

# Legal Induced Abortion

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## PUBLIC HEALTH IMPORTANCE

Legal induced abortion is one of the most frequently performed surgical procedures in the United States. Each year since 1980, the number of abortions in this country has remained relatively stable at approximately 1.3–1.4 million abortions per year (1). Recent reports show that in 1991, 339 abortions were provided for every 1,000 live births and that about 24 of every 1,000 females of reproductive age (15–44 years old) had an abortion (1).

Induced abortions usually are linked to unintended pregnancies, which often occur despite the use of contraception (2–4). In the mid-1980s, about 1.2 million of the live births that occurred each year were unintended (either mistimed or unwanted at conception) (5). Improving contraceptive practices as well as access to and education about safe, effective, and low-cost contraception and family planning services may help minimize the need for abortion in this country (6).

Fewer than one woman in 100 develops a major complication from induced abortion, and fewer than one in 100,000 dies (7,8). The risk of morbidity and mortality from legal abortion is directly related to gestational age at the time of abortion—the earlier the gestation, the safer the procedure (9,10).

The surveillance of legal induced abortion is important for numerous reasons. Surveillance is used to identify characteristics of those who have abortions, in particular, women at high risk of unintended pregnancy. Ongoing surveil-

lance is essential to monitor trends in the number, ratio, and rate of abortions in this country.\* We need statistics on the number of pregnancies ending in abortion to add to birth and fetal death statistics so that we can accurately estimate pregnancy rates and calculate other outcome rates, such as the rate of ectopic pregnancies per 1,000 pregnancies. In turn, abortion and pregnancy rates can be used to evaluate the effectiveness of family planning and unintended pregnancy prevention programs. This is especially important for teenage pregnancy programs, because a large proportion of teenage pregnancies are terminated by abortion (1). Ongoing surveillance also gives us an opportunity to assess changes in clinical practice patterns related to abortion, such as changes in types of procedure over time. Finally, abortion data are used as denominators to calculate abortion morbidity rates and mortality rates.

Legal abortion rates vary widely among countries—ranging from a high of >100 abortions per 1,000 women of reproductive age in the former Soviet Union to a low of 5 per 1,000 in the Netherlands. The induced abortion rate in the United States (24 per 1,000) is higher than rates reported by Australia, Canada, and most Western European countries; the U.S. rate is lower than rates reported by the former Soviet Union, China, Cuba, and Eastern European countries (11). Abortion rates for teenagers are much higher in the United States than in most Western European countries and in some Eastern European countries (11) (for additional information about related topics and surveillance

\* The **ratio** is the number of abortions per 1,000 live births. The **rate** is the number of abortions per 1000 females 15–44 years old.

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activities, see the Unintended Pregnancy and Childbearing and the Pregnancy in Adolescents chapters).

## HISTORY OF DATA COLLECTION

During the late 1960s and early 1970s, a new reproductive health event, legal induced abortion, was emerging as a result of judicial and legislative changes occurring in this country. At that time, the incidence of induced abortion in the United States was unknown. In 1969, recognizing both the importance of abortion as a public health issue and the need for national abortion statistics, CDC began the continuous epidemiologic surveillance of abortion in the United States.

That same year, CDC published the first report of legal induced abortions. The term **legal** was used to contrast those abortions with illegal procedures or self-induced procedures that still occurred. Since then, reports of annual data for 1969–1990 have been published regularly.

To assess morbidity associated with legal induced abortion from 1971 through 1978, CDC sponsored a multicenter, observational study of complications following legal induced abortion (12). This study, known as the Joint Program for the Study of Abortion (JPSA), continued the initial investigation (JPSA I) sponsored by the Population Council of New York. On the basis of data from about 80,000 abortions performed in 32 institutions between 1971 and 1975 (JPSA II) and 84,000 abortions performed in 13 institutions between 1975 and 1978 (JPSA III), CDC offered the medical community recommendations, which have significantly reduced the number and severity of abortion complications and the number of related deaths in this country.

Today, abortion statistics are compiled by CDC's National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) and National Center for Health Statistics (NCHS) as well as the Alan Guttmacher Institute, an independent, nonprofit research organization. Abortion data compiled by NCHS are collected from participating states and registration areas. Information on each induced abortion is provided to NCHS on magnetic tape as a

part of the Vital Statistics Cooperative Program. In 1988, the last year for which statistics were reported, NCHS reports included data from 14 states† and New York City (13). The Alan Guttmacher Institute conducts periodic direct surveys of abortion providers in the United States (14); however, the institute does not conduct continuous annual surveys or collect information on the characteristics of women obtaining abortions.

## CDC SURVEILLANCE ACTIVITIES

NCCDPHP is responsible for national surveillance to document the number and characteristics of women obtaining abortions, and NCHS is responsible for compiling abortion data in selected states. On occasion, NCCDPHP and NCHS collaborate in producing abortion surveillance reports.

A legal induced abortion is defined as a procedure performed by a licensed physician or someone acting under the supervision of a licensed physician, with the intent to “terminate a suspected or known intrauterine pregnancy and to produce a nonviable fetus at any gestational age” (9). Data on the reasons for the legal induced abortion are not collected by many states and are not provided to NCCDPHP.

Until the late 1970s, state health departments had independently developed their own abortion reporting forms or had used fetal death reporting forms, which were problematic for reporting induced abortions. In 1977, with the assistance of state health departments, NCHS developed a model abortion reporting form to collect demographic information and data on gestational age and the type of procedure performed; the form does not include personal identifiers of the woman. This reporting form has been modified periodically and serves as the primary tool for collecting abortion statistics in most states.

NCCDPHP compiles tabular data, aggregated at the state and area levels, received from 52 reporting areas: 50 states, New York City, and the District of Columbia. The total number of legal

† States include Colorado, Indiana, Kansas, Maine, Missouri, Montana, New York, Oregon, Rhode Island, South Carolina, Tennessee, Utah, Vermont, and Virginia.

induced abortions are available from all reporting areas, most of which provide information on the characteristics of women obtaining abortions. Each year, in about 45 reporting areas, data are provided from the central health agencies.<sup>§</sup> In 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. CDC checks the data for numerical accuracy and for consistency with published state reports and resolves discrepancies by communicating with health department personnel. Data are stored in secured files.

CDC computes abortion-to-live-birth ratios by using the number of abortions in a given category (e.g., by state, age, or race) as the numerator and the number of live births (reported by state and area health departments) in the same category as denominators. Abortion rates are computed by using the number of abortions as numerators and Current Population Survey data for females aged 15–44 years as denominators.

Preliminary annual data on legal induced abortions are published in the *Morbidity and Mortality Weekly Report (MMWR)*, and a final and more comprehensive report is published later in the *MMWR's CDC Surveillance Summaries*. National numbers, ratios, and rates of abortions are presented in each report. State-specific characteristics of women obtaining abortions are presented in the *Surveillance Summaries* only.

## GENERAL FINDINGS

From 1970 to 1982, the reported number of legal abortions in the United States increased every year; the largest percentage increase occurred during 1970–1972 (Figure 1). From 1976 to 1982, the annual rate of increase slowed continuously, reaching a low of 0.2% for 1981–1982. Since 1980, the number of abortions has remained relatively stable, with only small (<5%) year-to-year fluctuations. The abortion ratio increased each year from 1970 to 1980, remained relatively stable until 1988,

and since then has decreased somewhat each year (Figure 1).

Women who have abortions in this country tend to be young, white, unmarried, and having the procedure for the first time. Specifically, women 20–24 years of age have approximately one third of all abortions, whereas women younger <15 years of age have about 1%. Abortion ratios are highest for women at the age extremes — <19 years (particularly <15 years) and  $\geq 40$  years of age (Figure 2). Women aged 30–34 years have the lowest ratios. Among teenagers, the abortion ratio is highest for those <15 years old and lowest for those 19 years old.

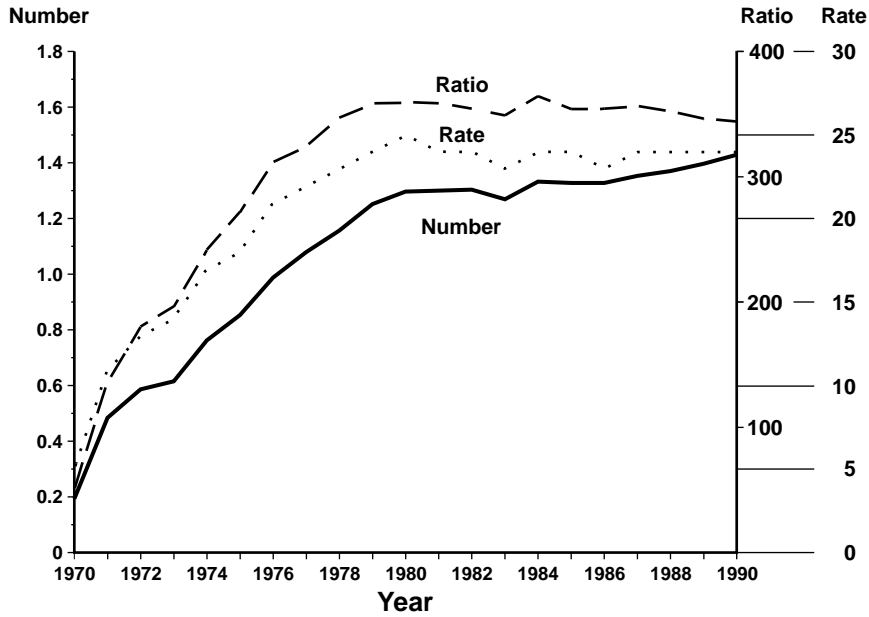
Most reported legal abortions are performed before 8 weeks of gestation, and more than three fourths are done before 13 weeks. Approximately 4% of abortions are performed at 16–20 weeks of gestation, and 1% at  $\geq 21$  weeks. Approximately 99% of legal abortions are performed by curettage (which is consistent with the fact that 94% of abortions are performed in the first trimester or early second trimester of pregnancy), and <1% are performed by intrauterine saline or prostaglandin instillation. Hysterectomy and hysterotomy are rarely used to perform abortions.

Abortion ratios vary by race and ethnicity, although these variations are probably related to socioeconomic differences rather than to race per se. Almost two thirds of women obtaining abortions are white; however, the abortion ratio for blacks is about two times higher than that for white women, and the ratio for women of other races (Asian-Pacific Islander, Native American, Alaska Native, or race listed as other) is 1.3 times higher than that for white women. In 1990, the abortion ratios for Hispanics were similar to those for whites. When the proportion of women undergoing legal abortion is analyzed by race and age-group, few differences are found between whites and blacks except among girls <15 years old; the percentage of girls who had an abortion was over twice that of white girls in this age-group (Table 1).

Over three fourths of women who have legal induced abortion are unmarried. The abortion ratio is 11 times higher for unmarried women than for married women.

<sup>§</sup> Agencies include state health departments and the health departments of New York City and the District of Columbia.

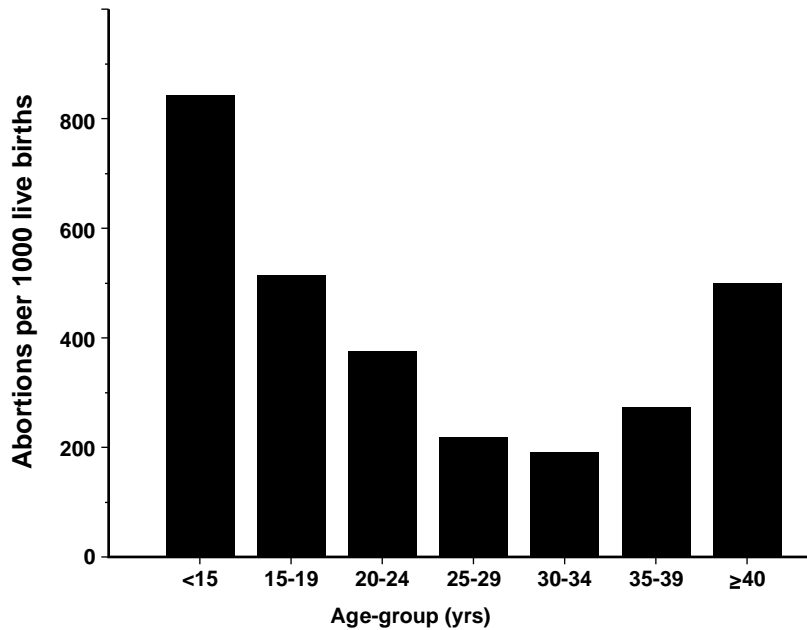
**FIGURE 1. Legal abortions — United States, 1970–1990\***



\* Number of abortions are in millions of women, ratio is number of abortions per 1,000 live births, and rate is number of abortions per 1,000 women aged 15–44 years.

Source: CDC abortion surveillance.

**FIGURE 2. Abortion ratio, by age-group — United States, 1990**



Source: CDC abortion surveillance.

**TABLE 1. Number and percentage of reported legal abortions, by race and age-group — United States, 1990**

Age-group* (years)	Race				Total	
	White†		Black and other races			
	No.	%	No.	%	No.	%
< 15	2,215	0.6	2,597	1.3	4,812	0.8
15–19	88,731	22.3	41,597	20.1	130,328	21.5
20–24	132,427	33.2	68,922	33.3	201,349	33.2
25–29	87,044	21.8	49,242	23.8	136,286	22.5
30–34	52,741	13.2	28,171	13.6	80,912	13.4
35–39	27,571	6.9	12,919	6.3	40,490	6.7
≥ 40	8,022	2.0	3,229	1.6	11,251	1.9
<b>Total§</b>	<b>398,751</b>	<b>100.0</b>	<b>206,677</b>	<b>100.0</b>	<b>605,428</b>	<b>100.0</b>

\* Excludes persons of unknown ages.

† Includes Hispanics.

§ Reported by 30 states and New York City.

Source: CDC, National Abortion Surveillance (17).

The abortion ratio is highest for women who had no live births and lowest for women who had one live birth. Approximately half of women obtaining abortions are having the procedure for the first time, whereas approximately 15% have had at least two previous abortions.

Overall, most women obtain abortions during the first 12 weeks of pregnancy. However, girls <15 years of age are more likely to obtain abortions later in pregnancy than older women. The proportion of women obtaining an early abortion (<8 weeks) increases with age, and the proportion obtaining a late abortion (≥16 weeks) decreases with age. Black women of all ages tend to obtain abortions later in pregnancy than white women.

About 99% of abortions at <12 weeks of gestation are performed by curettage (primarily suction procedures). Beyond 12 weeks of gestation, the most common procedure again is curettage, which is usually reported as dilatation and evacuation. Most intrauterine instillations involve the use of saline and are usually performed at ≥16 weeks of gestation.

For all racial groups, educational level strongly influences when an abortion is performed (15). For example, in 1988, among white women

who obtained an abortion, 60% of those with college educations (≥16 years of school completed) had an early abortion (≤8 weeks), compared with 46% of those who completed high school only. Among minority women who obtained an abortion, about 53% of those with college educations had an early abortion compared with 42% of those who completed high school only.

Also in 1988, about 88% of women who obtained abortions lived in metropolitan areas (15). For these women, the abortion ratio was about 2.2 times greater than the ratio for women who lived in nonmetropolitan areas (373 vs. 168 abortions per 1,000 live births). This difference varied by race. For example, the abortion ratio for minority women living in metropolitan areas was 2.8 times the ratio for those living in nonmetropolitan areas (599 vs. 210 abortions per 1,000 live births). In contrast, the abortion ratio for white women living in metropolitan areas was 1.9 times that of white women living in nonmetropolitan areas (302 vs. 162 abortions per 1,000 live births).

Areas with the highest incidence of legal induced abortion include California, New York City, Texas, and Illinois; the lowest incidence occurs in Wyoming, South Dakota, Alaska, and Idaho

(Table 2) (16,17). Data on women whose state of residence is known indicate that approximately 92% have the abortion performed within that state.

## INTERPRETATION ISSUES

Since the 1970s, legal induced abortion has spurred much public controversy, which has affected national and state surveillance activities. In recent years, the abortion issue has influenced a significant number of public policy decisions, including issues related to the public funding of abortions, fetal tissue research, international family planning program development and support, and the possible availability of certain abortion-inducing medications, such as RU 486.

Despite NCCDPHP's ability to monitor national abortion trends, these data have several significant limitations. In 1990, approximately 28% of the abortions were reported from states that do not have centralized reporting; these areas could provide no information on the characteristics of women obtaining abortions. Representativeness is limited when data from all states are not available. In addition, because the number of states that report such information varies from year to year, we must use caution when making temporal comparisons. Nevertheless, the data available from CDC's abortion surveillance system are particularly useful because national characteristic data of women who obtain abortions are not collected by any other system. Also, because this is a continuous surveillance activity, data for each year since 1969 have been compiled, tabulated, and reported.

Differences in the data reported to NCCDPHP and NCHS also must be considered. For example, legal induced abortion data reported to NCHS contain demographic data—including information on educational level and area of residence (metropolitan or nonmetropolitan)—not available from states that provide data to NCCDPHP. The NCHS data system also enables detailed cross-tabulation of these and other characteristics. Because NCHS data are from a limited number of states, they cannot be used to represent national statistics. In 1988, NCCDPHP received the same number of re-

ported abortions as did NCHS for the selected states in their system—these NCHS abortion data represented approximately 22% of all abortions reported to NCCDPHP in that year.

The Alan Guttmacher Institute reports higher numbers of abortions in a given year than does NCCDPHP. However, the institute does not conduct abortion surveillance annually; in the 1980s, data were not collected for 1983, 1986, and 1989. The number of abortions reported to CDC has consistently been about 19% lower than the number ascertained by the Alan Guttmacher Institute (18). Methodologic differences account for this discrepancy. The institute uses an active survey technique to contact all identifiable abortion providers, whereas NCCDPHP primarily compiles data collected by state health departments. The smaller number of abortions reported to NCCDPHP from health departments is likely the result of inconsistencies among states in abortion reporting requirements and methods. Specifically, the completeness of state health department data varies widely because 1) some states require reporting from all licensed facilities whereas others have a voluntary abortion reporting system, 2) the types of providers that must report vary among states, and 3) the completeness of reporting varies among states. These factors probably contribute to underreporting in some states, which can lead to an underestimation of the national abortion rate and ratio.

Because legal induced abortions are usually performed in licensed medical facilities and most states use a standard abortion reporting form for data collection, we suspect that overreporting of abortions (false positives) is rare. However, the data collection forms filled out by providers may contain incomplete data, which in turn would be submitted to NCCDPHP for inclusion in national statistics.

NCCDPHP's definition of legal induced abortion is very similar to the definitions used by NCHS and the Alan Guttmacher Institute. NCHS uses the term **induced termination of pregnancy** in its reports and defines it as the "purposeful interruption of an intrauterine pregnancy with the intention other than to produce a live-born infant, and which does not result in a live birth . . . and excludes management of prolonged re-

**TABLE 2. Reported number, ratio, and rate of legal abortions and percentage of abortions obtained by out-of-state residents, by state of occurrence — United States, 1990**

State	Number of abortions*	Ratio <sup>†</sup>	Rate <sup>§</sup>	Abortions obtained by out-of-state residents (%) <sup>¶</sup>
Alabama	15,012**	237	16	NR
Alaska	1,489**	125	11	NR
Arizona	15,783	229	19	2.5
Arkansas	5,953	163	11	3.2
California	357,579 <sup>††</sup>	585	50	NR
Colorado	12,679	237	16	8.2
Connecticut	18,776	375 <sup>§§</sup>	24	NR
Delaware	5,557	500	34	NR
District of Columbia	19,969	NR <sup>¶¶</sup>	NR	52.9
Florida	66,071	332	24	NR
Georgia	39,245	349	24	8.3
Hawaii	4,748	232	18	0.8
Idaho	1,390	85	6	9.0
Illinois	67,350	345	25	NR
Indiana	14,351	167	11	3.6
Iowa	7,166**	182	12	NR
Kansas	7,516 <sup>†††</sup>	193 <sup>§§</sup>	14	46.5
Kentucky	10,921	202	13	29.3
Louisiana	13,020	181	13	NR
Maine	4,607	266	16	12.6
Maryland	22,425	279 <sup>§§</sup>	19	6.8
Massachusetts	39,739	430	27	3.9
Michigan	36,183	236	16	4.2
Minnesota	17,156	252	17	10.7
Mississippi	6,842	157	11	22.7
Missouri	16,366	207	14	10.8
Montana	3,365	290	19	23.6
Nebraska	6,346	260	18	20.2
Nevada	7,226	331	26	11.2
New Hampshire	4,259**	243	16	NR
New Jersey	41,358	337	23	3.0
New Mexico	5,288	194	15	3.9
New York	159,098	545	37	3.4
City	102,202 <sup>§§§</sup>	787	NR	2.9
State	56,896	351	NR	4.2
North Carolina	36,494	349	23	8.3
North Dakota	1,723	186	12	38.2
Ohio	32,165	193	13	9.6
Oklahoma	10,708**	225 <sup>§§</sup>	15	NR
Oregon	13,658	319	21	9.7
Pennsylvania	52,143	305	19	5.9
Rhode Island	7,782	512 <sup>§§</sup>	33	21.7
South Carolina	13,285	227	16	6.1
South Dakota	946	86	6	19.4

**TABLE 2. Reported number, ratio, and rate of legal abortions and percentage of abortions obtained by out-of-state residents, by state of occurrence — United States, 1990 — continued**

State	Number of abortions*	Ratio†	Rate‡	Abortions obtained by out-of-state residents (%)¶
Tennessee	21,144	282	18	17.4
Texas	92,580	293	23	3.9
Utah	4,786	132	12	15.2
Vermont	3,184	384	23	29.8
Virginia	32,992	334	21	6.0
Washington	31,443	397	27	4.9
West Virginia	2,500	111	6	11.7
Wisconsin	6,848	232	15	6.1
Wyoming	363	52	4	12.4
Total	1,429,577	345¶¶	24	8.2

\* Abortion data from central health agency unless otherwise noted.  
 † Abortions per 1,000 live births (live-birth data from central health agency unless otherwise specified).  
 ‡ Abortions per 1,000 women aged 15–44 years (from Bureau of the Census, Current Population Survey, March 1990).  
 ¶ Based on number of abortions for which residence status of women was known.  
 \*\* Reported from hospitals and/or other medical facilities in state.  
 †† CDC estimate.  
 ‡‡ Live births reported by NCHS (16).  
 ¶¶ >1,000 abortions per 1,000 live births.  
 ¶¶¶ >1,000 abortions per 1,000 women aged 15–44.  
 ††† Excludes 330 Kansas residents obtaining abortions in other states.  
 ‡‡‡ Reported from New York City Health Department.  
 ¶¶¶ Differs from the preliminary ratio (344) published in MMWR (1).  
 NR: Not reported.

tention of products of conception following fetal death” (19).

Because of multiple levels of reporting—from the facility or doctor to the state health department and then to NCCDPHP—reporting complexity is part of this surveillance system. This complexity is exacerbated by the political sensitivities and legal issues surrounding abortion in every state. This creates a surveillance situation that is dynamic and not completely in the control of the state health agency collecting data.

The timeliness of surveillance data can be described as having two components: 1) the interval between the performance of the abortion and the reporting of the event to the state health department and subsequently NCCDPHP, and 2) the interval between the receipt of such data by NCCDPHP and dissemination of the results of the analysis. Since 1991, the interval between the abortion and publication of a report has been about 3 years.

## EXAMPLES OF USING DATA

CDC’s need for abortion data at the national level is used by states to justify state legislation requiring abortion reporting. In turn, states compare their data with national data to make and assess policy and program decisions related to abortion. States also use abortion data to monitor teen pregnancy prevention programs and to plan for providing family planning and STD treatment and prevention services to groups at high risk for unintended pregnancies.

## FUTURE ISSUES

Although no year 2000 objectives specifically call for reducing the number of legal induced abortions provided in this country, several objectives indirectly address this issue:

- Objective 5.1: Reducing teen pregnancies.
- Objective 5.2: Reducing the proportion of pregnancies that are unintended.



- Objective 5.7: Increasing the effectiveness with which family planning methods are used.

Achieving these objectives will affect the need for abortion services (20) and will require all states to collect abortion data needed to fully assess our progress in reducing abortions.

Not all states have recognized the need for state-based abortion surveillance, and some states have recognized the need but have been unable to gather information because of the sensitivities that abortion generates. Data on the number and characteristics of women having abortions in all states are needed to have an accurate picture of legal induced abortion in this country. Moreover, a larger emphasis must be placed on preventing unintended pregnancy, particularly among teenagers. States that do not have age- and race/ethnicity-specific data on abortions will be in a weak position for assessing their needs, addressing teen pregnancy and unintended pregnancy in high-risk groups, and evaluating the effectiveness of their programs.

Ultimately, recent judicial rulings, executive orders, and legislative changes related to parental consent for abortions for minors, restrictions on the availability of services, the possible availability of RU 486, and the funding of abortion services may affect the number of abortions performed, the characteristics of women having abortions, and the methods used for abortion surveillance. Therefore, ongoing abortion surveillance continues to be a dynamic process that can contribute valuable information about an important public health issue.

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