Pregnancy in Adolescents

Jacqueline B. Wilson, M.P.H.,[1] Stephanie J. Ventura, A.M.,[1]
Lisa M. Koonin, M.N., M.P.H.,[2] and Alison M. Spitz, M.S., M.P.H.[2]

PUBLIC HEALTH IMPORTANCE

In 1990, U.S. females aged 15–19 years had an estimated 1 million pregnancies and 521,826 births (*1,2*). More than 80% of these births were unintended—they occurred sooner than desired or were not wanted at any time (*3*). Surveillance data on adolescents' pregnancy, childbearing, and sexual behavior have been critical in assisting federal, state, and local agencies with program efforts to reduce pregnancy among teenagers. The monitoring of teenage pregnancy trends also provides a means for assessing the overall effects of intervention strategies to reduce unintended pregnancy among teens and for identifying subgroups of teens at special risk.

The adverse health and socioeconomic consequences of pregnancy and childbearing among teenagers are well recognized (*4*). Teenage mothers are more likely than older women to receive inadequate prenatal care and to experience inadequate weight gain during pregnancy, maternal anemia, and pregnancy-associated hypertension. Labor and delivery complications such as fetal distress are also reported more frequently for teenage mothers (*5*). Moreover, babies born to young mothers are at an increased risk of low birth weight, preterm birth, newborn anemia, respiratory distress syndrome, meconium aspiration, and assisted ventilation (*1,4–7*).

In addition to the substantial medical risks that pregnancy and childbearing pose to teenage mothers and their infants, other factors, such as socioeconomic status, also may play a major role in the high costs of pregnancy among teenagers (*4*). Adolescent mothers are more likely than older mothers to leave high school before graduation, to have decreased earning potential, and to live in poverty (*4*). Furthermore, early sexual activity can result in a higher risk for sexually transmitted diseases (STDs) (*8*), which can impair the future fertility and health of adolescents.

To gain some perspective on the public health importance of pregnancy among adolescents in the United States, we must evaluate the problem in a world context. In a 1985 study of pregnancy among teenagers in the United States and Western Europe, investigators found that although teenage fertility rates declined in both the United States and Western Europe in the early 1980s, the United States still had teenage pregnancy and birthrates considerably higher than rates in Canada, England, Wales, France, the Netherlands, and Sweden (*9*). Although U.S. rates of sexual activity were not dramatically different from rates in these countries, the effective use of contraceptives and access to contraceptive and abortion services differed considerably (*9*). More recent data show that U.S. teenage fertility rates continue to exceed European teenage fertility rates (*10*). For additional information about related topics and surveillance activities, see the Contraception, Sexually Transmitted Diseases, Human Immunodeficiency

[1] Division of Vital Statistics
National Center for Health Statistics
Centers for Disease Control and Prevention
Hyattsville, Maryland

[2] Division of Reproductive Health
National Center for Chronic Disease Prevention and Health Promotion
Centers for Disease Control and Prevention
Atlanta, Georgia

Virus, Unintended Pregnancy and Childbearing, Legal Induced Abortion, Low Birth Weight and Intrauterine Growth Retardation, and Youth Risk Behavior chapters.

HISTORY OF DATA COLLECTION

The surveillance of pregnancy among adolescents requires the collection of data on live births, abortions, and sexual experience. Historically, these components have been collected by different organizations at different points in time. Since 1933, annual data on live births to teenage mothers and birthrates for teens have been available from CDC's National Center for Health Statistics.*

The national birth-registration area, established in 1915 with 10 states and the District of Columbia, contained all 48 states and the District of Columbia by 1933; data were added from Alaska in 1959 and from Hawaii in 1960.

Over the past three decades, CDC has established several surveillance systems for collecting information on adolescent pregnancy, childbearing, abortion, and sexual experience. In the late 1960s, CDC established a mission of reducing unintended pregnancies among teens. In meeting that mission, CDC has assisted state and local family planning programs by providing them with analyses of state statistics on teenage pregnancy and evaluations of state and local programs. CDC has released national and state pregnancy and fertility data in a series of publications for federal, state, and local program planners and evaluators of family planning services (*2,11–19*).

In 1969, CDC began abortion surveillance activities to document the number and characteristics of women obtaining legal induced abortions and in 1970 published CDC's first report on legal induced abortions. The term legal was used to contrast the reported abortions with the illegal or self-induced procedures that were frequent during that period. Since then, reports of annual abortion data have been published regularly. CDC and the Alan Guttmacher Institute, an independent nonprofit research organization, also report national abortion data (*20–22*). (For details about these collection and reporting activities, see the Legal Induced Abortion chapter.)

Data on the sexual behaviors of adolescents who have ever had sexual intercourse contribute to our understanding of adolescents at risk of becoming pregnant. The first surveys that measured sexual behavior among adolescent girls were the National Surveys of Young Women, conducted in 1971, 1976, and 1979 (*23*). These studies collected data on a variety of reproductive health issues, including sexual intercourse, contraceptive use, and pregnancy among females aged 15–19 years living in the United States.† Since 1982, the National Surveys of Family Growth (NSFGs) have collected data on these issues (as well as on fetal losses) from a sample of all U.S. females aged 15–44 years. The NSFG data have allowed us to calculate sexual experience and contraceptive use estimates for all adolescent girls and young women. In addition, CDC's school-based Youth Risk Behavior Surveys, first conducted in 1990, collect information from adolescents and young adults concerning their sexual behaviors and other risk factors for health (*24*). (For details about the NSFGs and the Youth Risk Behavior Surveys, see the Contraception and Youth Risk Behavior chapters.)

CDC SURVEILLANCE ACTIVITIES

Live Births

The birth data collected and reported by CDC are based on 100% of the birth certificates filed with state health departments. These data are

* CDC's National Center for Health Statistics (NCHS) and National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) are both involved in surveillance of pregnancy among adolescents. NCHS's pregnancy estimates are based on a composite of three outcomes of pregnancy—live births, induced abortions, and fetal losses. NCCDPHP estimates pregnancies as the sum of live births plus induced abortions (excluding spontaneous abortions or stillbirths); these estimates are based on the assumption that spontaneous abortions and stillbirths do not vary substantially for any group during the reporting period.

† The 1971 and 1976 surveys sampled women living in both metropolitan and nonmetropolitan areas; the 1979 survey included only women in metropolitan areas (*23*).

provided to CDC through the Vital Statistics Cooperative Program, which began in 1975 and has included all states since 1985. A birth certificate is filed for every birth occurring in the United States and includes maternal age, race, Hispanic origin, educational attainment, marital status, pregnancy history, and other basic sociodemographic and health information on infants and their mothers. The completeness of reporting is quite high for all of the information, although the accuracy of some variables has been questioned (see the Prenatal Care chapter). CDC periodically evaluates the quality and accuracy of the data (*25*).

Beginning in 1989, birth data by race have been tabulated primarily by race of the mother, as reported directly on the birth certificate. Before 1989, births were tabulated by race of the child, which was determined from the race of the parents as entered on the birth certificate. Details of current and former procedures concerning the tabulation of births by race are described elsewhere (*1*).

Abortions

CDC compiles annual tables of legal induced abortion data from 52 reporting areas: 50 states, New York City, and the District of Columbia (see the Legal Induced Abortion chapter). The total numbers of legal induced abortions are available from all reporting areas, most of which provide information on the characteristics of women obtaining abortions. Each year, for about 45 reporting areas, data are provided from central health agencies (i.e., state health departments and the health departments of New York City and the District of Columbia). For the remaining reporting areas, data are provided from hospitals and other medical facilities. No patient or physician identifiers are provided to CDC. Data are reported by the state in which the abortion occurred and are tabulated by the state of occurrence.

Population Estimates

Pregnancy and birthrates for 1990 and other census years are based on U.S. population counts as of April 1 of each year. The 1990 census counts by race and age were modified to be consistent with the Office of Management and Budget's historical categories for birth data. The modification procedures are described in detail in a census bureau report (*26*). After each census, birthrates for the previous decade are revised on the basis of population counts for those years which have been revised to levels consistent with the latest census (*27*). Birth and fertility rates based on revised population counts for 1981–1989 have been published elsewhere (*1,27*).

GENERAL FINDINGS

National Data

Small declines in pregnancy and birthrates among teenagers during the early 1980s subsequently reversed, resulting in relatively little net change in these rates over the decade (*1,2*). Women who were teenagers in the late 1980s were born during the early 1970s, after the baby boom and during a period when birthrates dropped to historic low levels. The actual number of pregnancies among adolescent females declined about 14% between 1980 and 1988 (the most recent year for which national pregnancy data are available), as the number of teenage women fell. The total teenage pregnancy rate was about the same in 1980 and 1988 (110 per 1000 females aged 15–19 years) and showed only slight changes in rates among ethnic groups. Although overall pregnancy rates changed little during the 1980s, distinctive differences were observed in the trends for live birth and abortion rates—the two principal components of the pregnancy rate (*1,2,29–31*).

Live births

Despite the declining number of U.S. teenagers, the number of births among teens aged 15–19 years increased by 12% between 1986 and 1991 (the most recent year for which live birth data are available), to 519,577 (*4*). After declining 5% between 1980 and 1986, the birthrate for teenagers (the number of live births per 1,000 females aged 15–19 years) increased

20% between 1986 and 1990, to 59.9 births per 1,000 females aged 15–19 years, and increased an additional 4% in 1991, to 62.1 per 1,000. The birthrate for teens aged 15–17 years increased 27% between 1986 and 1991, to 38.7 per 1,000, and the rate for older teens aged 18–19 years increased to 94.4 per 1,000 (*33*). The 27% rise in birthrates for teens aged 15–17 years translated into >40,000 additional births in 1991 than would have occurred had the 1991 rate equaled the 1986 rate.

Two factors, in particular, have contributed to the continued rise in birthrates among U.S. teenagers—the growing proportion of teenagers who are sexually experienced and the growing proportion of Hispanic teenage births:

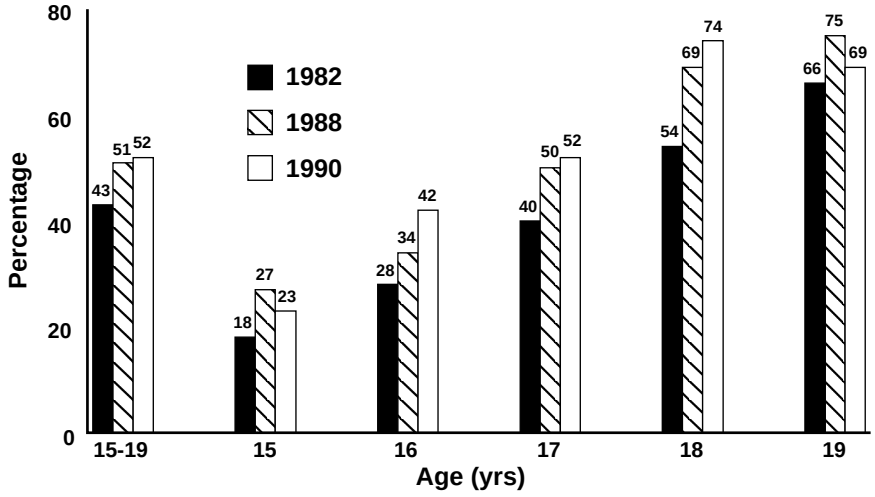
- In 1990, 52% of teens aged 15–19 years were sexually experienced (had ever had sexual intercourse) (Figure 1), compared with 42% in 1982 (*29*). The proportion of females aged 15–19 years who were sexually experienced increased between 1982 and 1990, with 42% of 15-year-old girls and 69% of 19-year-old women being sexually experienced in 1990. Although the pregnancy rate for sexually experienced teens actually declined during the 1980s, from 262 pregnancies per 1,000 females in 1980 to 215 per 1,000 in 1988 (*2*), a higher proportion of teens were sexually experienced, so the overall pregnancy rate stayed about the same.

- In 1991, 20% of teenage births were among Hispanics (*33*). Hispanics, who are predominantly white (97%), have much higher fertility rates than non-Hispanic whites at all ages, but particularly at ages <20 years. For example, the birth rate for Hispanic teenagers 15–19 years of age was 106.7 per 1,000 in 1991, compared with 42.7 per 1,000 for non-Hispanic white teenagers (*33*). Moreover, the Hispanic teenage population has increased considerably in recent years, while the non-Hispanic white teenage population has declined (*27*). Thus, the rapid rise in birthrates for white teenagers since the mid-1980s results in part from the combined effects of the growing proportion of white teenagers who are Hispanic and the higher fertility rates in this population.

Legal Induced Abortions

The abortion rate for young women aged 15–19 (the number of abortions per 1,000 teenagers) increased slightly from 42.7 per 1,000

FIGURE 1. Percentage of females 15–19 years of age who have had sex — United States, 1982, 1988, and 1990



Source: National Surveys of Family Growth

teenagers in 1980 to 44.0 per 1,000 in 1988 (*2*). The teenage abortion ratio (the number of abortions per 1,000 live births among women 15–19 years of age) rose from 491 per 1,000 in 1974 to a peak of 727 per 1,000 in 1983 (*30*), then declined to 515 per 1,000 by 1990 (*28*). This decrease in the abortion ratio indicates that a greater proportion of teenage pregnancies are ending in live births. Although the abortion ratios for this age-group remain higher than those for older women, the proportion of all legal abortions obtained by teenagers has steadily decreased over time—from 31% of all legal induced abortions in 1974 to 21% in 1990 (*28,30*).

State Data

From 1980 to 1990, state pregnancy rates for U.S. teenagers aged 15–19 years have changed little. However, because declines in abortion rates were generally greater than declines in pregnancy rates, state birthrate trends between 1980 and 1990 were most likely to reflect increases (*17,19*).

In 1990, pregnancy, live birth, and abortion rates for females 15–19 years old varied widely by state, race, and Hispanic origin (Table 1). For example, rates of pregnancy ranged from 56 pregnancies per 1,000 females to 111 per 1,000. Birthrates ranged from 33 births per 1,000 females to 81 per 1,000. Abortion rates varied even more, ranging from 6 abortions per 1,000 females to 49 per 1,000. In most states, rates of pregnancy and live births for blacks were higher than rates for whites and Hispanics (Table 1); these racial and ethnic differences are related to socioeconomic factors rather than to race per se (*19*).

INTERPRETATION ISSUES

When evaluating pregnancy trends among adolescents, we must consider whether the pregnancy rates are based on the entire adolescent population or just sexually experienced adolescents. With the first method, the rate represents the number of pregnancies (or live births or abortions) to females in a given age-group (e.g., aged 15–19 years) per 1,000 females in that group. With the second method, the rate represents the number of pregnancies (or live births or abortions) among women in a given age-group per 1,000 sexually experienced females in that group.

Monitoring pregnancy rates among sexually experienced teenagers provides a more accurate picture of trends in pregnancy rates because it describes the experience of the population actually at risk for becoming pregnant. In addition, this measure enhances the evaluation of the efficacy of family planning programs that target subgroups of teens at high risk for pregnancy.

The current CDC system for collecting and analyzing data on pregnancies among adolescents has some limitations. For example, the timeliness and availability of birth certificate data pose methodologic challenges. Birth certificate data have an important advantage in that virtually all births are registered in the United States. However, the availability and timeliness of birth certificate data for the country as a whole are directly affected by how quickly each state provides its data to CDC. Currently, detailed birth data for a given year are available about 18 months after the end of that year.

Another limitation is that the total number of legal abortions reported to CDC in a given year is lower than the number of abortions actually performed. The total number of abortions reported by CDC remains about 16%–18% lower than the number reported by the Alan Guttmacher Institute, which obtains information directly from abortion providers (*30*).[§] Although 10 states do not collect data on the age of women obtaining abortions, CDC has developed procedures to calculate national estimates of pregnancy among teenagers rates (*2,17,19*). In 1990, the abortion reports from states that lacked age information represented about 39% of the abortions reported to CDC.

There are also limitations in interpreting data on adolescent pregnancy, related, in part, to the

[§] The last year for which the Alan Guttmacher Institute reported abortion survey data was 1988.

TABLE 1. Pregnancy rates* and birthrates† for females 15–19 years old, by race and Hispanic origin§ — United States, 1990

	Pregnancy Rate				Birthrate			
	Total¶	White**	Black	Hispanic	Total	White	Black	Hispanic
Alabama	††	††	††	††	71.0	55.3	105.3	33.8
Alaska	††	††	††	††	65.3	53.8	§§	§§
Arizona	101.8	99.9	153.5	145.0	75.5	72.3	115.1	123.3
Arkansas	98.4	82.7	157.2	¶¶	80.1	66.2	131.9	§§
California	††	††	††	††	70.6	73.9	101.0	112.3
Colorado	82.3	¶¶	¶¶	¶¶	54.5	52.1	105.9	110.6
Connecticut	††	††	††	††	38.8	30.5	102.5	121.9
Delaware	††	††	††	††	54.5	37.4	120.4	§§
District of Columbia	255.2	††	††	††	93.1	11.8	121.4	88.7
Florida	††	††	††	††	69.1	52.9	135.0	60.2
Georgia	110.8	86.2	162.5	87.5	75.5	56.6	116.2	73.0
Hawaii	88.2	¶¶	¶¶	¶¶	61.2	42.0	§§	§§
Idaho	58.8	58.6	§§	126.0	50.6	50.3	§§	118.6
Illinois	††	††	††	††	62.9	44.3	144.2	94.8
Indiana	74.3	65.5	158.0	76.4	58.6	51.9	122.4	64.5
Iowa	††	††	††	††	40.5	38.5	119.1	79.9
Kansas	81.1	74.5	181.1	99.3	56.1	50.8	131.9	86.1
Kentucky	91.0	84.3	164.1	††	67.6	63.5	115.8	§§
Louisiana	92.1	68.7	128.8 ***	††	74.2	52.1	109.1	20.9
Maine	68.4	67.6	§§	††	43.0	42.7	§§	§§
Maryland	84.7	61.5	141.8	††	53.2	36.0	95.5	46.0
Massachusetts	71.1	††	††	††	35.1	30.9	89.5	121.1
Michigan	85.2	††	††	††	59.0	43.1	131.1	94.4
Minnesota	62.0	55.3	219.4	89.9	36.3	30.6	151.7	79.4
Mississippi	97.8	71.6	130.5	§§	81.0	55.5	112.7	§§
Missouri	82.6	64.8	197.5	57.0	62.8	50.3	143.9	46.4
Montana	81.7	¶¶	¶¶	¶¶	48.4	39.7	§§	§§
Nebraska	74.2	††	††	††	42.3	36.9	135.1	81.7
Nevada	107.5	105.8	156.8	112.8	73.3	68.9	129.3	107.5
New Hampshire	††	††	††	††	33.0	33.1	§§	†††
New Jersey	75.3	52.7	181.6	115.1	40.5	28.1	99.6	79.9
New Mexico	100.4	99.6	115.5	122.2	78.2	75.6	94.6	96.9
New York	92.9	76.3	166.4	136.8	43.6	36.7	75.6	81.6
North Carolina	106.4	86.3	157.3	§§	67.6	52.0	106.6	106.1
North Dakota	56.4	50.4	§§	§§	35.4	29.2	§§	§§
Ohio	74.5	60.5	170.1	83.2	57.9	47.7	129.4	73.9
Oklahoma	††	††	††	††	66.8	60.2	116.0	†††
Oregon	89.2	88.7	178.0	134.3	54.6	54.0	108.0	113.9
Pennsylvania	74.6	††	††	††	44.9	35.1	124.8	126.1
Rhode Island	87.7	80.4	198.9	134.9	43.9	38.7	114.3	129.8
South Carolina	95.0	76.6	127.0	84.5	71.3	54.3	101.1	66.8
South Dakota	56.9	46.0	§§	††	46.8	35.0	§§	§§
Tennessee	101.8	86.3	165.6	56.2	72.3	60.3	121.3	40.9
Texas	102.8	96.1	153.6	124.5	75.3	70.6	114.0	103.8

TABLE 1. Pregnancy rates* and birthrates† for females 15–19 years old, by race and Hispanic origin§ — United States, 1990 — continued

	Pregnancy Rate				Birthrate			
	Total¶	White**	Black	Hispanic	Total	White	Black	Hispanic
Utah	63.0	62.2	§§	128.7	48.5	47.8	§§	115.0
Vermont	72.1	72.7	§§	§§	34.0	34.3	§§	§§
Virginia	86.5	70.4	149.1	74.4	52.9	41.1	98.5	55.5
Washington	95.4	¶¶	¶¶	¶¶	53.1	52.2	94.3	113.4
West Virginia	67.4	66.4	103.9	§§	57.3	57.1	74.4	§§
Wisconsin	66.6	††	††	††	42.6	31.2	174.7	90.4
Wyoming	62.2	††	††	††	56.3	54.5	§§	94.2

* Pregnancy rate equals live births plus legal induced abortions per 1,000 females aged 15–19 years; fetal losses are excluded.

† Birthrate equals live births per 1,000 females aged 15–19 years.

§ Persons of Hispanic origin may be of any race.

¶ Includes all racial/ethnic groups.

** In the calculation of pregnancy rates, abortions by white race included women of Hispanic origin. Kentucky, Louisiana, Maine, Maryland, North Carolina, and South Dakota did not report abortion data by Hispanic origin.

†† Pregnancy rates for states with unknown abortion data could not be calculated.

§§ Pregnancy rates and birthrates were not calculated for states with ≤20 births among teenagers in 1990 or ≤1,000 females aged 15–19 years in the respective racial/ethnic group.

¶¶ Pregnancy rates were not calculated because ≥15% of abortions were of unknown race/ethnicity.

*** Includes black and other races.

††† New Hampshire and Oklahoma did not report Hispanic origin on the birth certificate.

lack of a coordinated national pregnancy surveillance system. The data used to monitor adolescent pregnancy are obtained by several data collection systems that have different methodologies. In addition, the frequency of data collection varies greatly among the systems; some systems collect data annually, whereas others collect data only periodically.

EXAMPLES OF USING DATA

By periodically evaluating pregnancy and birthrates, states can improve their policy and program planning for health services, prevention activities, and support programs for pregnant teenagers and teenage mothers. Many state and local health departments have used these data extensively:

- To evaluate program interventions for pregnancy among adolescents.
- To assist with targeting program efforts among subpopulations of teenagers at high risk of pregnancy.
- To increase awareness of adolescent pregnancy among parents, teachers, community leaders, and legislators.

FUTURE ISSUES

The year 2000 national health objectives, which have helped us to establish guidelines to monitor the nation's health, include several goals related to adolescent pregnancy. These include objectives to decrease adolescent and unintended pregnancies, delay the onset of sexual activity among adolescents, reduce the number of adolescents who have sex at young ages, and increase the proportion of sexually active adolescents who use contraceptives effectively (*32*). Anticipated improvements in surveillance methodology, expansion of surveillance activities, and technological advances are likely to help us better measure our progress toward meeting these goals.

Improvements in Surveillance Methodology

A major improvement to vital statistics reporting is reflected in the 1989 revision of the U.S. Standard Certificate of Live Birth (Figure 2). It includes a number of new items on medical and lifestyle risk factors related to pregnancy and birth as well as items on obstetric procedures performed, method of delivery, abnormal conditions and congenital anomalies of the

FIGURE 2.

TYPE/PRINT IN PERMANENT BLACK INK FOR INSTRUCTIONS SEE HANDBOOK

U.S. STANDARD CERTIFICATE OF LIVE BIRTH

LOCAL FILE NUMBER — BIRTH NUMBER

CHILD

1. CHILD'S NAME (*First, Middle, Last*) | 2. DATE OF BIRTH (*Month, Day, Year*) | 3. TIME OF BIRTH M

4. SEX | 5. CITY, TOWN, OR LOCATION OF BIRTH | 6. COUNTY OF BIRTH

7. PLACE OF BIRTH ☐ Hospital ☐ Freestanding Birthing Center ☐ Clinic/Doctor's Office ☐ Residence ☐ Other (*Specify*) _____ | 8. FACILITY NAME (*If not institution, give street and number*)

CERTIFIER/ ATTENDANT

9. **I certify that this child was born alive at the place and time and on the date stated.** *Signature* £ | 10. DATE SIGNED (*Month, Day, Year*) | 11. ATTENDANT'S NAME AND TITLE (*If other than certifier*) (*Type/Print*) Name _____ ☐ M.D. ☐ D.O. ☐ C.N.M. ☐ Other Midwife ☐ Other (*Specify*) _____

12. CERTIFIER'S NAME AND TITLE (*Type/Print*) Name _____ ☐ M.D. ☐ D.O. ☐ Hospital Admin. ☐ C.N.M. ☐ Other Midwife Other (*Specify*) _____ | 13. ATTENDANT'S MAILING ADDRESS (*Street and Number or Rural Route Number, City or Town, State, Zip Code*)

DEATH UNDER ONE YEAR OF AGE
Enter State File Number of death certificte for this child

14. REGISTRAR'S SIGNATURE £ | 15. DATE FILED BY REGISTRAR (*Month, Day, Year*)

MOTHER

16a. MOTHER'S NAME (*First, Middle, Last*) | 16b. MAIDEN SURNAME | 17. DATE OF BIRTH (*Month, Day, Year*)

18. BIRTHPLACE (*State or Foreign Country*) | 19a. RESIDENCE—STATE | 19b. COUNTY | 19c. CITY, TOWN, OR LOCATION

19d. STREET AND NUMBER | 19e. INSIDE CITY LIMITS? (*Yes or no*) | 20. MOTHER'S MAILING ADDRESS (*If same as residence, enter Zip Code only*)

FATHER

21. FATHER'S NAME (*First, Middle, Last*) | 22. DATE OF BIRTH (*Month, Day, Year*) | 23. BIRTHPLACE (*State or Foreign Country*)

INFORMANT

24. **I certify that the personal information provided on this certificate is correct to the best of my knowledge and belief.** *Signature of Parent or Other Informant* £

INFORMATION FOR MEDICAL AND HEALTH USE ONLY

	25. OF HISPANIC ORIGIN? (Specify No or Yes—If yes, specify Cuban, Mexican, Puerto Rican, etc.)	26. RACE—American Indian, Black, White, etc. (*Specify below*)	27. EDUCATION (*Specify only highest grade completed*) Elementary/Secondary (0-12)	College (1-4 or 5+)
MOTHER	25a. ☐ No ☐ Yes Specify:	26a.	27a.	
FATHER	25b. ☐ No ☐ Yes Specify:	26b.	27b.	

MULTIPLE BIRTHS Enter State File Number for Mate(s) LIVE BIRTH(S)

FETAL DEATH(S)

28. PREGNANCY HISTORY (*Complete each section*)

LIVE BIRTHS (*Do not include this child*)		OTHER TERMINATIONS (*Spontaneous and induced at any time after conception*)
28a. Now Living Number_____ ☐ None	28b. Now Dead Number_____ ☐ None	28d. Number_____ ☐ None
28c. DATE OF LAST LIVE BIRTH (*Month, Year*)		28e. DATE OF LAST OTHER TERMINATION (*Month, Year*)

29. MOTHER MARRIED? (At birth, conception, or any time between) (*Yes or no*)

30. DATE LAST NORMAL MENSES BEGAN (*Month, Day, Year*)

31. MONTH OF PREGNANCY PRENATAL CARE BEGAN—First, Second, Third, etc. (*Specify*)

32. PRENATAL VISITS—Total Number (*If none, so state*)

33. BIRTH WEIGHT (*Specify unit*)

34. CLINICAL ESTIMATE OF GESTATION (*Weeks*)

35a. PLURALITY—Single, Twin, Triplet, etc. (*Specify*)

35b. IF NOT SINGLE BIRTH—Born First, Second, Third, etc. (*Specify*)

36. APGAR SCORE

36a. 1 Minute | 36b. 5 Minutes

37a. MOTHER TRANSFERRED PRIOR TO DELIVERY? ☐ No ☐ Yes If Yes, enter name of facility transferred from:

37b. INFANT TRANSFERRED? ☐ No ☐ Yes If Yes, enter name of facility transferred to:

38a. MEDICAL RISK FACTORS FOR THIS PREGNANCY (*Check all that apply*)

Anemia (Hct. < 30/Hgb <10)	01 ☐	Hydramnios/Oligohydramnios	06 ☐
Cardiac disease	02 ☐	Hemoglobinopathy	07 ☐
Acute or chronic lung disease	03 ☐	Hypertension, chronic	08 ☐
Diabetes	04 ☐	Hypertension, pregnancy-associated	09 ☐
Genital herpes	05 ☐	Eclampsia	10 ☐
Incompetent cervix	11 ☐	Previous preterm or small for gestational age infant	13 ☐
Previous infant 4000+ grams	12 ☐	Rh sensitization	15 ☐
Renal disease	14 ☐	None	00 ☐
Uterine bleeding	16 ☐	Other _____ (*Specify*)	17 ☐

38b. OTHER RISK FACTORS FOR THIS PREGNANCY (*Complete all items*)

Tobacco use during pregnancy Yes ☐ No ☐
Average number cigarettes per day _____
Alcohol use during pregnancy Yes ☐ No ☐
Average number drinks per week _____
Weight gained during pregnancy _____ lbs.

39. OBSTETRIC PROCEDURES (*Check all that apply*)

Amniocentesis	01 ☐	Tocolysis	05 ☐
Electronic fetal monitoring	02 ☐	Ultrasound	06 ☐
Induction of labor	03 ☐	None	00 ☐
Stimulation of labor	04 ☐	Other _____ (*Specify*)	07 ☐

40. COMPLICATIONS OF LABOR AND/OR DELIVERY (*Check all that apply*)

Febrile (>100°F or 38°C.)	01 ☐	Other excessive bleeding	06 ☐
Meconium, moderate/heavy	02 ☐	Seizures during labor	07 ☐
Premature rupture of membrane (>12 hours)	03 ☐	Precipitous labor (< 3 hours)	08 ☐
Abruptio placenta	04 ☐	Prolonged labor (> 20 hours)	09 ☐
Placenta previa	05 ☐	Dysfunctional labor	10 ☐
Breech/Malpresentation	11 ☐	Cord prolapse	13 ☐
Cephalopelvic disproportion	12 ☐	Fetal distress	15 ☐
Anesthetic complications	14 ☐	None	00 ☐
Other _____ (*Specify*)	16 ☐		

41. METHOD OF DELIVERY (*Check all that apply*)

Vaginal	01 ☐	Forceps	05 ☐
Vaginal birth after previous C-section	02 ☐	Vacuum	06 ☐
Primary C-section	03 ☐		
Repeat C-section	04 ☐		

42. ABNORMAL CONDITIONS OF THE NEWBORN (*Check all that apply*)

Anemia (Hct. <39/Hgb < 13)	01 ☐	Meconium aspiration syndrome	05 ☐
Birth injury	02 ☐	Assisted ventilation < 30 min	06 ☐
Fetal alcohol syndrome	03 ☐	Assisted ventilation > 30 min	07 ☐
Hyaline membrane disease/RDS	04 ☐	Seizures	08 ☐
None	00 ☐	Other _____ (*Specify*)	09 ☐

43. CONGENITAL ANOMALIES OF CHILD (*Check all that apply*)

Anencephalus	01 ☐	Other central nervous system anomalies (*Specify*) _____	05 ☐
Spina bifida/Meningocele	02 ☐	Heart malformations	06 ☐
Hydrocephalus	03 ☐	Other circulatory/respiratory anomalies (*Specify*) _____	07 ☐
Microcephalus	04 ☐	Rectal atresia/stenosis	08 ☐
Tracheo esophageal fistula/Esophageal atresia	09 ☐	Other gastrointestinal anomalies (*Specify*) _____	11 ☐
Omphalocele/Gastroschisis	10 ☐	Malformed genitalia	12 ☐
Renal agenesis	13 ☐	Other urogenital anomalies (*Specify*) _____	14 ☐
Cleft lip/palate	15 ☐	Polydactyly/Syndactyly/Adactyly	16 ☐
Club foot	17 ☐	Diaphragmatic hernia	18 ☐
Other musculoskeletal/integumental anomalies (*Specify*) _____	19 ☐	Down's syndrome	20 ☐
Other chromosomal anomalies (*Specify*) _____	21 ☐	None	00 ☐
Other _____ (*Specify*)	22 ☐		

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infant, birth attendants, place of delivery, and Hispanic origin of the parents. This major enhancement of medical and health data on mothers and babies greatly expands the scope of information on pregnancy outcomes among both teenagers and adults in the United States (*32*).

In addressing data needs for the year 2000 health objectives, the NSFG is improving the collection of data on a number of topics related to the risk of pregnancy among adolescents. New questions will collect information on the respondent's family background, such as the family members with whom the girl lived during childhood (*35*). Data on the characteristics of the respondent's first sexual partner and the nature of that relationship may help us better understand adolescent sexuality and pregnancy; the 1994 NSFG includes questions related to this topic. Previous NSFGs have oversampled black women to permit better group-specific estimates on reproductive health concerns; the 1994 survey is oversampling Hispanic women as well.

Expansion of Surveillance Activities

In addition to releasing reports of state pregnancy and birth rates, CDC also plans to publish national 1980–1990 estimates of pregnancy rates for sexually experienced teens aged 15–19 years as well as national pregnancy and birth trends among girls <15 years of age.

Technologic Advances

The electronic collection and reporting of data will promote more timely collection and more rapid dissemination of surveillance data. A number of states have already started electronically transmitting birth certificate data to help speed up preparation of vital statistics data, which is especially important in monitoring trends in adolescent pregnancy.

Among the technologies that will improve survey research and data collection are computer-assisted personal interviewing, computer-assisted telephone interviewing, and audio computer-assisted self-interviewing. All of these technologies will be used in the upcoming NSFGs this decade.

Trends in Reproductive Health

Changes in contraceptive technology—such as the use of longer-acting contraceptives (e.g., the Norplant® System and Depo-Provera®) and postcoital contraceptives—are likely to affect pregnancy rates among young women and may enable them to postpone childbirth until they are out of their teens. If additional contraceptive methods or nonsurgical methods of abortion become available in this country, they may also affect teenage pregnancy rates and may require alterations in pregnancy surveillance methodology (*36*).

Given that adolescent girls are becoming sexually active at younger ages and that their use of barrier contraceptives is less effective than use among adult women, their risk of exposure to STDs is a valid concern (*8*). Rates of STDs such as chlamydia and syphilis have been increasing among teenage girls. Several STDs have long-term effects on fertility, but whether this increasing rate of STD infection will alter the fertility rate of teens remains to be determined (see the Sexually Transmitted Diseases chapter). Reproductive health issues such as these will challenge adolescent pregnancy surveillance and reporting in the 1990s.

Teenage pregnancy remains a significant and complex public health concern. Timely surveillance of teenage pregnancy—at both the national and state levels—is crucial for monitoring pregnancy, birth, and abortion trends and for assessing the effects of efforts to reduce unintended pregnancy. By monitoring all of the components of teenage pregnancy, states can collect data that are critical to monitoring and evaluating family planning programs, identifying and assisting adolescents at high risk, and implementing additional activities to reduce teenage pregnancy.

REFERENCES

1. NCHS. Advance report of final natality statistics, 1990. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1993. (Monthly vital statistics report; vol. 41, no. 9, suppl.)

2. Ventura SJ, Taffel SM, Mosher WD, Henshaw S. Trends in pregnancies and pregnancy rates, United States, 1980–88. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, NCHS, 1992. (Monthly vital statistics report; vol. 41, no. 6, suppl.)

3. Piccinino LJ. Unintended pregnancy and childbearing in the United States: 1973–1990. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, NCHS, 1994 (in press). (Advance data from vital and health statistics.)

4. Hofferth SL, Hayes CD, eds. Risking the future: adolescent sexuality, pregnancy, and childbearing. Washington, DC: National Academy Press, 1987.

5. NCHS. Advance report of maternal and infant health data from the 1990 birth certificate. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1992. (Monthly vital statistics report; vol. 42 no. 2, suppl.)

6. NCHS. Vital statistics of the United States, 1988. Vol. I, natality. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1990.

7. Taffel SM. Trends in low birth weight, United States, 1975–85. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, NCHS, 1989. (Vital and health statistics; Series 21, no. 48.)

8. Kost K, Forrest JD. American women's sexual behavior and exposure to sexually transmitted diseases. Fam Plann Perspect 1992;24:244–54.

9. Jones EF, Forrest JD, Goldman N, et al. Teenage pregnancy in developed countries: determinants and policy implications. Fam Plann Perspect 1985;17: 53–63.

10. David HP. European perspectives. Presented at the CPR/NICHD Workshop on Negotiating the Paths to Parenthood, Bethesda, Maryland, February 8–9, 1993.

11. Ventura SJ, Taffel SM, Mosher WD. Estimates of pregnancies and pregnancy rates for the United States, 1976–81. Public Health Rep 1985 100: 31–4.

12. Ventura SJ, Taffel SM, Mosher WD. Estimates of pregnancies and pregnancy rates for the United States, 1976–85. Am J Public Health 1988;78: 506–11.

13. CDC. Teenage pregnancy and fertility in the United States: 1970, 1974, 1980. Regional and state variations and unintended fertility. Atlanta: CDC, 1987.

14. Maciak BJ, Spitz AM, Strauss LT, Morris L, Warren CW, Marks JS. Pregnancy and birth rates among sexually experienced US teenagers—1974, 1980, and 1983. JAMA 1987;285:2069–71.

15. CDC. Teenage fertility in the United States. Atlanta: CDC, 1978.

16. CDC. Texas fertility: childbearing patterns and trends. Atlanta: CDC, 1980.

17. CDC. Teenage pregnancy and birth rates—United States, 1990. MMWR 1993;42:733–7.

18. Spitz AM, Strauss LT, Maciak BJ, Morris L. Teenage pregnancy and fertility in the United States, 1970, 1974, and 1980. MMWR 1987;36(No. 1SS):1–10.

19. Spitz AM, Ventura SJ, Koonin L, et al. State teenage pregnancy and birth rates—United States, 1980 and 1990. MMWR 1993;42(No. SS-6): in press.

20. Kochanek KD. Induced terminations of pregnancy: reporting states, 1988. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, NCHS, 1991; DHHS publication no.(PHS)91-1120. (Monthly vital statistics report; vol. 39, no. 12, suppl.)

21. Henshaw SK, Forrest JD, Van Vort J. Abortion services in the United States, 1987 and 1988. Fam Plann Perspect 1990;22:102–8.

22. Henshaw SK, Van Vort J, eds. Abortion factbook, 1992 edition: readings, trends, and state and local data to 1988. New York: Alan Guttmacher Institute, 1993.

23. Zelnik M, Kantner JF. Sexual activity, contraceptive use and pregnancy among metropolitan-area teenagers: 1971–1979. Fam Plann Perspect 1980;12: 230–1, 233–7.

24. Kolbe LJ. An epidemiological surveillance system to monitor the prevalence of youth behaviors that most affect health. Health Educ 1990;21:44–8.

25. Schoendorf KC, Parker JD, Batkhan LZ, Kiely JL. Comparability of the birth certificate and 1988 Maternal and Infant Health Survey. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, NCHS, 1993. (Vital and health statistics; series 2, no. 116.)

26. US Bureau of the Census. Age, sex, race, and Hispanic origin information from the 1990 census: a comparison of results with results where age and race have been modified. Washington, DC: US Department of Commerce, 1991.

27. US Bureau of the Census. U.S. population estimates, by age, sex, race, and Hispanic origin: 1980 to 1991. Washington, DC: US Department of Commerce, Economics and Statistics Administration, US Bureau of the Census, 1992. (Current population reports; series P25, no. 1095.

28. Koonin L, Smith JC, Ramick M. Abortion surveillance—United States, 1990. MMWR 1993;42(No. SS-6) (in press).

29. Forrest JD, Singh S. The sexual and reproductive behavior of American women, 1982–1988. Fam Plann Perspect 1990;22:206–14.

30. CDC. Abortion surveillance: United States, 1974. Atlanta: CDC, 1976.

31. Atrash HK, Lawson HW, Smith JC. Legal abortion in the US: trends and mortality. Contemp Obstet Gynecol 1990;35:58–69.

32. NCHS. Advance report of final natality statistics, 1991. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1993. (Monthly vital statistics report; vol. 42, no. 3, suppl.)

33. Public Health Service. Healthy people 2000: national health promotion and disease prevention objectives. Washington, DC: US Department of Health and Human Services, Public Health Service, 1990; DHHS Publication No.(PHS)91-50212.

34. Taffel SM, Ventura SJ, Gay GA. Revised US Certificate of Birth: new opportunities for research on birth outcome. BIRTH 1989;16:188–93.

35. Young EW, Jensen LC, Olsen JA, Cundick BP. The effects of family structure on the sexual behavior of adolescents. Adolescence 1991;26:977–86.

36. Klitsch M. RU486: the science and the politics. New York: Alan Guttmacher Institute, 1989.