have been unchanged in New York City (21, 22). It is important to note that as a result of the changes implemented by California, Nevada, and New York City, their birth data by marital status are more accurate in 1997 than in prior years. The factors affecting the birth data by marital status are discussed in more detail in the Technical notes.

**Birth rates for unmarried women vary considerably by race and Hispanic origin.** In 1997 the rates per 1,000 unmarried women were 27.0 per 1,000 for non-Hispanic white women, 73.4 for black women, and 91.4 for Hispanic women. The birth rate for unmarried black women has declined 19 percent since 1989 (90.7). The birth rate for unmarried Hispanic women in 1997, 91.4 per 1,000, was at its lowest level since 1990 (89.6).

**Birth rates for unmarried women by age** continue to be highest for women aged 18–19 and 20–24 years, followed closely by women aged 25–29 years (**figure 3**). Rates for younger teenagers and women in age groups 30 years and over are considerably lower (tables 17 and 18). Among teenagers and women aged 20–24 years, rates for unmarried black and Hispanic women on average were 3 to 4 times the rates for non-Hispanic white women in the same age groups. Among age groups 25–29 years and over, rates were considerably higher for Hispanic women than for black or non-Hispanic white women.

Changes in age-specific birth rates for unmarried women have been affected by the changes in reporting procedures for California and New York City described above. However, in most cases, the one-year changes for 1996–97 reinforce and enhance changes already underway since 1994. Therefore this summary of trends will focus on the longer-term changes since 1994. The birth rates for unmarried teenagers 15–17 and 18–19 years declined 12 and 7 percent, respectively, from 1994. The rate for young black teenagers has dropped steeply, by 19 percent since 1994. Birth rates for women in age groups 20–24 through 40–44 years have fluctuated since 1994; rates in 1997 were 2 to 5 percent lower than in 1994. These patterns were generally found for all population groups.

**The proportion of all births occurring to unmarried women** was unchanged at 32.4 percent in 1997. The proportions for subgroups in 1997 were 21.5 percent, non-Hispanic white; 69.4 percent, non-Hispanic black; and 40.9 percent, Hispanic; each changed very little in recent years (see tables 13, 14, 17, and 19 for 1997 data).

Changes in the proportion of births to unmarried women are affected by trends in birth rates for married as well as unmarried women, and the number of unmarried women (**table C**). The proportion of births to unmarried women has changed very little since 1994 even though the number and rate of births for unmarried women have generally declined, because total births— mostly births to married women—have also declined. Trends in the factors affecting the proportion of births to unmarried women should be kept in mind when examining trends in the proportion (23).

**The numbers and proportions of births to unmarried women by State** and by race and Hispanic origin for 1997 are shown in **table 19** for the 50 States and the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and American Samoa. The numbers increased in 32 States, Puerto Rico, the Virgin Islands, and Guam and declined in 18

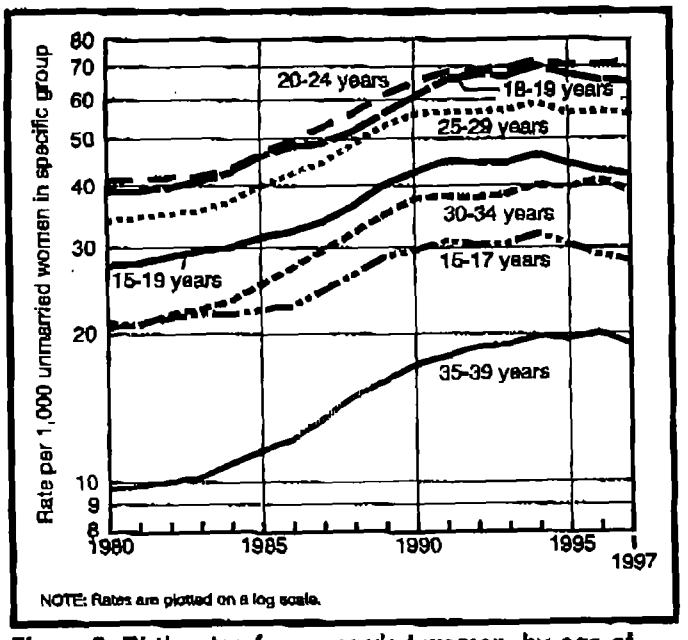



**Figure 3. Birth rates for unmarried women, by age of mother: United States, 1980–97**

States and the District of Columbia. Similarly, increases in the proportions exceeded declines: the proportion increased in 32 States, Puerto Rico, the Virgin Islands, and Guam, declined in 15 States and the District of Columbia, and was unchanged in three States.

### Age of father

The **birth rate per 1,000 men aged 15–54 years** declined for the seventh straight year in 1997 to 50.4 (**table 20**). This rate fell by 14 percent between 1990 and 1997, following a 7-percent increase during 1986–90. Information on age of father is often missing on birth certificates of children born to unmarried women. Age of father was not reported for 15 percent of births in 1997. The procedures for computing birth rates by age of father are described in the Technical notes.

### Educational attainment

The educational attainment of women who give birth is important because higher educational attainment is associated with more timely receipt of prenatal care and fewer lifestyle and health behaviors that are detrimental to birth outcome (discussed in later sections).

Data from the birth certificate show that the educational attainment of women who gave birth increased substantially over the last few decades, partly reflecting the increases in educational attainment of all women during the time period (24). More than three-fourths of women who gave birth in 1997 had at least 12 years of schooling (78 percent) and 23 percent had at least 4 years of college (**table 21**). The percent of mothers with at least a high school diploma increased with advancing age, to 90 percent for women who gave birth in their thirties, and then declined slightly for mothers 40 years of age and over (88 percent). The percent of mothers with at least 4 years of college was highest for mothers 35 years of age and over (42 percent). The median educational attainment for all mothers in 1997 was 12.8 years.

There is considerable variation in educational attainment among race and Hispanic origin groups. Among women giving birth in 1997, 87 percent of non-Hispanic white mothers had completed high school, compared with 73 percent of non-Hispanic black mothers, and 50 percent of Hispanic mothers. Although the overall proportion of Hispanic mothers with at least 12 years of schooling was low, there was tremendous variation among Hispanic subgroups, ranging from 44 percent of Mexican mothers to 86 percent of Cuban mothers (**table 14**). Thirty percent of non-Hispanic white mothers had at least 4 years of college compared with 11 percent of non-Hispanic black mothers and 7 percent of Hispanic mothers. Only two-thirds of American Indian mothers had 12 or more years of schooling, whereas nearly all Japanese (98 percent) and Filipino mothers (93 percent) had attained this educational level, the highest of any group (**table 13**).

## Maternal lifestyle and health characteristics

### Weight gain

Maternal weight gain is one of the components in the complex relationship between lifestyle characteristics of the mother and the development of the fetus (25). In 1990 the National Academy of Sciences published weight-gain guidelines that varied according to mother's body mass index (BMI), which is calculated from her prepregnancy weight and height. The guidelines recommend that women who are underweight (low BMI) gain 28–40 pounds, those who are of normal weight (average BMI) gain 25–35 pounds, those who are overweight (high BMI), 15–25 pounds, and obese women, not more than 15 pounds (26).

Information on maternal weight gain is collected on the birth certificate, but information on the mother's prepregnancy weight and height is not. Therefore, it is not possible to determine whether the weight gain was within the recommendations for the mother's BMI. Differences between subgroups in maternal weight gain may reflect differences in the proportion of mothers who gained outside the recommended range but could also be the result of group differences in maternal height and prepregnancy weight.

In 1997 all States except California reported information on weight gain. Births to mothers residing in these States accounted for 86 percent of all births in the United States. In 1997 the majority of women (64 percent) gained 26 pounds or more during pregnancy (**table 22**). The **median weight gain** was 30.5 pounds in 1997 and changed very little during the 1989–97 period. Despite the consistency of the median weight gain, the percent of mothers who gained at either end of the weight gain spectrum was higher in 1997 than in 1989—weight gains of less than 16 pounds increased from 9.4 percent in 1989 to 11.1 percent in 1997 while weight gains of 46 pounds or more increased from 9.1 percent in 1989 to 11.4 percent in 1997.

The **weight gain of the mother during pregnancy varied considerably by period of gestation**. Mothers who had preterm infants (gestations of under 37 completed weeks) gained about 3 pounds less during pregnancy (27.4 pounds) than mothers who had babies with gestations of 40 weeks and over (30.8 pounds). The median weight gain for non-Hispanic white women (30.8 pounds) was about a pound higher than for either non-Hispanic black women (29.6 pounds) or Hispanic women (29.8 pounds).

The percent of non-Hispanic black, American Indian, and Mexican mothers who had weight gains of less than 16 pounds (16.7, 15.3, and

14.8 percent, respectively) was much higher than for Chinese (6.4 percent), Cuban (7.3 percent), Filipino (8.4 percent), or non-Hispanic white mothers (9.4 percent) (**tables 24 and 25**). These differences in weight gain are reflected in differences among groups in the percent of births born preterm. Data on weight gain for Hawaiians (table 24) are unreliable because of incomplete reporting in Hawaii.

Within Hispanic subgroups, the percent of Mexican mothers who gained less than 16 pounds (14.8 percent) was twice as high as for Cuban mothers (7.3 percent) while the remaining groups were intermediate (**table 25**).

**Maternal weight gain has been shown to have a positive correlation with the birthweight of the infant** (27). This relationship is substantiated by the data in **table 23**. The percent of infants with low birthweight drops steadily with increasing weight gain through 45 pounds, from 14.5 to 4.8 percent, and then increases slightly for mothers who gained 46 pounds or more (5.3 percent). This pattern is generally replicated when the data are examined according to the period of gestation.

## Medical risk factors

Maternal medical risk factors can severely complicate pregnancy and result in poor birth outcomes, particularly when not adequately treated (28–30). Sixteen medical risk factors affecting pregnancy are separately identified on the birth certificate. Although data for this item were missing from only 1.2 percent of records for 1997, birth certificate data may underreport medical risk factor prevalence (31). Also, rates for less common medical risk factors and for smaller population groups can vary widely from year to year and should be used with caution.

The rate of **pregnancy-associated hypertension**, the most frequently reported medical risk factor, rose for the sixth consecutive year, from 35.9 to 36.8 per 1,000 for 1996–97. (See **table 26** for 1997 data.) The rate for this risk factor has risen among all age and race and ethnic groups since the early 1990's. Rates for the related hypertensive disorders, **chronic hypertension and eclampsia**, were largely unchanged for 1997, at 6.9 and 3.3 per 1,000, respectively, and have not risen notably during the 1990's.

**Diabetes** and **anemia** are the second and third most frequently reported complications of pregnancy. The diabetes rate was 26.4 per 1,000 for the current year compared with 26.3 for 1996, and the anemia rate was 20.2, compared with 19.6 per 1,000.

The prevalence of acute or chronic **lung disease** (e.g., asthma, tuberculosis) was 9.7 per 1,000 for 1997, higher than the 1996 level of 8.3. Although still quite rare, the level of lung disease has more than tripled since 1990 (3.0) with large increases found among all age and racial/ethnic groups. The reported rate of **hydramnios/oligohydramnios** (the excess or shortage of amniotic fluid) has also been on the rise since data on this risk factor first became available and has more than doubled during the 1990's (from 5.9 to 13.0 between 1990 and 1997).

Medical risk factor rates often differ widely by **maternal age**. Anemia, for example, is more common among younger mothers (28.6 for mothers under 20 years of age compared with 17.3 for mothers 40 years of age and over), but younger mothers are much less likely to have chronic conditions such as diabetes (8.2 compared with 64.9). Some risk factors, however, such as pregnancy-associated hypertension, follow a U-shaped pattern, with the highest levels at the extremes of the maternal age distribution.

Medical risk factors during pregnancy can also vary greatly by **race/ethnicity**. For example, for 1997, pregnancy-associated hypertension complicated nearly 5 percent of American Indian pregnancies, but less than 2 percent of Japanese (**tables 27 and 28**).

## Tobacco use during pregnancy

Smoking during pregnancy continued to decline according to birth certificate data. In 1997, 13.2 percent of women giving birth were reported to have smoked, down 3 percent compared with 1996 (13.6 percent) and 32 percent since 1989 (19.5 percent), when this information first became available on the birth certificate (32). Tobacco use was reported in a comparable manner on the birth certificate in 1997 by 46 States, the District of Columbia, and New York City, comprising 80 percent of U.S. births. Comparable information was not available for California, Indiana, South Dakota, and the remainder of New York State. (See **tables 24, 25, and 29–32** for 1997 data.)

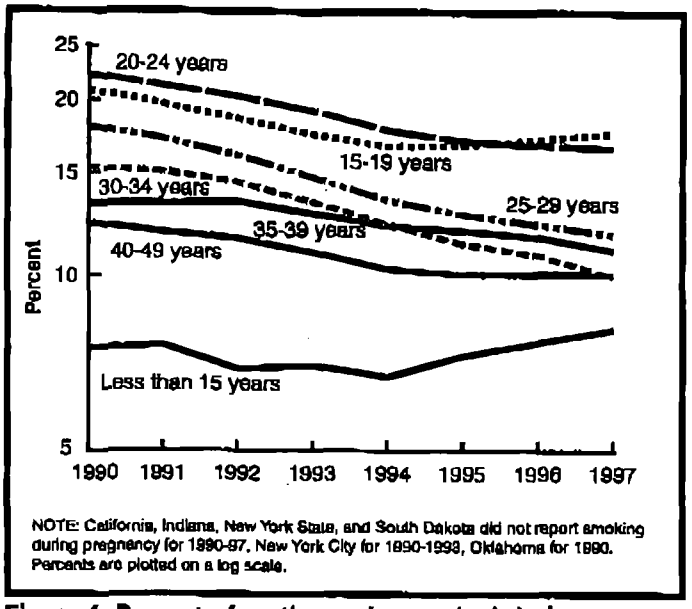
Some studies have suggested that smoking may be underreported on birth certificates due to a variety of factors, including the lack of a specific time reference for smoking status, variations in the source of this information for each birth, and the growing stigma associated with smoking (33–36). Nevertheless, trends in maternal smoking based on the birth certificate are generally consistent with those reported for recent years from the National Survey of Family Growth, and variations in smoking among population subgroups found in birth certificate data have been corroborated in other studies (7, 37–39).

Tobacco use during pregnancy is associated with a variety of adverse outcomes, including low birthweight, intrauterine growth retardation, and infant mortality, as well as negative consequences for child health and development (40–42).

**Maternal smoking declined or was unchanged in most racial and Hispanic origin groups**; smoking rates increased for Chinese and Hawaiian women. As in previous years, rates were highest for non-Hispanic white, American Indian, and Hawaiian women, and lowest for Mexican, Cuban, Central and South American, and Asian or Pacific Islander women (API) (except Hawaiian) (**tables 24 and 25**). The generally very low smoking rates found for Mexican, Central and South American, Chinese, and Filipino women from birth certificate data have been confirmed by other studies (38, 39). Women born in the 50 States and the District of Columbia had substantially higher smoking rates than women born outside these areas, a pattern that has been described elsewhere (**tables 24 and 25**) (43).

**Maternal smoking among teenagers rose about 2 percent overall**, the third consecutive year of increase (**figure 4**) (35). The smoking rate among non-Hispanic black teenagers 15–19 years rose 12 percent from 1996 to 1997 (6.6 percent) and has increased by one-third since 1994 (5.0 percent) (see **table 30** for 1997 data). The rate for non-Hispanic white teenagers increased 2 percent (29.2 percent); their rates are 4 to 5 times the rates for non-Hispanic black teenagers. Non-Hispanic white women aged 18–19 years had the highest smoking rate of any group, 29.6 percent (**table 30**). Smoking rates rose as well in 1997 for Puerto Rican teenagers. Smoking during pregnancy generally declined for women in age groups 20–39 years. Patterns of smoking rates and trends by age, race, and Hispanic origin are described in detail in a recent NCHS report (35).

Among smokers, the **proportion smoking at least half a pack of cigarettes daily** has declined steadily in recent years—to 32 percent in 1997 (compared with 42 percent in 1989) (32). Non-Hispanic white




NOTE: California, Indiana, New York State, and South Dakota did not report smoking during pregnancy for 1990-97, New York City for 1990-1993, Oklahoma for 1990. Percents are plotted on a log scale.

**Figure 4. Percent of mothers who smoked during pregnancy by age: Total reporting areas, 1990–97**

mothers and older mothers are more likely than other mothers to smoke half a pack or more (**tables 29 and 31**).

Rates of **smoking by maternal educational attainment** are persistently highest for women with 9–11 years of education, 26 percent in 1997, and lowest for women with 4 years or more of college, 2 percent (**table 31**). Even among women aged 20 years and over, smoking rates were highest for mothers who attended but did not graduate from high school—30 percent overall and 48 percent of non-Hispanic white women (tabular data not shown).

**Babies born to mothers who smoke during pregnancy are at greatly elevated risk of low birthweight (LBW)**, a finding documented in birth certificate data as well as in numerous other studies (40, 44, 45). In 1997, 12.1 percent of infants born to smokers weighed less than 2,500 grams (5 lb 6 oz) compared with 7.1 percent of births to nonsmokers (**table 32**). This substantial differential is found for every race and Hispanic origin group. The LBW risk is heightened as the number of cigarettes increases, although LBW is elevated even among babies born to the lightest smokers (one to five cigarettes daily), 10.9 percent (tabular data not shown). Advancing maternal age exacerbates the risk, probably a consequence of the much greater cigarette consumption among older women (**table 29**).

### Alcohol use during pregnancy

Pregnancy and birth outcome can be jeopardized by maternal alcohol use during pregnancy. Even low-to-moderate alcohol use has been shown to compromise birth outcome, independent of other risk factors such as tobacco use and other maternal risk factors (46, 47). All States except California and South Dakota included items on alcohol use on their birth certificates in 1997. This reporting area accounted for 86 percent of U.S. births.

Alcohol use during pregnancy is substantially underreported on the birth certificate (31). According to birth certificate data, alcohol use declined again in 1997 to just 1.2 percent of mothers reporting any alcohol use compared with 1.4 percent in 1996 and 4.1 percent in 1989, the first year this information was reported on the birth certificates (see **tables 24 and 25** for 1997 data) (19, 32). A recent study based on an analysis of responses by nearly 6,000 pregnant women in the Center for Disease Control and Prevention's nationally representative Behavioral Risk Factor Surveillance System, found that about 15 percent of women used alcohol during pregnancy in 1995. The researchers also reported that alcohol use declined from 1988 (23 percent) to 1992 (10 percent) before rising to 15 percent in 1995 (48).

The nature of the birth certificate questions on alcohol use apparently contribute to the underreporting because they focus on the number of drinks per week, whereas other studies inquire about drinks per month. Women who drink one to two drinks per month may believe that their alcohol consumption is too little to report in response to the birth certificate questions. The stigma associated with alcohol use also contributes to the underreporting (25, 48).

## Medical services utilization

### Prenatal care

The percent of women beginning **prenatal care in the first trimester** of pregnancy rose to 82.5 for 1997, from 81.9 in 1996. Essentially stagnant during the 1980's, first trimester care has risen from 75.5 percent since 1989 (**table D**). The proportion of mothers **with delayed (care beginning in the third trimester) or no care**, was 3.9 percent for the current year, compared with 4.0 percent for 1996. The proportion of women with late or no care worsened during the 1980's, but has improved from the high of 6.4 percent reported for 1989 (49). (See **tables 33–35** for 1997 data.)

The effects of prenatal care are difficult to measure (50, 51), but early competent care can promote healthier pregnancies by detecting and managing preexisting medical conditions, providing health behavior advice, and assessing the risk of poor pregnancy outcome (52). Prenatal care can also be vital to maternal health and can serve as a gateway into the health care system, especially for socially disadvantaged women (51).

According to the **Adequacy of Prenatal Care Utilization Index** (APNCU), an alternative measure of prenatal care utilization (53), the

**Table D. First trimester prenatal care by race and Hispanic origin of mother: United States, 1970, 1975, 1980, 1985, 1990–97**

| Year | All races[1] | Non-Hispanic | | Hispanic[2] |
|---|---|---|---|---|
| | | White | Black | |
| 1997 | 82.5 | 87.9 | 72.3 | 73.7 |
| 1996 | 81.9 | 87.4 | 71.5 | 72.2 |
| 1995 | 81.3 | 87.1 | 70.4 | 70.8 |
| 1994 | 80.2 | 86.5 | 68.3 | 68.9 |
| 1993 | 78.9 | 85.6 | 66.1 | 66.6 |
| 1992 | 77.7 | 84.9 | 64.0 | 64.2 |
| 1991 | 76.2 | 83.7 | 61.9 | 61.0 |
| 1990 | 75.8 | 83.3 | 60.7 | 60.2 |
| 1989 | 75.5 | 82.7 | 59.9 | 59.5 |
| 1985 | 76.2 | --- | --- | --- |
| 1980 | 76.3 | --- | --- | --- |
| 1975 | 72.4 | --- | --- | --- |
| 1970 | 66.0 | --- | --- | --- |

--- Data not available.

[1] Includes races other than white and black and origin not stated.

[2] Includes all persons of Hispanic origin of any race.

in prenatal care use for 1996–97 occurred among mothers with intensive use of care (women for whom the number of visits exceeded the American College of Obstetricians and Gynecologists recommendations by a ratio of observed-to-expected visits of at least 110 percent). (See **table E.**) Based on the APNCU, intensive use of prenatal care has risen 67 percent from 18.4 to 30.7 percent since 1981 (the first year comparable data on period of gestation used to compute this index became available), adequate care (not including intensive use of care) has declined 4 percent (from 45.1 to 43.5 percent), and less than adequate care has declined 29 percent (from 36.5 to 25.9 percent) (54).

Gains in the proportion of mothers with care beginning in the first trimester of pregnancy were observed for the current year among most **race and ethnic groups** (levels for Japanese and Hawaiian mothers did not rise for 1997). Improvement continues to be most pronounced among those with less favorable levels of care, somewhat reducing the considerable disparity among groups (**figure 5**). Since 1989 first trimester care has risen by more than 20 percent among Mexican (from 56.7 to 72.1 percent), Central and South American (from 60.8 to 76.9 percent), Puerto Rican (from 62.7 to 76.5 percent), and non-Hispanic black mothers (from 59.9 to 72.3 percent); and by less than 10 percent among Cuban (83.2 to 90.4 percent), Japanese (86.2 to 89.3 percent), and non-Hispanic white mothers (82.7 to 87.9 percent). (See **tables 24 and 25** for 1997 data.)

Most States reported higher levels of first trimester care for 1997 compared with 1996. Four New England States reported the highest proportions of mothers with first trimester care (89–90 percent), and the lowest proportions of mothers with late or no care (less than 2 percent) for 1997: Connecticut, Maine, New Hampshire, and Rhode Island (**table 34**).

## Obstetric procedures

Six specific obstetric procedures are reported on the birth certificate. It has been shown that these procedures may be underreported on the birth certificate (31, 55). The most prevalent obstetric procedure in 1997 was **electronic fetal monitoring**, reported for over 3.2 million births, or 83 percent of all live births (**table 36**).

According to data from the birth certificate, 64 percent of mothers who had live births in 1997 received ultrasound. The overall rates of stimulation of labor and induction of labor in 1997 were 174 and 184, respectively, per 1,000 live births. The rates of both of these procedures have been rising annually since 1989 (56).

**Table E. Adequacy of Prenatal Care Utilization Index: United States, 1981, 1985, 1990, and 1995–97**

| Year | Intensive Use | Adequate | Intermediate | Inadequate | No care |
|---|---|---|---|---|---|
| 1997 | 30.7 | 43.5 | 16.3 | 8.4 | 1.2 |
| 1996 | 29.3 | 43.8 | 17.1 | 8.7 | 1.1 |
| 1995[1] | 28.8 | 43.9 | 17.2 | 8.9 | 1.2 |
| 1990[1] | 24.6 | 42.6 | 19.1 | 11.8 | 1.9 |
| 1985[1] | 21.1 | 44.8 | 21.0 | 11.6 | 1.5 |
| 1981[1] | 18.4 | 45.1 | 23.2 | 12.0 | 1.3 |

[1]See reference 54 for detailed data on trends.

NOTE: See reference 53 for information on calculation of this measure.

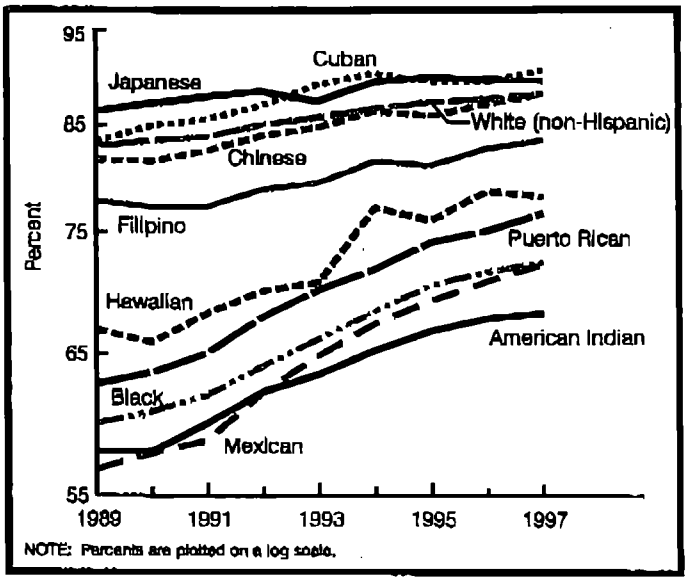



**Figure 5. Percent of mothers with first trimester prenatal care by race and Hispanic origin of mother: United States, 1989–97**

## Complications of labor and/or delivery

Of the 15 reported complications of labor and/or delivery, 3 were reported at a rate greater than or equal to 30 per 1,000 live births in 1997: Meconium, moderate/heavy (56 per 1,000), fetal distress (40 per 1,000), and breech/malpresentation (38 per 1,000) (**table 37**). Rates for these three complications varied by race and Hispanic origin (**tables 27 and 28**). It has been shown that levels of these complications may be underreported on the birth certificate (55).

## Attendant at birth and place of delivery

More than 9 out of 10 births in 1997 (92.3 percent) were attended by a physician in a hospital, making this arrangement by far the most typical (**table 38**). However, the percent of births attended by a physician in a hospital was slightly lower in 1997 than in 1996 (92.9 percent) and has declined from 98.4 percent in 1975. For physician-attended births, 4 percent were by doctors of osteopathy (DO's) while the remaining were attended by doctors of medicine (MD's). Although small, the number and percent of births attended by DO's has grown steadily since 1989, the first year data on DO's were available from the birth certificate. The percent of births attended by **midwives** increased sharply between 1975 (1.0 percent) and 1997 (7.0 percent). About 95 percent of midwife-attended births in 1997 were by **certified nurse midwives (CNM's).**

About 99 percent of births in 1997 were delivered in hospitals, almost unchanged from the 1975 level. The majority of out-of-hospital births were in a residence (64 percent) while 28 percent were in a **freestanding birthing center.**

About 93 percent of births to non-Hispanic white women were attended by a physician in a hospital compared with about 92 percent of births to non-Hispanic black women and 90 percent of births to Hispanic women. Hispanic women were more likely to have midwife-attended hospital births (9 percent) than were either non-Hispanic black women (7 percent) or non-Hispanic white women (6 percent).

### Method of delivery

The **rate of cesarean delivery** increased slightly between 1996 and 1997 (from 20.7 per 100 live births to 20.8) after falling each year during 1989–96 (**table F and table 39**). The 1997 rate was 9 percent lower than the rate of 22.8 in 1989, the first year this information was available on the birth certificate. The **primary cesarean rate** (first cesareans per 100 live births to women who had no previous cesarean) was unchanged between 1996 and 1997, at 14.6, after falling each year during 1989–96. The primary rate in 1997 was 9 percent lower than in 1989 (16.1). Concomitant with the decline in cesarean rates during the 1989–96 period was a 50-percent increase in the rate of **vaginal birth after previous cesarean delivery** (VBAC)—from 18.9 in 1989 to 28.3 in 1996. However, in 1997 the rate dropped to 27.4, a 3-percent decline from 1996.

Overall cesarean rates increased steadily by age of the mother and were more than twice as high for mothers 40–54 years of age (32.4) as for teenagers (14.3) (**table 40**). Primary cesarean rates increased with additional age after ages 20–24 years, to 22.6 for women 40–54 years of age. VBAC rates declined with increasing age—a third of teenagers who had a previous cesarean had a VBAC delivery (33.4 percent) compared with 20.5 percent of mothers 40–54 years of age.

Total and primary cesarean rates declined or held steady in 1997 compared with 1996 for all age groups under 30 years but increased between the 2 years for mothers in age groups of 30 years of age and over. All age groups experienced declines in VBAC rates between 1996 and 1997. Non-Hispanic black women had a higher cesarean rate in 1997 (21.8 per 100 live births) than either non-Hispanic white women (20.9) or Hispanic women (20.2). Similarly, the primary cesarean rate for non-Hispanic black women (15.6) was higher than the rate for non-Hispanic white women (14.8) and Hispanic women (13.4). The VBAC rate in 1997 was highest for non-Hispanic white women (28.5), lowest for Hispanic women (23.5), and intermediate for non-Hispanic black women (26.4).

Japanese, American Indian, Hawaiian, and Chinese mothers had lower cesarean rates (ranging from 15.1 to 19.1 per 100 live births) than Puerto Rican, non-Hispanic white, non-Hispanic black, Filipino, or Cuban mothers (ranging from 20.8 to 30.5) (**tables 24 and 25**).

**Table F. Total and primary cesarean rates and vaginal birth after previous cesarean delivery rates: United States, 1989–97**

| Year | Cesarean rate | | VBAC rate[3] |
|---|---|---|---|
| | Total[1] | Primary[2] | |
| 1997 | 20.8 | 14.6 | 27.4 |
| 1996 | 20.7 | 14.6 | 28.3 |
| 1995 | 20.8 | 14.7 | 27.5 |
| 1994 | 21.2 | 14.9 | 26.3 |
| 1993 | 21.8 | 15.3 | 24.3 |
| 1992 | 22.3 | 15.6 | 22.6 |
| 1991 | 22.6 | 15.9 | 21.3 |
| 1990 | 22.7 | 16.0 | 19.9 |
| 1989 | 22.8 | 16.1 | 18.9 |

[1]Percent of all live births by cesarean delivery.

[2]Number of primary cesareans per 100 live births to women who have not had a previous cesarean.

[3]Number of vaginal births after previous cesarean (VBAC) delivery per 100 live births to women with a previous cesarean delivery.

There was **considerable variation in cesarean rates by State** ranging from a high of 26.7 per 100 live births in Mississippi to a low of 15.3 in Colorado (**table 41**). The rate for Puerto Rico was 33.4. There was also considerable variation in VBAC rates by State. Data for Hawaii (**table 41**) and for Hawaiian births (**table 24**) are unreliable because of incomplete reporting.

All of the selected medical risk factors in **table 42** were associated with overall cesarean rates that were higher than the national average. Cesarean rates for the medical risk factors ranged from 21.7 per 100 live births for mothers with Rh sensitization to 48.0 for mothers with eclampsia. Certain complications of labor and/or delivery are also associated with high cesarean rates. Nearly all births with cephalopelvic disproportion were cesarean deliveries (96.2), and the cesarean rates for breech/malpresentation (84.5) and placenta previa (82.0) were also very high.

During the 1989–97 period, the percent of births that were delivered by either forceps or vacuum extraction remained steady at about 9 percent. During that period, however, there was a shift as the number and percent of births delivered by forceps declined each year, whereas the use of vacuum extraction consistently increased. In 1997, 2.8 percent of births were delivered by forceps compared with 5.5 percent in 1989—a 49-percent decline. Vacuum extraction was used in 6.2 percent of births in 1997, a 77-percent increase compared with 1989 (3.5 percent).

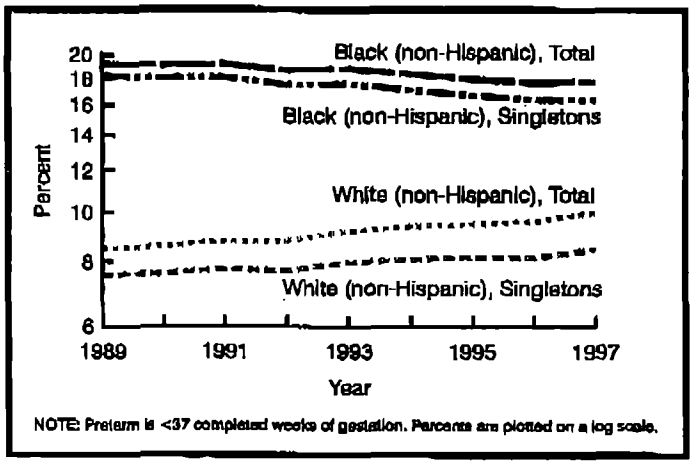
## Infant health characteristics

### Period of gestation

The **preterm birth rate** rose sharply for 1996–97, from 11.0 to 11.4 percent. The proportion of preterm births (infants born prior to 37 completed weeks of gestation) has risen 8 percent since 1990 (from 10.6 percent) and more than 20 percent since 1981 (from 9.4 percent). The current year rise included increases in both **very preterm births** (prior to 32 completed weeks of gestation) and **moderately preterm** (32–36 weeks) births. (See **tables 43 and 44**.) Preterm birth is a major cause of infant mortality and has been associated with long-term neurodevelopmental and respiratory disorders (57, 58).

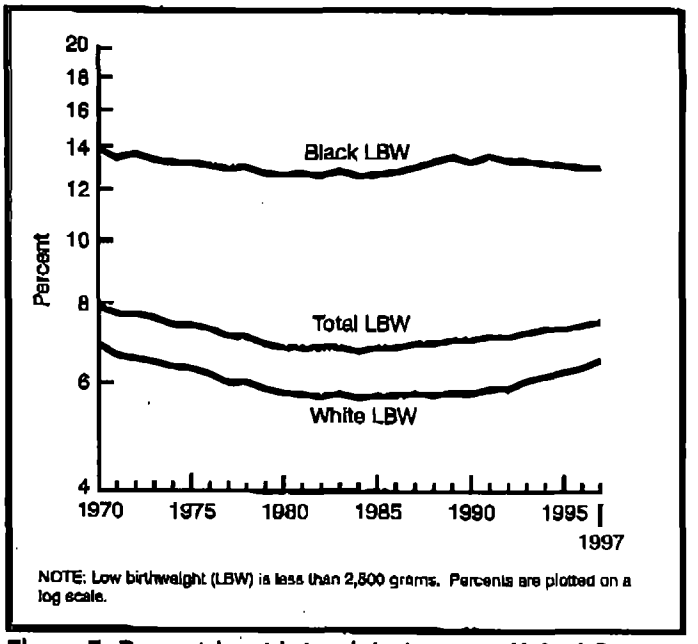
The primary measure used to determine the infant's gestational age, the interval between the first day of the last normal menstrual period (LMP) and the date of birth, is subject to error for several reasons including imperfect maternal recall or misidentification of the LMP because of postconception bleeding, delayed ovulation, or intervening early miscarriage (59). See Technical notes for additional information on procedures for measuring gestational age.

The increase in preterm births was most pronounced among **non-Hispanic white women**, for whom a rise of 4 percent (from 9.5 to 9.9 percent) was observed. The percent of births born very preterm was 1.49 for 1997 compared with 1.43 for 1996. Since 1989, the preterm rate among non-Hispanic white births has risen from 8.4 percent, and the very preterm rate from 1.34 percent. Recent increases in multiple births, which are disproportionately preterm, have particularly influenced the upward trend in preterm birth for this group. Analysis of only **non-Hispanic white singleton births** for 1989–97 reveals a 14 percent increase in moderately preterm births (compared with a 19-percent rise for all births) and essentially no change in the proportion of very preterm births (compared with a rise from 1.34 to 1.49 percent for all births) (**figure 6**) (60).




NOTE: Preterm is <37 completed weeks of gestation. Percents are plotted on a log scale.

**Figure 6. Rate of preterm birth by plurality and race/Hispanic origin of mother: United States, 1989–97**




NOTE: Low birthweight (LBW) is less than 2,500 grams. Percents are plotted on a log scale.

**Figure 7. Percent low birthweight by race: United States, 1970–97**

The risk of preterm birth increased slightly among **non-Hispanic black births** for 1997 (17.6 percent) compared with 1996 (17.5 percent), checking the downturn observed since 1993 (18.6 percent). The very preterm birth rate was largely unchanged at 4.19 percent, but has declined from 4.68 percent since 1989. Among non-Hispanic black singleton births, however, levels of moderately and very preterm births were unchanged from the previous year (data not shown).

Preterm births also increased among **Hispanic women**, rising from 10.9 to 11.2 percent for 1996–97; the increase was concentrated among moderately preterm births (9.2–9.5 percent). The overall preterm rate has changed only slightly since 1989 (from 11.1 percent), and the very preterm rate has dipped from 1.76 to 1.68 percent. (Relative trends in preterm rates for Hispanic births are largely unaffected by trends in multiple births.) Preterm rates were up for most of the Hispanic subgroups between 1996 and 1997 **(tables 24 and 25).**

## Birthweight

The rate of **low birthweight** (LBW) (less than 2,500 grams) rose to 7.5 percent for 1997, from 7.4 percent for 1996, the highest level reported since 1973. Low birthweight has risen slowly over the last decade (from 6.8 percent for 1986) after declining during the 1970's and early 1980's. (See **tables 43–47 and figure 7.**) The rise in multiple births, which are much more likely than singletons to be LBW, has influenced this upward trend; whereas overall LBW has risen 10 percent since 1986, LBW among singleton births has increased 4 percent (from 5.84 to 6.08 percent).

The percent of **very low birthweight** (VLBW) (less than1,500 grams) was 1.42 percent for 1997, compared with 1.37 for 1996. This level has also risen in recent years (from 1.15 percent in 1980). LBW infants, particularly VLBW infants, are at greater risk than heavier babies of long-term morbidity and early death (60). In 1996, VLBW infants accounted for about 1 percent of all births, but 50 percent of all infant deaths (infant deaths through 11 months per 1,000 live births) (58).

The proportion of **non-Hispanic white LBW** infants rose from 6.4 to 6.5 percent between 1996 and 1997. Since 1989 non-Hispanic white LBW has risen 16 percent (from 5.6 percent) and VLBW has increased from 0.93 to 1.12 percent. The sharp increase in the multiple birth rate explains some, but not all of the rise for non-Hispanic white births as **LBW among singleton births** has also risen over this period, but at a slower pace: from 4.90 to 4.95 percent for 1996–97, and from 4.60 percent since 1989 (see **table G**).

LBW among **non-Hispanic black infants** was unchanged for 1997 at 13.1 percent. LBW has declined somewhat among black births during the 1990's (from 13.6 for 1991), but the rate of VLBW has not improved; for 1997 the percent VLBW was 3.05, compared with the 1989 level of 2.97. Increases in multiple births have only moderately influenced trends in non-Hispanic black LBW; that is, the decline in LBW since 1993 is slightly steeper when only singletons are examined.

Overall **Hispanic LBW** was 6.4 percent in 1997 compared with 6.3 percent for the previous year. The percent VLBW among Hispanic births was essentially unchanged at 1.13 percent. Since 1989, when national data on Hispanic births first became available, Hispanic VLBW and LBW have shown a moderately upward trend (from 1.05 and 6.2 percent). LBW rates were up slightly for each Hispanic subgroup for

**Table G. Percent low birthweight among singletons by race/Hispanic origin of mother: United States, 1989–97**

| Year | Total | Non-Hispanic White | Non-Hispanic Black | Hispanic |
|---|---|---|---|---|
| 1997 | 6.08 | 4.95 | 11.46 | 5.43 |
| 1996 | 6.03 | 4.90 | 11.55 | 5.34 |
| 1995 | 6.05 | 4.87 | 11.66 | 5.36 |
| 1994 | 6.06 | 4.79 | 11.79 | 5.37 |
| 1993 | 6.05 | 4.70 | 11.90 | 5.34 |
| 1992[1] | 5.93 | 4.59 | 11.91 | 5.22 |
| 1991[1] | 5.99 | 4.61 | 12.15 | 5.29 |
| 1990[2] | 5.90 | 4.56 | 11.92 | 5.23 |
| 1989[3] | 6.00 | 4.60 | 12.22 | 5.35 |

[1]Excludes data for New Hampshire, which did not require reporting of Hispanic origin of mother.
[2]Excludes data for New Hampshire and Oklahoma which did not require reporting of Hispanic origin of mother.
[3]Excludes data for Louisiana, New Hampshire, and Oklahoma which did not require reporting of Hispanic origin of mother.

NOTE: Low birthweight is less than 2,500 grams or 5 lb 8 oz.

1997, and ranged from 6.0 percent for Mexican to 9.4 percent for Puerto Rican infants. (See **table 25**.)

For 1997, 6.8 percent of **American Indian births** were LBW. Among the Asian or Pacific Islander subgroups, LBW levels were generally up for the current year, and ranged from 5.1 for Chinese to 8.3 percent for Filipino births (**table 24**).

The percent **macrosomia** (birthweight of at least 4,000 grams) was 10.1, down slightly from the figure reported for 1996 (10.2 percent). Macrosomic births have been declining since 1991, after peaking at about 11 percent in the 1980's.

The **median birthweight** for all births for 1997 was 3,350 grams (7 lbs, 7 oz.) unchanged from 1996. The median for white births was 3,390 grams, and for black births 3,180 grams.

LBW and VLBW risk varies by State; among non-Hispanic white births for 1997, LBW levels ranged from a low of 5.1 percent in Hawaii to a high of 9.0 percent for Wyoming. Among States with at least 1,000 births to non-Hispanic black mothers, the proportion of LBW for this population ranged from 10.2 percent in Iowa and Washington to 16.2 percent for the District of Columbia (**table 46**).

## Apgar score

The Apgar score was developed by the late Virginia Apgar, M.D., as a means of evaluating the physical condition of newborns shortly after delivery (61). The score considers five characteristics of the baby that are easily identifiable—heart rate, respiratory effort, muscle tone, reflex irritability, and color. Each of these characteristics is assessed and assigned a value of 0–2 with 2 being optimum. The total score is the sum of the five components and a score of 7 or better indicates that the baby is in good-to-excellent physical condition. The 5-minute Apgar score is based on an assessment 5 minutes after delivery and used to predict the newborn's chance of survival.

In 1997 all States except California and Texas collected information on the 5-minute Apgar score. Births to residents in these States accounted for 78 percent of all births in the United States. Only 1.4 percent of babies had Apgar scores that were considered low (less than 7) at 5 minutes after birth, unchanged since 1993 (**tables 24 and 25**).

Of all racial groups, Asian or Pacific Islander babies were in the best physical condition shortly after delivery—only 1 percent had scores less than 7. The percent of babies with low scores was intermediate for non-Hispanic white and Hispanic women (1.2 each) while 2.5 percent of non-Hispanic black babies had low 5-minute scores.

## Abnormal conditions of the newborn

Of the eight specific abnormal conditions reported on the birth certificate, the rates per 1,000 live births in 1997 were highest for assisted ventilation less than 30 minutes (22 per 1,000), assisted ventilation 30 minutes or longer (9 per 1,000), and hyaline membrane disease/respiratory distress syndrome (RDS) (6 per 1,000) (**table 48**). It has been shown that these conditions may be underreported on the birth certificate (55).

## Congenital anomalies

In 1997 congenital anomalies were reported on the birth certificates of the District of Columbia and all States except New Mexico. These areas included 99 percent of births in the United States. It has been shown that these anomalies are underreported on the birth certificate (55, 62).

Because many of the congenital anomalies tracked on birth certificates occur infrequently, the rates shown in this report are calculated per 100,000 live births (**table 49**). Caution should be used in comparing yearly rates for a specific anomaly as a small change in the number of anomalies reported can result in a relatively large change in rates.

## Multiple births

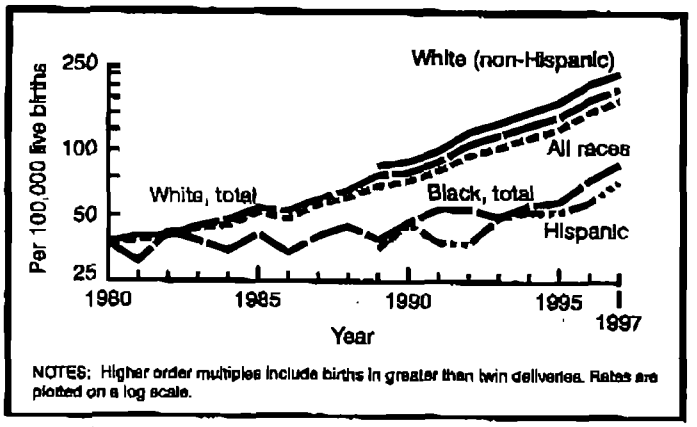
**The number of births in multiple deliveries** climbed to 110,874 for 1997 and included 104,137 twins, 6,148 triplets, 510 quadruplets, and 79 quintuplets and other higher order multiple births, representing a 3-percent increase in the number of twins, and a 16-percent jump in the number of triplet births over 1996. (See **table 50** for 1997 data.) Slightly fewer births were reported in quadruplet and quintuplet and other higher order multiple deliveries for 1997 (**table H**). Since 1980 the number of twins has risen 52 percent (from 68,339) and the number of triplets and other higher order multiple births by 404 percent (from 1,337) (63, 64).

**The twin birth rate** (the number of twin births per 1,000 live births) rose 3 percent for 1996–97, to 26.8 (or 2.7 percent of all births). Since 1980 the twinning rate has risen 42 percent (from 18.9 per 1,000). After a rise of 20 percent for 1995–96, **the higher order multiple birth rate** (the number of triplet, quadruplet and quintuplet, and other higher order multiples per 100,000 live births), jumped another 14 percent for 1997, to 173.6 per 100,000. The higher order multiple birth rate has more than doubled since 1991 (from 81.4), and quadrupled since 1980 (from 37.0) (**figure 8**). Put another way, one in every 576 births was a triplet or other higher order multiple in 1997, compared with about one of every 2,700 births in 1980. Older maternal age (women in their thirties are more likely to have a multiple birth than those in their twenties, even without the use of fertility therapy), and the more widespread use of fertility-enhancing therapies (fertility drugs and techniques such as in vitro fertilization), have been associated with the unprecedented rise in multiple births (64–66).

Twinning rates rose among the three largest **racial and ethnic groups** for 1996–97, but continue to be highest for non-Hispanic black women (30.0 compared with 28.8 for non-Hispanic white, and 19.5 for Hispanic women). In contrast, and despite substantial increases in higher order multiple births among non-Hispanic black women

**Table H. Numbers of twin, triplet, quadruplet and quintuplet, and other higher order multiple births: United States, 1989–97**

| Year | Twins | Triplets | Quadruplets | Quintuplets and other higher order multiples |
|---|---|---|---|---|
| 1997 | 104,137 | 6,148 | 510 | 79 |
| 1996 | 100,750 | 5,298 | 560 | 81 |
| 1995 | 96,736 | 4,551 | 365 | 57 |
| 1994 | 97,064 | 4,233 | 315 | 46 |
| 1993 | 96,445 | 3,834 | 277 | 57 |
| 1992 | 95,372 | 3,547 | 310 | 26 |
| 1991 | 94,779 | 3,121 | 203 | 22 |
| 1990 | 93,865 | 2,830 | 185 | 13 |
| 1989 | 90,118 | 2,529 | 229 | 40 |




NOTES: Higher order multiples include births in greater than twin deliveries. Rates are plotted on a log scale.

**Figure 8. Higher order multiple birth rates by race and Hispanic origin of mother, 1980–97**

(64 percent) and Hispanic women (93 percent) since 1991, non-Hispanic white women were more than twice as likely as non-Hispanic black women, and more than three times as likely as Hispanic women to have a triplet, quadruplet, or quintuplet birth (230.8 compared with 90.0 and 72.7 per 100,000, respectively) in 1997. Non- Hispanic white mothers tend to be older, and are more likely than their black and Hispanic counterparts, to seek infertility services (16).

Multiple birth rates generally rise with increasing **maternal age** (there is a slight dip at age 40–44 years), with rates peaking for older mothers 45 to 54 years of age. For 1997, 16.6 percent of births to mothers aged 45 years and over was a multiple, a level 10 times higher than that for mothers under 20 years of age (1.5 percent) and more than 3 times higher than that for women in their thirties (3.9 percent).

Multiple births are more likely than singletons to be born **preterm** (57 versus 10 percent) or **LBW** (56 versus 6 percent). Multiples comprised only 3 percent of all births in 1997, but 21 percent of all LBW infants, 24 percent of VLBW, 14 percent of preterm, and 20 percent of very preterm infants. The rising multiple birth rate and the accompanying high risk for these births has increasingly influenced measures of perinatal health at the national and State level (60, 67). Thus, it can be important when analyzing trends in these measures, to do so by plurality (see gestation and birthweight sections).

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