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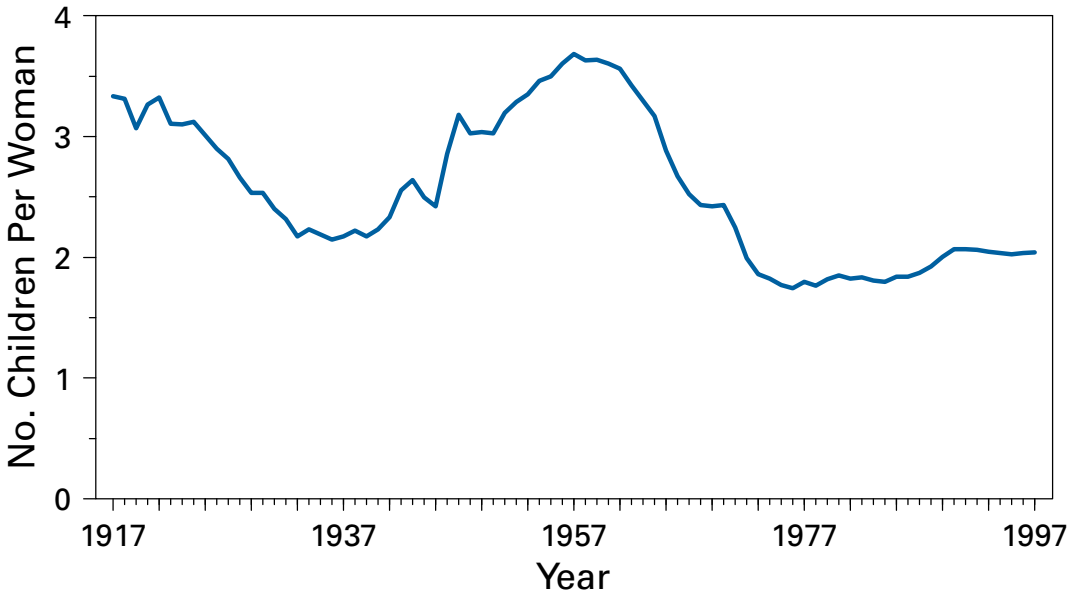
Achievements in Public Health, 1900–1999

Family Planning

During the 20th century, the hallmark of family planning in the United States has been the ability to achieve desired birth spacing and family size (Figure 1). Fertility decreased as couples chose to have fewer children; concurrently, child mortality declined, people moved from farms to cities, and the age at marriage increased (*1*). Smaller families and longer birth intervals have contributed to the better health of infants, children, and women, and have improved the social and economic role of women (*2,3*). Despite high failure rates, traditional methods of fertility control

FIGURE 1. Fertility rates* — United States, 1917–1997



*The total fertility rate is the sum of age-specific birth rates for single years of age for women aged 14–49 years. The birth rates for single years of age used to compute total fertility rates are based on births adjusted for underregistration for all years and on population estimates adjusted for undernumeration; therefore, they cannot be compared with birth rates and fertility rates.

Family Planning — Continued

contributed to the decline in family size (*4*). Modern contraception and reproductive health-care systems that became available later in the century further improved couples' ability to plan their families. Publicly supported family planning services prevent an estimated 1.3 million unintended pregnancies annually (*5*). This report reviews the history of family planning during the past century; summarizes social, legal, and technologic developments and the impact of family planning services; and discusses the need to ensure continued technologic improvements and access to care.

Early History

Family size declined between 1800 and 1900 from 7.0 to 3.5 children (*4*). In 1900, six to nine of every 1000 women died in childbirth, and one in five children died during the first 5 years of life.* Distributing information and counseling patients about contraception and contraceptive devices was illegal under federal and state laws (*8,9*); the timing of ovulation, the length of the fertile period, and other reproductive facts were unknown.

In 1912, the modern birth-control movement began. Margaret Sanger (see box), a public health nurse concerned about the adverse health effects of frequent childbirth, miscarriages, and abortion, initiated efforts to circulate information about and provide access to contraception (*9*). In 1916, Sanger challenged the laws that suppressed the distribution of birth control information by opening in Brooklyn, New York, the first family planning clinic. The police closed her clinic, but the court challenges that followed established a legal precedent that allowed physicians to provide advice on contraception for health reasons. During the 1920s and 1930s, Sanger continued to promote family planning by opening more clinics and challenging legal restrictions. As a result, physicians gained the right to counsel patients and to prescribe contraceptive methods (*10,11*). By the 1930s, a few state health departments (e.g., North Carolina) and public hospitals had begun to provide family planning services.

During the first part of the 20th century, family planning focused on the need of married couples to space children and limit family size. Among a national probability sample† of 1049 ever-married white women born during 1901–1910 and interviewed in 1978, 71% reported having practiced contraception; common techniques used were the condom (54%), contraceptive douche (47%), withdrawal (45%), rhythm (24%), and the cervical diaphragm (17%) (*12*). Other reported methods included infrequent sexual intercourse (8%), intermittent abstinence (6%), and contraceptive sterilization (4%).§ Using abstinence to prevent pregnancy was limited by uncertainty about the timing of a woman's ovulation. In 1928, the timing of ovulation was established medically, but the safe interval for intercourse was mistakenly understood to include half

* Along with family planning improvements came the public health surveillance systems needed to track population fluctuations. In 1900, the standard U.S. death certificate was created, augmenting the 1880 national death registration area (*6*) (Table 1); in 1915, the national birth registration area was created, combining state systems into a national system. In 1955, Growth of American Families, the first national survey of women to measure reproductive factors such as the use of contraception, infertility, and pregnancy intentions, was conducted using private funding (*7*). Five cycles of the federally sponsored National Survey of Family Growth (in 1973, 1976, 1982, 1988, and 1995) have continued to provide data on contraceptive methods, the use of family planning services, and other information on reproductive health of women (cycle six will include men).

† Weighted data, adjusted to the 1950 census of white, ever-married women by age, education, urban-rural residence, and number of live-born infants.

§ Although 4% reported contraceptive sterilization, 28% reported having surgery before aged 50 years that rendered them infertile.

Family Planning — Continued

Margaret Sanger

Photograph by Ira Hill's Studio, New York City, 1939 Sophia Smith Collection, Smith College

Sometimes social factors slow progress toward improving health more than lack of awareness or the absence of technology. No 20th century public health achievement demonstrates this more clearly than the struggle to provide women in the United States with safe and effective birth control. Margaret Sanger (September 14, 1879–September 6, 1966) risked scandal, danger, and imprisonment to challenge the legal and cultural obstacles that made controlling fertility difficult and illegal.

Margaret Louise Higgins was born in Corning, New York, the sixth of 11 children. Her free-thinking father's politics might have ignited her activism, but watching the process of her mother, aged 50 years, die after 18 pregnancies probably had an even deeper impact. Higgins was a nursing student in 1902 when she married architect William Sanger. Although weakened by bouts of tuberculosis, she bore three children between 1902 and 1910. The Sangers immersed themselves in the radical political and intellectual world of Greenwich Village in New York City. She worked as a visiting nurse in the city's tenements and wrote about sex education and women's health.

In 1914, Sanger's articles in *The Woman Radical* brought her a federal indictment for violating federal postal obscenity laws, prompting her to flee to England. As soon as the ship left U.S. waters, she cabled a radical publisher in New Jersey to distribute 100,000 copies of her pamphlet, *Family Limitation*. Sanger remained exiled in Europe until late 1915; William Sanger had been arrested and jailed for distributing one copy of *Family Limitation*, and Margaret Sanger returned to face the charges against her. Personal tragedy intervened when the Sanger's 5-year-old daughter died suddenly from pneumonia; public sentiments resulted in dismissal of the charges against Margaret Sanger.

Rather than backing away from controversy, Sanger and her sister Ethel Byrne, also a nurse, opened the first birth control clinic in the United States, modeled after those Sanger had seen in Holland. On October 16, 1916, dozens of Jewish and Italian immigrant women from Brooklyn's crowded Brownsville section lined up to receive counseling and birth control information. Nine days later police closed the clinic and arrested Sanger, Byrne, and the clinic's interpreter. Byrne was tried and convicted first, and went on a hunger strike. Sanger was convicted and served 30 days in jail. Legal failure had brought victory, however. The publicity surrounding Sanger's activities had made birth control a matter of public debate.

After World War I, Sanger continued her U.S. leadership role, although during the 1920s and 1930s, she refocused her energy toward international birth control, traveling and lecturing throughout Asia and Europe. In 1952, she founded the International Planned Parenthood Federation and served as its first president until 1959. Sanger died in Tucson, Arizona, aged 87 years, a few months after the 1965 Supreme Court decision, Griswold vs. Connecticut, that made birth control legal for married couples, the culmination of events Sanger had started 50 years earlier.

Family Planning — Continued

TABLE 1. Milestones in family planning — United States, 1900–1997

1900	First standard certificate of death created
1914	Margaret Sanger arrested for distributing birth control information
1915	First federal birth registration area created
1916	First birth control clinic, Brooklyn, New York (closed after 10 days by the New York Vice Squad)
1925	First manufacture in the United States of diaphragms
1928	Timing of ovulation established
1937	American Medical Association endorses birth control
1937	First state (North Carolina) includes birth control in a public health program
1942	Planned Parenthood Federation of America established
1955	First national fertility survey conducted
1960	The birth control pill approved by Food and Drug Administration (FDA)
1960	Intrauterine device approved by FDA
1965	Supreme Court (Griswold vs. Connecticut) declares unconstitutional state laws prohibiting contraceptive use by married couples
1970	Family Planning Services and Population Research Act creates Title X of the Public Health Service Act
1972	Medicaid funding for family planning services authorized
1973	Supreme Court (Roe vs. Wade) legalizes abortion
1973	First National Survey of Family Growth conducted
1990	Norplant®* approved by FDA
1992	Depo-Provera® approved by FDA
1993	Female condom approved by FDA
1997	Emergency use of oral contraceptive pills approved by FDA

*Use of trade names and commercial sources is for identification only and does not imply endorsement by CDC or the U.S. Department of Health and Human Services.

the menstrual period (*13*). Nevertheless, by 1933, the average family size had declined to 2.3 children.

Modern Contraception

Family size increased from 1940 until 1957 (Figure 1), when the average number of children per family peaked at 3.7 (*14,15*; CDC, unpublished data, 1999). In 1960, the era of modern contraception began when both the birth control pill and intrauterine device (IUD) became available. These effective and convenient methods resulted in widespread changes in birth control (*16*). By 1965, the pill had become the most popular birth control method, followed by the condom and contraceptive sterilization (*16*). In 1965, the Supreme Court (Griswold vs. Connecticut) (*17*) struck down state laws prohibiting contraceptive use by married couples.

In 1970, federal funding for family planning services was established under the Family Planning Services and Population Research Act, which created Title X of the Public Health Service Act (*18*). Medicaid funding for family planning was authorized in 1972. Services provided under Title X grew rapidly in the 1970s and 1980s; after 1980, public funding for family planning continued to shift to the Medicaid program (*18*).

Since 1972, the average family size has leveled off at approximately two children, and the safety, efficacy, diversity, accessibility, and use of contraceptive methods has increased (Table 2). During the 1970s and 1980s, contraceptive sterilization became more common and is now the most widely used method in the United States

Family Planning — Continued

(*16,19,20*). IUD use increased during the early 1980s, then declined because of concerns about intrauterine infections (*16*). In the 1980s and 1990s, the use of condoms increased among adolescents, presumably because of growing concern about human immunodeficiency virus infection and other sexually transmitted diseases (STDs) (*21–23*). Since 1991, increased use of long-acting hormonal contraception (Depo-Provera® [Pharmacia & Upjohn, Inc., Peapack, New Jersey] and Norplant® [Wyeth-Ayerst Laboratories, St. Davids, Pennsylvania])[¶] also have contributed to the decline in adolescent pregnancy rates (*24,25*). Emergency use of oral contraceptive pills might reduce the risk for pregnancy after unprotected intercourse by at least 74% (*26*). Noncontraceptive health benefits of oral contraceptives include lower rates of pelvic inflammatory disease, cancers of the ovary and endometrium, recurrent ovarian cysts, benign breast cysts and fibroadenomas, and discomfort from menstrual cramps (*27*).

[¶] Use of trade names and commercial sources is for identification only and does not imply endorsement by CDC or the U.S. Department of Health and Human Services.

TABLE 2. Efficacy of commonly used methods of contraception* and percentage of couples using the method — United States, 1995

Contraceptive method	% women experiencing unintended pregnancy in first year of use		% couples using the method
	Perfect use	Typical use	
Implant (Norplant® and Norplant-2®)	0.05%	0.05%	1.3%
Male sterilization	0.10%	0.15%	10.1%
Pill	0.1%	5.0%	24.9%
Injectable (Depo-Provera®)	0.3%	0.3%	2.7%
Female sterilization	0.5%	0.5%	25.6%
Intrauterine device	0.6%†	0.8%†	0.7%
Condom (male)	3.0%	14.0%	18.9%
Withdrawal	4.0%	19.0%	2.9%
Diaphragm	6.0%	20.0%	1.7%
Spermicides	6.0%	26.0%	1.3%
Periodic abstinence	9.0%§	25.0%	2.2%

* For spermicides, periodic abstinence, the diaphragm, male condom, and pill, these estimates for typical use were derived from the experiences of married women in the 1976 and 1988 National Surveys of Family Growth (NSFG) and of all women in the 1988 NSFG. The estimates for the intrauterine device, sterilization, Depo-Provera®, and Norplant® were from large clinical investigations. The estimate for withdrawal was based on evidence from surveys. Perfect use is a best guess of the probabilities of method failure (pregnancy) during the first year of perfect use, i.e., when it is used consistently according to a specified set of rules. Highly rigorous scientific data are available to support estimates for implants, sterilization, pill, and the IUD. Use of trade names and commercial sources is for identification only and does not imply endorsement by CDC or the U.S. Department of Health and Human Services.

† Copper T 380A.

§ Calendar.

Sources:

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Family Planning — Continued

In the United States, physicians are the primary providers of surgical sterilization, hormonal contraception, and IUDs. In 1994, 3119 agencies (e.g., health departments, Planned Parenthood affiliates, and hospitals) operated 7122 publicly subsidized family planning clinics for an estimated 6.6 million women (*28*). These services prevent an estimated 1.3 million unintended pregnancies annually (534,000 unintended births, 632,000 abortions, and 165,000 miscarriages) (*5*). Publicly supported clinics have been effective in supplying contraception to populations that have high rates of unintended pregnancy and have limited access to private health-care providers. In 1988, of the women who obtained reversible contraception, 22.5% overall received services from public clinics. Those most likely to receive these services were adolescent (43%), poor (39%), and never-married (34%) women (*5*).

Contraception Worldwide

The most important determinant of declining fertility in developing countries is contraceptive use, which explains 92% of the variation in fertility among 50 countries (*29–31*). Overall fertility declined by approximately one third from the 1960s through the 1980s, from an average of six to four children per woman (*31*), with dramatic decreases occurring in some parts of the world (e.g., 24% decline in fertility in Asia and Latin America, approximately 50% in Thailand, and approximately 35% in Colombia, Jamaica, and Mexico). As fertility declined in developing countries, the infant mortality rate decreased from approximately 150 deaths per 1000 live births in the 1950s to approximately 80 per 1000 in the early 1990s (*2,3*). Among married women of reproductive age in developing countries, 53% plan the size of their families (*32*); 90% of these women report using modern birth-control methods (e.g., female sterilization, oral contraceptives, and IUDs) (*31*).

Challenges

In the United States, unintended pregnancy remains a problem; 49% of pregnancies are unintended and 54% of these end in abortion (*33*). These rates remain significantly higher than rates of many other industrialized countries. During 1982–1986, among 15 Western countries with similar reproductive behavior (e.g., Canada, the Netherlands, and the United Kingdom), the United States ranked fourth highest in total fertility rate and had the second highest abortion rate and the highest pregnancy rate (*34*). Although pregnancy and childbearing rates for adolescent women have declined since 1991, the proportion of adolescent women who are unmarried at the time of giving birth has increased (*24,25*) from 15% in 1960 to approximately 75% in 1998.

Despite advances in family planning, population growth remains a worldwide concern. In 1999, world population reached six billion, an increase of 4.4 billion births since 1900 (*35*). In 1994, an international conference on population and development in Cairo focused international attention on the full scope of family planning that can be addressed during delivery of family planning services, including reproductive and primary-care concerns (*36*). For example, the introduction of cervical screening has led to a 20%–60% reduction in cervical cancer death rates (*37*). Screening programs for chlamydia, the leading cause of preventable infertility, can lower the prevalence of chlamydia and reduce complications such as pelvic inflammatory disease (*38*) The STD prevention benefits of family planning may be enhanced by new female-controlled barrier methods such as vaginal microbicides and the female condom.

Family Planning — Continued

Managed care is rapidly changing patterns of health-care delivery and creating new challenges for primary and reproductive health-care providers (*39*). Managed-care plans often offer more comprehensive coverage of such services than traditional insurance plans (*39*). In the late 1990s, legislatures in 19 states mandated partial or comprehensive insurance coverage for reversible methods of contraception (*40*). Access to high quality contraceptive services will continue to be an important factor in promoting healthy pregnancies and preventing unintended pregnancy in this country (*41*).

During the 20th century, restrictive policies and laws affecting family planning were largely replaced by legislative and funding support for family planning services by physicians and specialized reproductive health-care providers. Marshaling public support for efforts needed to reduce the high rate of unintended pregnancy and to provide the full array of reproductive health-care services remains a challenge.

Reported by: Div of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

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Progress Toward Measles Elimination — Eastern Mediterranean Region, 1980–1998

In 1997, the 23 member countries of the World Health Organization (WHO) Eastern Mediterranean Region (EMR)* resolved to eliminate measles from the region by 2010. Countries in the region have been divided into two groups according to the status of poliomyelitis eradication and the epidemiology of measles. The criteria used to classify the countries are 1) absence of indigenous transmission of polio for at least 3 years and 2) reliable surveillance for acute flaccid paralysis (AFP). Group 1 countries (Afghanistan, Djibouti, Egypt, Iraq, Libya, Pakistan, Somalia, Sudan, and Yemen) are countries where polio is endemic or was recently endemic and are implementing activities to reduce measles morbidity and mortality. Group 2 countries (Bahrain, Cyprus, Iran, Jordan, Kuwait, Lebanon, Morocco, Oman, Palestine National Authority and Palestinian populations served by United Nations Relief and Works Agency [UNRWA], Qatar, Saudi Arabia, Syria, Tunisia, and United Arab Emirates [UAE]) are polio-free and are implementing strategies to eliminate measles following the recommen- dations of EMR (*1*). The measles elimination strategies are 1) achieving and maintaining routine measles vaccination coverage at ≥95% among children aged 1 year; 2) conducting a one-time mass vaccination campaign (catch-up campaign†) to interrupt indigenous transmission of measles; 3) conducting periodic national follow-up campaigns§; and 4) strengthening measles surveillance and laboratory confirmation of cases. This report presents preliminary data from the 14 countries of group 2 and indicates that substantial progress toward measles elimination has been made, especially in countries fully implementing the recommended strategies.

Routine Vaccination Coverage

In 1998, among the 14 countries in group 2, all except Morocco had a two-dose schedule for measles vaccination (Table 1). Reported coverage with at least one dose of measles vaccine among children aged 1 year was 96% (range: 86%–100%).

To achieve and maintain routine measles vaccine coverage of ≥95%, the following strategies were implemented in some group 2 countries: 1) identification and tracking of children who have defaulted on a scheduled vaccination (e.g., home visits), 2) intensive education of the community and health-care providers, and 3) supervision and feedback to vaccination providers. Seven countries (Bahrain, Iran, Jordan, Kuwait, Oman, Syria, and Tunisia) have started monthly reporting of coverage at the district level.

Supplemental Vaccination Coverage

Since 1994, Bahrain, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Syria, Tunisia, and UAE have conducted catch-up campaigns (Table 2). A total of 13 million children in group 2 countries have been vaccinated in nationwide supplementary mass

* Member countries are Djibouti, Egypt, Libya, Morocco, Somalia, Sudan, and Tunisia in northern and eastern Africa; Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, and Yemen in the Arab Gulf states; Iraq, Jordan, Lebanon, Syria, and the Palestinian National Authority in the Middle East; Afghanistan, Iran, and Pakistan in Asia; and Cyprus.

† A one-time, nationwide vaccination campaign targeting all children, usually aged 9 months–15 years, regardless of history of measles vaccination or disease.

§ Subsequent nationwide vaccination campaigns conducted every 2–5 years targeting all children born after the catch-up campaign, usually aged 9 months–4 years.

Measles Elimination — Continued

TABLE 1. Measles vaccination schedule, reported routine one-dose measles vaccination coverage among children aged 1 year, and reported measles incidence,* by country — World Health Organization, Eastern Mediterranean Region, 1998

Country or reporting entity	1998 Schedule of vaccination			1998 Vaccination coverage	1998 Cases	1998 Incidence
	Dose 1	Dose 2	Dose 3			
Bahrain	12 mos	5 yrs	12 yrs	100%	4	0.6
Cyprus	12 mos	11 yrs	—	90%†	1	0.1
Iran	9 mos	15 mos	—	100%	2,869	4.6
Jordan	9 mos	18 mos	—	86%	428	9.0
Kuwait	12 mos	4 yrs	—	99%	90	4.7
Lebanon	9 mos	15 mos	—	91%	966	30.2
Morocco	9 mos	—	—	91%	7,208	25.9
Oman	9 mos	15 mos	—	98%	5	0.2
Palestine National Authority	9 mos	15 mos	4 yrs	94%	40	1.5
Palestinian populations served by United Nations Relief and Works Agency	9 mos	15 mos	4 yrs	98%	77	2.1
Qatar	9 mos	15 mos	—	90%	116	21.3
Saudi Arabia	6 mos	12 mos	—	93%	5,539	26.6
Syria	9 mos	15 mos	—	97%	5,400	34.6
Tunisia	9 mos	15 mos	—	94%	123	1.3
United Arab Emirates	9 mos	15 mos	—	95%	296	12.8
Total				**96%§**	**23,162**	**14.6**

*Per 100,000 population.
†1997 coverage.
§Population weighted average.

campaigns conducted during 1994–1999. In Kuwait, a second catch-up campaign was conducted in November 1998 targeting children aged 6–11 years. Timing of follow-up campaigns in the remaining countries that have conducted catch-up campaigns will be based on monitoring the number of susceptible children.

Lebanon, Morocco, and Palestine will implement measles vaccination campaigns in 2000 for children aged 1–14 years, 10 months–19 years, and 5–14 years, respectively. Iran and Cyprus have no plans to conduct supplemental activities.

The campaigns have been planned, conducted, and funded by the ministries of health of the respective countries. In all campaigns, the ministries of health emphasized the use of safe injection practices including disposal of used syringes.

Reported Incidence of Measles

Before the introduction of vaccination, approximately 200,000 measles cases were reported each year from group 2 countries (except Palestine). When measles vaccination was introduced during the early 1980s, the number of cases decreased. From 1983 to 1987, measles vaccine coverage increased from 30% to 70%; the reported number of measles cases decreased from 184,000 in 1980 to 61,000 in 1985 (Figure 1).

From 1980 to 1998, the reported incidence of measles decreased 93%, from 197.8 per 100,000 to 14.4 per 100,000. During the same period, the population of group 2 countries increased from 98 million to an estimated 158 million persons, of which an estimated 39% were aged <15 years.

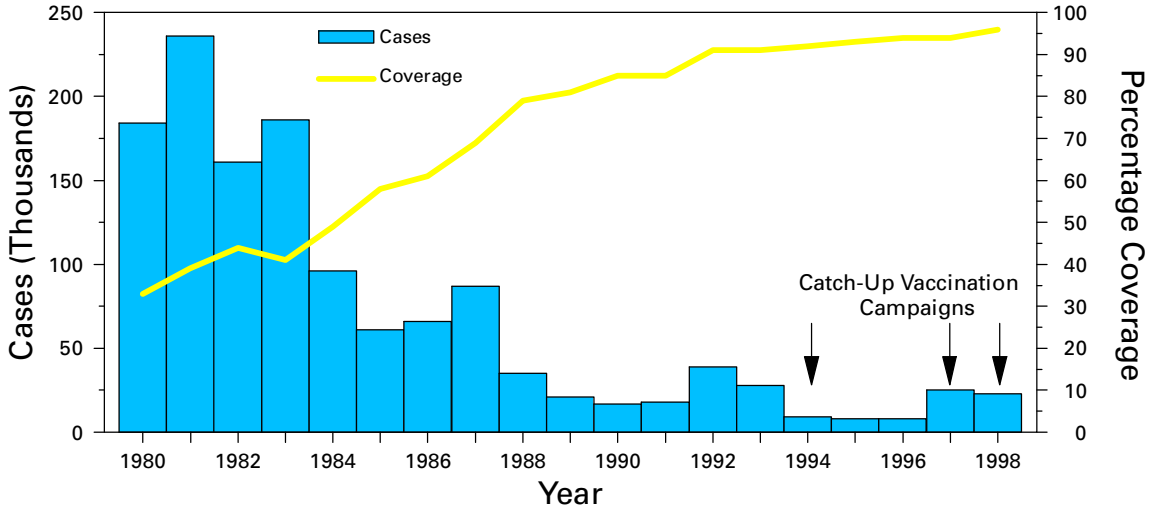
Measles Elimination — Continued

TABLE 2. Dates of catch-up campaign,* type of vaccine, target age group, and vaccination coverage during measles vaccination campaigns, by country — World Health Organization, Eastern Mediterranean Region, 1994–1999

Country	Dates of campaign (month/year)	Type of vaccine	Target age group	Target population†	Coverage campaign
Bahrain	3/1998	MR§	6–18 yrs	131,023	97%
	5/1999	MMR¶	1– 7 yrs	75,000	90%
Jordan	11/1997	M**	6–15 yrs	1,101,263††	99%
	5/1999	M	4– 8 yrs	965,000††	NA§§
Kuwait	1994	MMR	6–18 yrs	533,000	94%
	10/1998	MMR	6–11 yrs	166,467	93%
Oman	4/1994	MR	9 mos–18 yrs	1,002,370	94%
Qatar	2/1999	MR	4–18 yrs	165,000	NA
Saudi Arabia	10/1998	MMR	12–18 yrs	1,688,668	97%
Syria	11/1998	MR	9 mos–15 yrs	6,703,790††	99%
Tunisia	11/1998	M	7–15 yrs	1,866,000	95%
United Arab Emirates	11/1998	M	4–18 yrs	183,108	92%
Total				**13,450,689¶¶**	**97%**

* A one-time, nationwide vaccination campaign targeting all children, usually aged 9 months–15 years, regardless of history of measles vaccination or disease.
† Based on estimates.
§ Measles and rubella vaccine.
¶ Measles, mumps, and rubella vaccine.
** Measles single antigen.
†† Including Palestinian refugees at United Nations Relief and Works Agency fields in Jordan and Syria.
§§ Not available.
¶¶ Excluding target population of the second campaign in Jordan and the campaign in Qatar.

FIGURE 1. Reported number of measles cases and measles vaccination coverage, by year — World Health Organization, 14 countries,* Eastern Mediterranean Region, 1980–1998



* Bahrain, Cyprus, Iran, Jordan, Kuwait, Lebanon, Morocco, Oman, Palestine National Authority and Palestinian populations served by United Nations Relief and Works Agency, Qatar, Saudi Arabia, Syria, Tunisia, and United Arab Emirates.

Measles Elimination — Continued

The interepidemic interval increased during the 1990s with outbreaks in 1992 and 1993 resulting in 39,000 and 28,000 reported cases, respectively. In 1996, the number of measles cases reported in group 2 countries decreased to a record low of 8000 cases. In 1998, the number of cases increased to 23,000. Four countries (Iran, Morocco, Saudi Arabia, and Syria) that had not implemented catch-up campaigns reported 91% of total cases in 1998. During 1996–1998, the age distribution of 13,225 persons with measles reported to WHO by 10 countries (29% of total cases reported) was 1535 (12%) among children aged 1 year, 3244 (25%) among children aged 1–4 years, and 8446 (64%) among persons aged ≥5 years.

Enhanced Surveillance

In 1998, case surveillance with laboratory investigations of all suspected measles cases began in Bahrain, Kuwait, Oman, and Tunisia. Collection of information about measles vaccination status began in Cyprus, Iran, Kuwait, Oman, Syria, and Palestinian populations served by UNRWA. In these countries, 5281 (63%) of 8311 reported measles cases occurred among children who had received one dose of measles vaccine. During 1998–1999, 1735 serum specimens were tested from persons with suspected measles (representing 9% of total reported cases) reported by Iran, Oman, Syria, and Tunisia to EMR. Of these, 865 (50%) were measles IgM positive. In Tunisia, from January through June 1999, 251 suspected measles cases were reported; of the 212 with negative measles IgM results, 133 (63%) were IgM positive for rubella.

Laboratory training workshops were conducted in Tunisia for EMR countries in 1997 and 1998. A regional measles laboratory network will be established to support the measles elimination program in EMR (*2*).

Impact of Elimination Activities

Since 1990, Oman achieved high routine measles vaccination coverage (≥95%) because of a defaulter system that traces birth registrations, frequent and regular supervision, and outreach visit information. Coverage in the catch-up campaign in 1994 was 93%, and after the campaign, measles incidence decreased to extremely low levels; five cases were confirmed in 1998 (Figure 2). Oman also has implemented case-based surveillance with laboratory confirmation. Kuwait implemented catch-up campaigns in two phases, the first in 1994 and the second in 1998. Cases decreased from 462 in 1994 to a record low 12 cases in 1995, but increased to 90 cases in 1998.

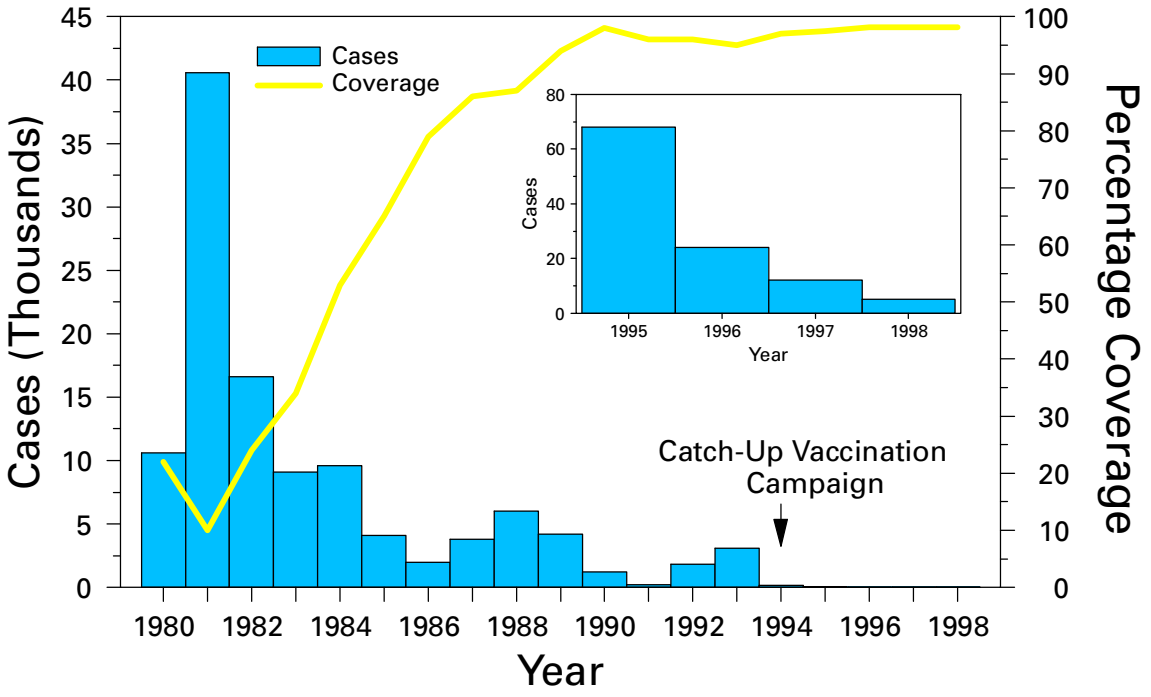
Reported by: Ministries of health of Bahrain, Cyprus, Iran, Jordan, Kuwait, Lebanon, Morocco, Oman, Palestine National Authority and Palestinian populations served by United Nations Relief and Works Agency, Qatar, Saudi Arabia, Syria, Tunisia, and United Arab Emirates, World Health Organization, Eastern Mediterranean Region, Alexandria, Egypt. Vaccines and other Biologicals Dept, World Health Organization, Geneva, Switzerland. Respiratory and Enteric Viruses Br, Div of Viral and Rickettsial Diseases; Epidemiology and Surveillance Div; Vaccine Preventable Disease Eradication Div, National Immunization Program; and an EIS Officer, CDC.

Editorial Note: Eradication of polio is the highest vaccination priority in the EMR, and measles elimination activities are being phased in on the basis of the status of polio eradication in the country. In the nine countries where polio is endemic or was recently endemic, measles remains a major cause of morbidity and mortality. Only those countries that have evidence of interruption of indigenous transmission of polio for at least 3 years, based on high quality AFP surveillance¶, have started measles elimination activities. Because of the proximity of countries where polio is endemic,

¶Nonpolio AFP rate ≥1 per 100,000 children aged <15 years.

Measles Elimination — Continued

FIGURE 2. Reported number of measles cases and vaccination coverage, by year — Oman, 1980–1998



complete and timely surveillance for AFP cases should continue until global eradication is achieved.

The 14 countries that have started measles elimination activities have had high routine measles vaccination coverage since 1994. This has reduced reported measles-associated morbidity by >90%, compared with the early 1980s. During 1997 and 1998, the number of measles cases increased to approximately 20,000 each year; however, most cases occurred in Iran, Morocco, Saudi Arabia, and Syria before implementation of supplemental vaccination activities.

Bahrain, Jordan, Saudi Arabia, Syria, Tunisia, and UAE reported high coverage in their catch-up campaigns. Because these campaigns were implemented during 1998 and 1999, annual surveillance data might not yet demonstrate their impact on elimination of measles.

Oman is a model of implementation of the EMR measles elimination strategy. As a result of high coverage with the first dose, introduction of a routine second dose in 1994, and a well-executed catch-up campaign in 1994, measles incidence has been reduced to a low level suggestive of interruption of indigenous transmission of measles virus.

Detailed epidemiologic investigation of all suspected cases with laboratory confirmation and virus isolation from all chains of measles transmission is required to determine interruption of indigenous transmission of measles and evaluate the impact of EMR elimination activities. Monitoring of timeliness and completeness of reporting and other surveillance indicators at district levels should be a priority among these countries (*1*).

Measles Elimination — Continued

Priority program activities for the 14 countries in the EMR now targeting measles elimination are 1) to maintain high routine vaccination coverage (≥95%) with the first dose of measles vaccine; 2) to achieve high coverage (>90%) in catch-up campaigns in Lebanon, Morocco, and Palestine; 3) to either achieve and maintain high coverage with a routine second dose of measles vaccine or implement timely follow-up campaigns in those countries that have conducted catch-up campaigns; and 4) to strengthen case-based measles surveillance and establish a regional measles laboratory network to support laboratory diagnosis of suspected measles cases and virus isolation from all chains of measles transmission. To achieve high routine coverage, countries should monitor and report coverage at the smallest administrative level on a regular basis. Supervision and feedback are necessary to ensure corrective measures in areas with low coverage. Monitoring of age-specific susceptibility based on vaccine coverage is necessary to plan supplemental vaccination activities. To achieve and maintain the regional goal of measles elimination by 2010, high level political commitment and substantial resources will be required to implement the strategies in countries now targeting elimination and gradually expand elimination activities to the rest of the region as polio eradication is completed.

References

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2. World Health Organization. Annual report of the Regional Director. Alexandria, Egypt: World Health Organization, Eastern Mediterranean Region 1998:115–22.

Alcohol Involvement in Fatal Motor-Vehicle Crashes — United States, 1997–1998

The following table compares alcohol involvement in fatal motor-vehicle crashes by age group and blood alcohol concentration (BAC) levels for 1997 and 1998. A fatal crash is considered alcohol-related by the National Highway Traffic Safety Administration (NHTSA) if either a driver or nonoccupant (e.g., pedestrian) had a BAC of ≥0.01 g/dL in a police-reported traffic crash. Because BACs are not available for all persons in fatal crashes, NHTSA estimates the number of alcohol-related traffic fatalities on the basis of a discriminant analysis of information from all cases for which driver or nonoccupant BAC data are available (*1*).

Overall, the percentage of traffic fatalities that were alcohol related remained constant at 38.4% in 1998 and 38.5% in 1997. From 1997 to 1998, the number of alcohol-related traffic fatalities decreased 1.6% (95% confidence interval=–3.7%–0.6%), with a decease of 2.0% for BACs ≥0.10 g/dL (the legal limit of intoxication in most states) and no percentage change (but one less death) for BACs of 0.01–0.09 g/dL.

A decrease of 5.8% in the number of alcohol-related traffic fatalities is needed to achieve the national health objective for 2000. Effective strategies for reducing alcohol impaired driving include strict enforcement of impaired driving and minimum legal drinking age laws, sobriety checkpoints, and prompt suspension of licenses of persons arrested for driving while impaired. CDC, in collaboration with the Task Force on

Fatal Motor-Vehicle Crashes — Continued

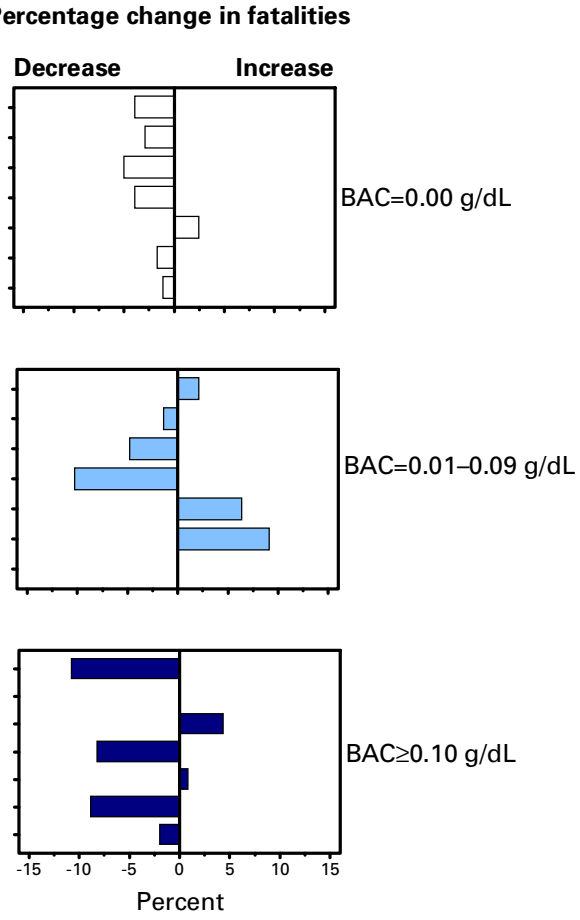
Community Preventive Services, is evaluating the effectiveness of community-based strategies to reduce alcohol-related motor-vehicle injuries.

Reference

1. Klein TM. A method for estimating posterior BAC distributions for persons involved in fatal traffic accidents: final report. Washington, DC: US Department of Transportation, National Highway Traffic Safety Administration, 1986. Report no. DOT-HS-807-094.

Changes in the estimated number and percentage of traffic fatalities (including drivers, occupants, and nonoccupants), by age group* and highest blood alcohol concentration (BAC)† of drivers§ or nonoccupants in crashes — United States, January 1–December 31, 1997, compared with January 1–December 31, 1998

	No. fatalities	
Age group (yrs)	1997	1998
<15	2,111	2,029
15–20	4,078	3,958
21–24	1,729	1,643
25–34	3,354	3,224
35–64	8,153	8,357
≥65	6,336	6,229
Total	**25,824**	**25,536**
<15	186	190
15–20	646	637
21–24	434	413
25–34**	739	663
35–64	1,117	1,188
≥65	349	381
Total	**3,480**	**3,479**
<15	370	330
15–20	1,572	1,573
21–24	1,641	1,713
25–34**	3,311	3,041
35–64	5,054	5,099
≥65	723	659
Total¶	**12,710**	**12,456**



*Age of decedent was unknown for 109 traffic fatalities in 1997 and 105 in 1998. Decedents of unknown age were included in the calculations of the total number of fatalities by BAC level.

†BAC distributions are estimates for drivers and nonoccupants involved in fatal crashes. Fatalities include all occupants and nonoccupants who died within 30 days after a motor-vehicle crash on a public roadway.

§Driver may or may not have been killed.

¶The number of fatalities for each BAC category is rounded to the nearest whole number.

**Percentage change statistically significant at p=0.05.

Source: Fatality Analysis Reporting System, National Highway Traffic Safety Administration.

National Drunk and Drugged Driving Prevention Month — December 1999

Persons who drive while impaired by alcohol or other drugs are a public health hazard to themselves and others. During 1998, alcohol-related motor-vehicle crashes resulted in 15,935 deaths and approximately 305,000 injuries in the United States (*1*). During 1988–1998, the proportion of all traffic fatalities that were alcohol-related declined steadily, from 50% to 38% (*1*). During the same period, the rate of alcohol related motor vehicle deaths decreased 39%, from 9.7 to 5.9 per 100,000 persons (*1,2*). One of the national health objectives for 2000 is to reduce alcohol related motor vehicle deaths to no more than 5.5 per 100,000 persons (objective 9.23) (*3*). The *Healthy People 2010: Health Objectives for the Nation* will call for further reductions in alcohol-related motor vehicle deaths (*4*).

December has been designated National Drunk and Drugged Driving Prevention Month by the National Drunk and Drugged Driving Prevention Month Coalition, a nationwide public/private sector coalition for the prevention of crashes related to impaired driving. Additional information about National Drunk and Drugged Driving Prevention Month is available from the Impaired Driving Division, Office of Traffic Injury Control Programs (NTS-11), National Highway Traffic Safety Administration, US Department of Transportation, 400 7th Street, SW, Washington, DC 20590; telephone (202) 366-9588; or World-Wide Web site http://www.nhtsa.dot.gov/people/outreach/safesobr/.*

References

1. National Highway Traffic Safety Administration. Traffic safety facts 1998: a compilation of motor vehicle crash data for the Fatality Analysis Reporting System and the General Estimates System. Washington, DC: US Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, Research, and Development, 1999. Report no. DOT HS 808 983.
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4. Office of Public Health and Science. Healthy people 2010 objectives: draft for public comment. Washington, DC: US Department of Health and Human Services, 1998.

*References to sites of non-CDC organizations on the Internet are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.

Notice to Readers

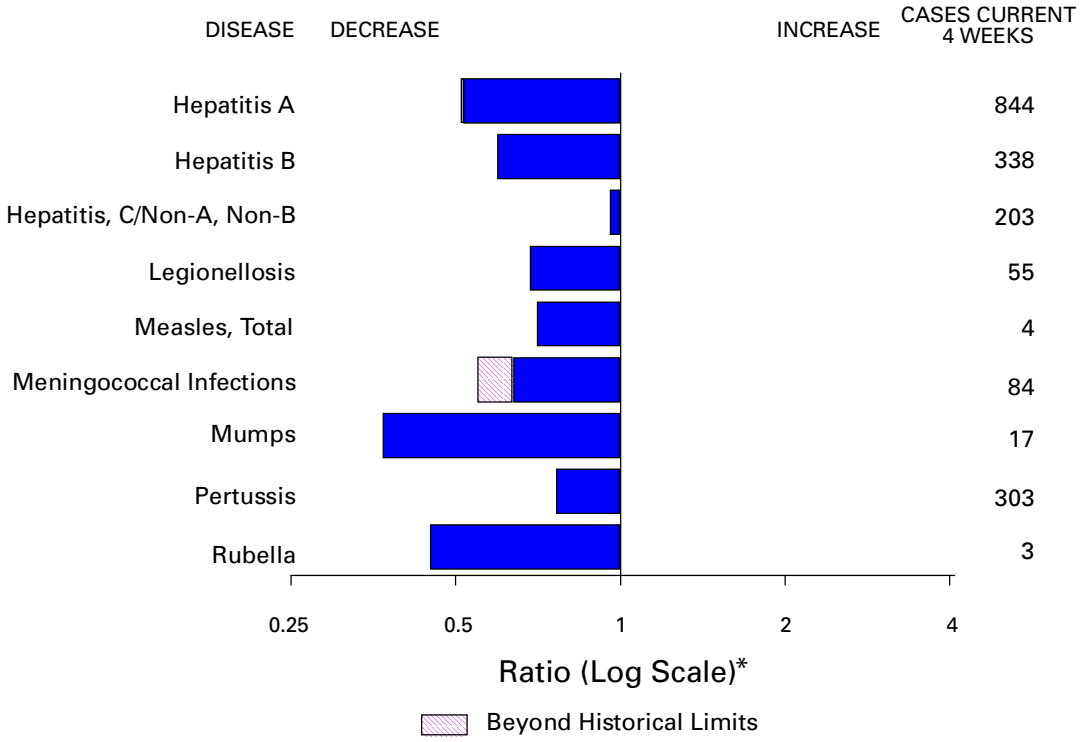
Epidemiology in Action: Intermediate Methods

CDC and Emory University's Rollins School of Public Health will cosponsor a course, "Epidemiology in Action: Intermediate Methods," on February 7–11, 2000, in Atlanta. The course is designed for state and local public health professionals.

The course will review the fundamentals of descriptive epidemiology and biostatistics, analytic epidemiology and Epi Info 6 but will focus on mid-level epidemiologic methods directed at strengthening participants' quantitative skills, with an emphasis on up-to-date data analysis. Topics include advanced measures of association, normal and binomial distributions, logistical regression, field investigations, and summary of statistical methods. Prerequisite is an introductory course in epidemiology, such as Epidemiology in Action or International Course in Applied Epidemiology. There is a tuition charge.

Additional information and applications are available from Emory University, International Health Dept. (PIA), 1518 Clifton Rd. NE, Room 746, Atlanta, GA 30322; telephone (404) 727-3485; fax (404) 727-4590; or email pvaleri@sph.emory.edu.

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending November 27, 1999, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending November 27, 1999 (47th Week)

	Cum. 1999		Cum. 1999
Anthrax	-	HIV infection, pediatric*§	121
Brucellosis*	45	Plague	8
Cholera	3	Poliomyelitis, paralytic	-
Congenital rubella syndrome	6	Psittacosis*	15
Cyclosporiasis*	48	Rabies, human	1
Diphtheria	2	Rocky Mountain spotted fever (RMSF)	492
Encephalitis: California*	56	Streptococcal disease, invasive Group A	1,920
eastern equine*	6	Streptococcal toxic-shock syndrome*	30
St. Louis*	7	Syphilis, congenital¶	204
western equine*	1	Tetanus	31
Ehrlichiosis human granulocytic (HGE)*	136	Toxic-shock syndrome	106
human monocytic (HME)*	37	Trichinosis	8
Hansen Disease*	90	Typhoid fever	280
Hantavirus pulmonary syndrome*†	18	Yellow fever	1
Hemolytic uremic syndrome, post-diarrheal*	93		

-:no reported cases
*Not notifiable in all states.
† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§ Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update October 24, 1999.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending November 27, 1999, and November 28, 1998 (47th Week)

Reporting Area	AIDS		Chlamydia		Cryptosporidiosis		*Escherichia coli* O157:H7*			
							NETSS		PHLIS	
	Cum. 1999†	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	37,420	40,923	526,703	534,268	2,179	3,474	3,187	2,737	2,167	2,068
NEW ENGLAND	1,904	1,652	17,832	18,284	134	143	385	312	335	265
Maine	68	26	904	958	27	29	36	35	-	-
N.H.	38	25	850	873	17	15	33	43	33	44
Vt.	15	18	429	378	35	26	32	19	20	18
Mass.	1,231	844	8,166	7,544	49	66	166	142	179	149
R.I.	90	119	2,108	2,059	6	7	28	12	26	1
Conn.	462	620	5,375	6,472	-	U	90	61	77	53
MID. ATLANTIC	9,663	10,598	53,842	55,828	402	539	288	285	92	84
Upstate N.Y.	1,146	1,312	N	N	160	318	227	205	-	-
N.Y. City	5,100	5,853	21,963	23,821	116	197	10	13	17	12
N.J.	1,741	1,930	9,567	10,645	36	24	51	67	46	51
Pa.	1,676	1,503	22,312	21,362	90	N	N	N	29	21
E.N. CENTRAL	2,519	2,980	72,652	90,078	546	700	660	427	480	352
Ohio	403	568	21,000	24,398	60	70	228	115	199	70
Ind.	285	472	10,081	10,061	38	52	99	96	61	52
Ill.	1,201	1,187	22,015	24,137	67	83	221	108	81	76
Mich.	504	577	19,556	18,875	47	38	112	108	75	67
Wis.	126	176	U	12,607	334	457	N	N	64	87
W.N. CENTRAL	846	811	32,128	31,826	201	316	578	454	396	389
Minn.	161	147	6,196	6,390	77	130	227	188	174	203
Iowa	72	62	4,423	4,077	55	63	112	91	73	58
Mo.	408	400	12,115	11,309	29	26	60	49	60	62
N. Dak.	6	5	707	952	18	30	16	11	14	15
S. Dak.	13	15	1,416	1,410	7	24	45	33	60	37
Nebr.	61	66	3,045	2,609	14	35	97	49	-	-
Kans.	125	116	4,226	5,079	1	8	21	33	15	14
S. ATLANTIC	10,275	10,999	114,214	103,607	360	332	327	235	157	165
Del.	147	152	2,400	2,354	-	3	6	-	3	2
Md.	1,242	1,482	10,418	6,665	18	19	41	41	4	14
D.C.	496	808	N	N	8	25	1	1	U	U
Va.	689	884	12,850	12,309	27	20	71	N	56	51
W. Va.	61	77	1,240	2,216	3	2	12	12	9	10
N.C.	688	753	19,884	20,061	27	N	71	54	51	47
S.C.	847	720	10,696	15,683	-	-	20	15	14	12
Ga.	1,466	1,173	30,030	21,883	128	122	32	73	-	-
Fla.	4,639	4,950	26,696	22,436	149	141	73	39	20	29
E.S. CENTRAL	1,666	1,680	40,597	36,750	28	24	117	116	58	64
Ky.	236	262	6,718	5,834	7	10	46	34	-	-
Tenn.	643	620	12,363	12,306	6	8	43	53	38	40
Ala.	423	455	11,393	9,148	11	N	23	23	16	20
Miss.	364	343	10,123	9,462	4	6	5	6	4	4
W.S. CENTRAL	3,822	5,127	73,961	81,013	82	901	127	97	120	101
Ark.	158	189	5,408	3,644	2	6	15	11	8	10
La.	742	874	11,220	13,684	22	16	9	5	14	7
Okla.	113	274	7,341	8,588	10	N	30	23	26	8
Tex.	2,809	3,790	49,992	55,097	48	879	73	58	72	76
MOUNTAIN	1,469	1,449	27,944	29,923	93	121	311	355	197	243
Mont.	11	28	1,393	1,205	10	10	24	15	-	5
Idaho	21	28	1,557	1,845	8	17	64	38	20	25
Wyo.	10	3	710	635	1	2	15	53	14	55
Colo.	271	286	5,273	7,300	12	18	108	88	88	67
N. Mex.	78	188	3,308	3,491	42	47	12	19	5	20
Ariz.	745	588	11,021	10,431	12	18	33	43	20	26
Utah	129	114	1,935	1,975	N	N	38	75	48	21
Nev.	204	214	2,747	3,041	8	9	17	24	2	24
PACIFIC	5,256	5,627	93,533	86,959	333	398	394	456	332	405
Wash.	305	386	10,793	9,913	N	N	151	105	158	128
Oreg.	185	146	5,455	5,199	92	65	74	104	68	99
Calif.	4,673	4,919	73,135	67,809	241	330	158	240	94	162
Alaska	13	17	1,611	1,703	-	-	1	7	1	-
Hawaii	80	159	2,539	2,335	-	3	10	-	11	16
Guam	5	1	302	380	-	-	N	N	U	U
P.R.	1,094	1,601	U	U	-	N	7	5	U	U
V.I.	36	31	U	U	U	U	U	U	U	U
Amer. Samoa	-	-	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases C.N.M.I.: Commonwealth of Northern Mariana Islands

*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

†Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update October 24, 1999.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending November 27, 1999, and November 28, 1998 (47th Week)

Reporting Area	Gonorrhea		Hepatitis C/NA,NB		Legionellosis		Lyme Disease	
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	289,705	318,446	2,939	3,036	832	1,181	11,847	14,676
NEW ENGLAND	5,434	5,504	12	57	75	80	3,304	4,439
Maine	71	61	2	-	3	1	41	76
N.H.	96	85	-	-	8	7	23	42
Vt.	43	34	6	5	14	7	23	11
Mass.	2,259	2,057	1	49	28	33	890	680
R.I.	530	370	3	3	11	19	464	598
Conn.	2,435	2,897	-	-	11	13	1,863	3,032
MID. ATLANTIC	34,378	34,855	120	202	177	299	6,794	8,165
Upstate N.Y.	6,147	6,587	85	101	57	105	3,658	3,783
N.Y. City	11,762	10,902	-	-	9	34	35	225
N.J.	5,612	7,204	-	U	18	15	922	1,767
Pa.	10,857	10,162	35	101	93	145	2,179	2,390
E.N. CENTRAL	48,617	61,855	1,401	627	222	389	144	742
Ohio	12,752	15,940	3	8	65	122	70	44
Ind.	5,489	5,911	1	5	38	70	19	36
Ill.	16,618	20,021	41	39	23	51	12	14
Mich.	13,758	14,220	765	436	59	80	1	12
Wis.	U	5,763	591	139	37	66	42	636
W.N. CENTRAL	13,781	15,819	286	40	46	61	253	207
Minn.	2,380	2,458	10	10	9	7	186	156
Iowa	1,104	1,371	-	8	14	9	19	26
Mo.	6,943	8,205	264	14	14	16	25	11
N. Dak.	71	75	1	-	2	-	1	-
S. Dak.	172	205	-	-	3	3	-	-
Nebr.	1,285	1,099	5	5	4	18	10	3
Kans.	1,826	2,406	6	3	-	8	12	11
S. ATLANTIC	86,287	86,023	187	105	134	135	1,068	835
Del.	1,476	1,387	1	-	13	13	51	65
Md.	8,899	8,691	39	18	30	34	754	591
D.C.	3,316	3,909	1	-	4	7	4	4
Va.	8,805	8,406	10	11	32	20	114	66
W. Va.	387	790	17	7	N	N	17	12
N.C.	17,693	17,257	34	21	14	14	69	54
S.C.	6,254	10,127	22	9	11	10	7	7
Ga.	20,493	18,138	1	9	2	8	-	5
Fla.	18,964	17,318	62	30	28	29	52	31
E.S. CENTRAL	32,554	35,481	226	262	37	60	72	102
Ky.	3,047	3,390	21	20	19	26	10	25
Tenn.	10,023	10,740	79	155	14	21	30	42
Ala.	10,222	11,712	1	4	4	6	19	21
Miss.	9,262	9,639	125	83	-	7	13	14
W.S. CENTRAL	41,312	49,878	313	510	23	30	43	22
Ark.	2,864	3,617	18	21	-	1	4	7
La.	8,880	11,720	102	101	2	4	-	4
Okla.	3,617	4,774	14	14	3	12	4	2
Tex.	25,951	29,767	179	374	18	13	35	9
MOUNTAIN	8,347	8,267	134	357	46	68	18	18
Mont.	48	44	5	7	-	2	-	-
Idaho	78	158	7	86	2	2	5	6
Wyo.	29	29	38	89	-	1	3	1
Colo.	2,197	1,870	21	31	12	16	-	-
N. Mex.	664	839	8	93	1	2	1	4
Ariz.	3,956	3,800	41	11	7	17	2	1
Utah	204	207	6	21	18	21	5	-
Nev.	1,171	1,320	8	19	6	7	2	6
PACIFIC	18,995	20,764	260	876	72	59	151	146
Wash.	1,889	1,779	18	22	15	12	10	7
Oreg.	772	765	20	18	N	N	12	21
Calif.	15,709	17,470	222	782	56	45	129	117
Alaska	260	285	-	-	1	1	-	1
Hawaii	365	465	-	54	-	1	N	N
Guam	39	63	1	1	-	2	-	1
P.R.	316	349	-	-	-	-	N	N
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending November 27, 1999, and November 28, 1998 (47th Week)

Reporting Area	Malaria		Rabies, Animal		Salmonellosis*			
					NETSS		PHLIS	
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	1,192	1,340	5,485	6,717	34,846	38,531	26,729	31,258
NEW ENGLAND	61	64	815	1,343	1,990	2,334	1,947	2,143
Maine	3	5	161	218	125	154	99	62
N.H.	2	5	50	74	129	174	135	208
Vt.	4	1	86	61	88	132	79	104
Mass.	22	25	194	474	1,047	1,228	1,074	1,265
R.I.	5	10	91	93	121	132	147	34
Conn.	25	18	233	423	480	514	413	470
MID. ATLANTIC	282	392	1,070	1,487	4,473	6,095	3,796	5,428
Upstate N.Y.	68	85	758	1,022	1,244	1,492	1,228	1,278
N.Y. City	128	222	U	U	1,238	1,765	927	1,380
N.J.	48	54	164	205	989	1,346	685	1,290
Pa.	38	31	148	260	1,002	1,492	956	1,480
E.N. CENTRAL	140	139	144	120	4,976	5,803	3,189	4,451
Ohio	18	15	34	55	1,189	1,414	973	1,060
Ind.	19	10	13	11	480	600	384	492
Ill.	54	56	10	N	1,495	1,786	399	1,434
Mich.	39	46	84	35	889	1,067	897	989
Wis.	10	12	3	19	923	936	536	476
W.N. CENTRAL	72	89	653	659	2,060	2,114	2,129	2,168
Minn.	41	55	101	108	596	523	641	616
Iowa	13	7	152	139	252	346	197	273
Mo.	14	14	14	39	678	572	840	783
N. Dak.	-	2	133	131	44	59	49	67
S. Dak.	-	-	163	151	90	110	113	120
Nebr.	-	1	3	7	181	170	78	45
Kans.	4	10	87	84	219	334	211	264
S. ATLANTIC	316	288	1,958	2,192	8,198	7,915	4,856	5,685
Del.	1	3	37	47	129	73	144	111
Md.	87	85	370	419	818	863	924	831
D.C.	18	18	-	-	69	75	U	U
Va.	68	53	533	519	1,171	1,018	919	816
W. Va.	2	2	99	73	149	145	147	147
N.C.	26	27	389	532	1,234	1,177	1,211	1,326
S.C.	17	6	132	141	639	598	454	506
Ga.	22	36	222	274	1,425	1,561	651	1,413
Fla.	75	58	176	187	2,564	2,405	406	535
E.S. CENTRAL	22	32	244	256	1,727	2,153	1,021	1,476
Ky.	7	7	35	30	382	339	-	124
Tenn.	6	16	88	132	317	550	491	654
Ala.	7	6	120	92	544	635	453	543
Miss.	2	3	1	2	484	629	77	155
W.S. CENTRAL	16	34	91	28	3,571	4,432	3,170	2,992
Ark.	3	1	14	28	608	569	120	348
La.	10	14	-	-	334	699	496	752
Okla.	2	3	77	N	397	449	314	216
Tex.	1	16	-	-	2,232	2,715	2,240	1,676
MOUNTAIN	42	60	185	242	2,825	2,336	2,305	1,871
Mont.	4	1	55	51	70	75	1	43
Idaho	3	8	-	N	120	115	81	92
Wyo.	1	-	43	63	65	59	49	56
Colo.	16	18	1	42	656	499	670	471
N. Mex.	2	12	9	6	356	277	217	246
Ariz.	8	8	64	48	889	754	733	637
Utah	4	1	8	26	489	334	501	122
Nev.	4	12	5	6	180	223	53	204
PACIFIC	241	242	325	390	5,026	5,349	4,316	5,044
Wash.	27	17	-	-	610	467	795	624
Oreg.	20	15	2	7	400	281	455	304
Calif.	182	200	316	360	3,650	4,286	2,775	3,801
Alaska	1	3	7	23	51	53	30	33
Hawaii	11	7	-	-	315	262	261	282
Guam	-	2	-	-	24	38	U	U
P.R.	-	-	64	47	341	739	U	U
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending November 27, 1999, and November 28, 1998 (47th Week)

Reporting Area	Shigellosis*				Syphilis (Primary & Secondary)		Tuberculosis	
	NETSS		PHLIS					
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999†	Cum. 1998†
UNITED STATES	14,472	20,011	6,917	11,322	5,883	6,461	12,402	15,212
NEW ENGLAND	780	389	750	344	54	70	376	394
Maine	5	12	-	-	-	1	16	11
N.H.	16	16	15	20	1	2	10	-
Vt.	6	6	4	2	3	4	2	4
Mass.	664	253	655	247	32	41	209	223
R.I.	23	34	18	13	2	1	39	50
Conn.	66	68	58	62	16	21	100	106
MID. ATLANTIC	860	2,224	449	1,626	225	292	2,283	2,766
Upstate N.Y.	257	589	62	205	25	36	285	351
N.Y. City	264	673	82	573	79	73	1,216	1,302
N.J.	194	622	155	596	51	94	467	561
Pa.	145	340	150	252	70	89	315	552
E.N. CENTRAL	2,674	2,721	1,226	1,442	1,240	929	1,145	1,485
Ohio	379	474	133	129	84	128	214	214
Ind.	294	151	95	42	613	189	83	144
Ill.	1,048	1,479	592	1,200	335	377	508	695
Mich.	421	248	336	4	208	176	255	333
Wis.	532	369	70	67	U	59	85	99
W.N. CENTRAL	1,045	984	698	582	108	126	437	437
Minn.	229	287	222	322	9	9	178	134
Iowa	60	63	48	44	9	2	50	48
Mo.	633	167	336	116	72	94	151	155
N. Dak.	3	9	2	3	-	-	6	8
S. Dak.	18	31	10	23	-	1	17	17
Nebr.	65	361	35	19	8	7	16	27
Kans.	37	66	45	55	10	13	19	48
S. ATLANTIC	2,282	3,945	413	1,200	1,832	2,385	2,528	2,843
Del.	12	40	8	34	8	20	12	33
Md.	150	196	54	65	308	623	242	273
D.C.	51	32	U	U	59	85	47	98
Va.	124	185	54	83	144	137	247	280
W. Va.	8	11	5	8	2	3	35	38
N.C.	195	313	80	171	408	675	377	409
S.C.	120	174	60	91	241	308	218	259
Ga.	218	1,020	37	235	371	269	541	459
Fla.	1,404	1,974	115	513	291	265	809	994
E.S. CENTRAL	958	1,309	456	1,014	1,035	1,115	771	1,055
Ky.	229	134	-	45	96	100	166	151
Tenn.	508	688	399	749	570	523	272	364
Ala.	108	433	47	213	197	262	277	337
Miss.	113	54	10	7	172	230	56	203
W.S. CENTRAL	2,435	4,081	2,058	1,323	852	979	1,361	2,224
Ark.	73	199	23	61	76	104	155	136
La.	118	324	115	276	208	394	U	256
Okla.	454	505	151	172	168	83	121	151
Tex.	1,790	3,053	1,769	814	400	398	1,085	1,681
MOUNTAIN	1,087	1,197	663	693	221	225	392	505
Mont.	9	8	-	3	1	-	13	18
Idaho	26	19	9	14	1	2	14	11
Wyo.	3	3	1	1	-	1	3	4
Colo.	185	215	144	156	2	10	U	62
N. Mex.	130	281	62	162	11	22	57	63
Ariz.	587	569	377	308	198	171	189	197
Utah	63	40	64	29	2	4	38	47
Nev.	84	62	6	20	6	15	78	103
PACIFIC	2,351	3,161	204	3,098	316	340	3,109	3,503
Wash.	103	205	98	178	64	27	159	237
Oreg.	89	180	76	148	10	5	97	123
Calif.	2,126	2,718	-	2,718	238	304	2,640	2,938
Alaska	3	9	3	5	1	1	52	48
Hawaii	30	49	27	49	3	3	161	157
Guam	8	34	U	U	1	1	11	84
P.R.	78	57	U	U	147	163	41	140
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

†Cumulative reports of provisional tuberculosis cases for 1999 are unavailable ("U") for some areas using the Tuberculosis Information System (TIMS).

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending November 27, 1999, and November 28, 1998 (47th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported*		Total	
	Cum. 1999†	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	1999	Cum. 1999	1999	Cum. 1999	Cum. 1999	Cum. 1998
UNITED STATES	1,022	973	15,291	20,207	5,743	8,656	-	59	-	24	83	89
NEW ENGLAND	89	65	263	264	131	200	-	6	-	5	11	3
Maine	7	3	12	19	1	5	-	-	-	-	-	-
N.H.	20	10	18	14	16	18	-	-	-	1	1	-
Vt.	5	8	19	17	3	9	-	-	-	-	-	1
Mass.	34	38	90	114	38	73	U	5	U	3	8	2
R.I.	6	5	21	16	34	66	-	-	-	-	-	-
Conn.	17	1	103	84	39	29	-	1	-	1	2	-
MID. ATLANTIC	164	159	883	1,570	546	1,117	-	-	-	2	2	14
Upstate N.Y.	77	58	250	325	172	223	-	-	-	2	2	2
N.Y. City	37	40	276	559	177	391	-	-	-	-	-	-
N.J.	49	51	112	322	41	187	-	-	-	-	-	8
Pa.	1	10	245	364	156	316	-	-	-	-	-	4
E.N. CENTRAL	153	166	2,557	3,246	587	1,303	-	1	-	2	3	16
Ohio	51	46	599	280	84	72	U	-	U	-	-	1
Ind.	22	41	101	148	36	105	-	1	-	1	2	3
Ill.	66	60	646	729	1	215	-	-	-	-	-	1
Mich.	13	12	1,147	1,910	446	425	-	-	-	1	1	10
Wis.	1	7	64	179	20	486	-	-	-	-	-	1
W.N. CENTRAL	83	85	850	1,246	333	378	-	1	-	-	1	-
Minn.	43	66	93	118	50	48	-	1	-	-	1	-
Iowa	9	2	134	392	36	52	-	-	-	-	-	-
Mo.	22	10	521	581	203	226	-	-	-	-	-	-
N. Dak.	1	-	3	3	2	4	-	-	-	-	-	-
S. Dak.	1	-	9	31	1	2	-	-	-	-	-	-
Nebr.	3	1	50	25	14	21	U	-	U	-	-	-
Kans.	4	6	40	96	27	25	U	-	U	-	-	-
S. ATLANTIC	221	171	1,846	1,842	1,121	939	-	14	-	6	20	8
Del.	-	-	2	3	1	3	U	-	U	-	-	1
Md.	56	51	323	377	155	128	-	-	-	-	-	1
D.C.	5	-	56	62	24	12	-	-	-	-	-	-
Va.	18	16	165	194	87	92	-	14	-	4	18	2
W. Va.	6	6	38	7	22	10	-	-	-	-	-	-
N.C.	31	24	150	115	212	213	-	-	-	-	-	-
S.C.	5	3	44	38	65	42	-	-	-	-	-	-
Ga.	57	43	444	594	159	127	-	-	-	-	-	2
Fla.	43	28	624	452	396	312	-	-	-	2	2	2
E.S. CENTRAL	52	59	356	377	366	463	-	2	-	-	2	2
Ky.	7	7	61	30	42	47	-	2	-	-	2	-
Tenn.	27	35	142	207	165	254	-	-	-	-	-	1
Ala.	15	14	54	72	77	68	-	-	-	-	-	1
Miss.	3	3	99	68	82	94	-	-	-	-	-	-
W.S. CENTRAL	46	51	3,593	3,684	791	1,886	-	9	-	4	13	-
Ark.	2	-	59	78	64	99	-	4	-	-	4	-
La.	7	21	73	98	77	153	U	-	U	-	-	-
Okla.	33	27	425	546	122	92	-	-	-	-	-	-
Tex.	4	3	3,036	2,962	528	1,542	-	5	-	4	9	-
MOUNTAIN	103	109	1,205	2,903	522	758	-	4	-	-	4	4
Mont.	3	-	17	92	17	5	-	-	-	-	-	-
Idaho	1	2	42	227	28	42	-	-	-	-	-	-
Wyo.	1	1	7	36	13	9	-	-	-	-	-	-
Colo.	11	21	202	312	88	99	-	-	-	-	-	-
N. Mex.	18	6	47	139	156	297	-	-	-	-	-	-
Ariz.	55	55	704	1,708	137	164	-	1	-	-	1	4
Utah	11	5	59	179	36	65	-	2	-	-	2	-
Nev.	3	19	127	210	47	77	-	1	-	-	1	-
PACIFIC	111	108	3,738	5,075	1,346	1,612	-	22	-	5	27	42
Wash.	8	9	306	911	64	103	-	-	-	-	-	1
Oreg.	40	38	230	413	89	182	-	9	-	-	9	-
Calif.	46	49	3,176	3,682	1,163	1,299	-	13	-	4	17	8
Alaska	9	4	11	17	17	13	-	-	-	-	-	33
Hawaii	8	8	15	52	13	15	-	-	-	1	1	-
Guam	-	-	2	1	2	2	U	1	U	-	1	-
P.R.	1	2	136	68	115	228	-	-	-	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

*For imported measles, cases include only those resulting from importation from other countries.

†Of 199 cases among children aged <5 years, serotype was reported for 100 and of those, 28 were type b.

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending November 27, 1999, and November 28, 1998 (47th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998
UNITED STATES	2,119	2,386	3	314	597	86	5,163	6,158	-	230	349
NEW ENGLAND	104	109	-	8	8	3	609	958	-	7	38
Maine	5	6	-	-	-	-	-	5	-	-	-
N.H.	13	11	-	1	-	-	78	113	-	-	-
Vt.	5	5	-	1	-	1	68	73	-	-	-
Mass.	58	54	U	4	5	U	400	713	U	7	8
R.I.	7	8	-	2	1	-	33	9	-	-	1
Conn.	16	25	-	-	2	2	30	45	-	-	29
MID. ATLANTIC	202	255	1	33	187	39	879	587	-	24	147
Upstate N.Y.	64	72	1	13	9	30	699	308	-	20	114
N.Y. City	49	31	-	3	155	-	10	46	-	-	19
N.J.	47	55	-	-	6	-	12	25	-	1	13
Pa.	42	97	-	17	17	9	158	208	-	3	1
E.N. CENTRAL	358	365	-	41	77	8	454	789	-	2	-
Ohio	124	130	U	17	28	U	188	264	U	-	-
Ind.	62	66	-	4	7	-	71	163	-	1	-
Ill.	96	95	-	11	10	5	80	120	-	1	-
Mich.	44	43	-	7	29	3	63	66	-	-	-
Wis.	32	31	-	2	3	-	52	176	-	-	-
W.N. CENTRAL	228	207	-	13	32	1	372	552	-	124	40
Minn.	49	32	-	1	13	-	188	320	-	5	-
Iowa	43	40	-	7	11	1	60	68	-	29	-
Mo.	91	73	-	1	3	-	61	35	-	3	2
N. Dak.	4	5	-	1	2	-	18	4	-	-	-
S. Dak.	11	7	-	-	-	-	6	8	-	-	-
Nebr.	12	16	U	-	-	U	4	16	U	87	-
Kans.	18	34	U	3	3	U	35	101	U	-	38
S. ATLANTIC	388	412	-	49	47	1	403	309	-	36	19
Del.	8	2	U	-	-	U	5	5	U	-	-
Md.	52	31	-	7	-	-	105	61	-	1	1
D.C.	2	2	-	2	-	-	1	1	-	-	-
Va.	50	43	-	10	8	-	50	36	-	-	1
W. Va.	8	17	-	-	-	-	3	4	-	-	-
N.C.	42	55	-	8	11	-	90	98	-	35	13
S.C.	43	55	-	4	7	-	17	27	-	-	-
Ga.	59	92	-	4	1	-	40	27	-	-	-
Fla.	124	115	-	14	20	1	92	50	-	-	4
E.S. CENTRAL	127	184	-	13	15	1	76	137	-	1	2
Ky.	30	34	-	-	-	1	25	69	-	-	-
Tenn.	43	64	-	-	1	-	27	36	-	-	2
Ala.	32	49	-	10	8	-	21	26	-	1	-
Miss.	22	37	-	3	6	-	3	6	-	-	-
W.S. CENTRAL	171	275	-	33	57	-	157	349	-	15	88
Ark.	32	29	-	-	12	-	18	81	-	6	-
La.	34	53	U	3	7	U	3	9	U	-	-
Okla.	31	39	-	1	-	-	12	32	-	-	-
Tex.	74	154	-	29	38	-	124	227	-	9	88
MOUNTAIN	130	136	-	28	38	22	696	1,104	-	16	5
Mont.	4	4	-	-	-	-	2	12	-	-	-
Idaho	11	12	-	3	6	-	139	227	-	-	-
Wyo.	4	7	-	-	1	-	2	8	-	-	-
Colo.	32	27	-	5	6	2	192	280	-	1	-
N. Mex.	14	25	N	N	N	8	183	94	-	-	1
Ariz.	42	39	-	8	6	10	112	191	-	13	1
Utah	15	13	-	7	5	2	58	251	-	1	2
Nev.	8	9	-	5	14	-	8	41	-	1	1
PACIFIC	411	443	2	96	136	11	1,517	1,373	-	5	10
Wash.	63	60	-	2	11	3	601	308	-	-	5
Oreg.	75	80	N	N	N	-	56	86	-	-	-
Calif.	260	295	1	79	99	8	822	942	-	5	3
Alaska	6	3	1	3	2	-	5	14	-	-	-
Hawaii	7	5	-	12	24	-	33	23	-	-	2
Guam	2	2	U	1	5	U	1	1	U	-	-
P.R.	5	10	-	-	7	1	18	9	-	-	14
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U	U	U	U

N: Not notifiable U: Unavailable -: no reported cases

TABLE IV. Deaths in 122 U.S. cities,* week ending November 27, 1999 (47th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	521	379	102	28	6	6	58
Boston, Mass.	163	116	33	7	3	4	21
Bridgeport, Conn.	64	48	12	3	-	1	6
Cambridge, Mass.	23	21	2	-	-	-	1
Fall River, Mass.	22	20	2	-	-	-	-
Hartford, Conn.	51	30	14	6	1	-	5
Lowell, Mass.	22	15	5	2	-	-	2
Lynn, Mass.	10	8	2	-	-	-	2
New Bedford, Mass.	17	11	4	1	-	1	1
New Haven, Conn.	30	23	4	2	1	-	4
Providence, R.I.	40	30	7	3	-	-	3
Somerville, Mass.	4	2	2	-	-	-	1
Springfield, Mass.	51	38	9	4	-	-	11
Waterbury, Conn.	24	17	6	-	1	-	1
Worcester, Mass.	U	U	U	U	U	U	U
MID. ATLANTIC	2,167	1,558	393	147	39	29	106
Albany, N.Y.	43	34	7	1	1	-	5
Allentown, Pa.	U	U	U	U	U	U	U
Buffalo, N.Y.	100	70	18	7	1	4	11
Camden, N.J.	25	16	5	2	2	-	3
Elizabeth, N.J.	12	11	-	1	-	-	-
Erie, Pa.	28	21	4	1	-	2	2
Jersey City, N.J.	35	17	13	4	-	1	-
New York City, N.Y.	1,018	730	198	70	13	6	24
Newark, N.J.	23	7	7	6	3	-	6
Paterson, N.J.	22	17	2	3	-	-	-
Philadelphia, Pa.	487	345	79	36	15	12	23
Pittsburgh, Pa.§	72	47	17	4	1	3	4
Reading, Pa.	29	23	3	3	-	-	2
Rochester, N.Y.	77	62	10	5	-	-	5
Schenectady, N.Y.	19	17	1	1	-	-	-
Scranton, Pa.	27	22	5	-	-	-	3
Syracuse, N.Y.	111	88	17	2	3	1	13
Trenton, N.J.	24	17	6	1	-	-	1
Utica, N.Y.	15	14	1	-	-	-	4
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,593	1,083	313	128	37	30	111
Akron, Ohio	28	17	5	3	1	2	-
Canton, Ohio	33	26	6	-	-	1	2
Chicago, Ill.	380	230	83	50	6	9	31
Cincinnati, Ohio	52	37	10	2	1	2	2
Cleveland, Ohio	109	61	30	11	3	4	2
Columbus, Ohio	164	117	36	9	2	-	11
Dayton, Ohio	90	69	17	2	1	1	4
Detroit, Mich.	130	79	27	15	9	-	10
Evansville, Ind.	35	26	8	1	-	-	4
Fort Wayne, Ind.	48	35	7	2	2	2	5
Gary, Ind.	11	10	-	-	1	-	-
Grand Rapids, Mich.	49	41	2	3	2	1	5
Indianapolis, Ind.	149	88	39	15	3	4	16
Lansing, Mich.	23	19	2	-	1	1	1
Milwaukee, Wis.	81	66	11	3	1	-	2
Peoria, Ill.	33	25	4	3	-	1	4
Rockford, Ill.	28	23	3	-	2	-	3
South Bend, Ind.	37	29	5	2	-	1	3
Toledo, Ohio	64	44	14	3	2	1	5
Youngstown, Ohio	49	41	4	4	-	-	1
W.N. CENTRAL	467	323	80	40	12	12	26
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	U	U	U	U	U	U	U
Kansas City, Kans.	17	13	1	2	1	-	2
Kansas City, Mo.	110	73	23	9	4	1	8
Lincoln, Nebr.	29	23	2	4	-	-	5
Minneapolis, Minn.	128	93	16	9	4	6	6
Omaha, Nebr.	U	U	U	U	U	U	U
St. Louis, Mo.	88	48	22	14	1	3	-
St. Paul, Minn.	48	40	7	1	-	-	3
Wichita, Kans.	47	33	9	1	2	2	2
S. ATLANTIC	924	584	202	88	34	13	67
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	269	163	49	36	16	2	29
Charlotte, N.C.	74	53	13	5	2	1	9
Jacksonville, Fla.	78	48	22	5	3	-	8
Miami, Fla.	93	65	18	7	3	-	7
Norfolk, Va.	21	17	3	1	-	-	2
Richmond, Va.	44	27	9	4	2	2	3
Savannah, Ga.	55	33	16	6	-	-	4
St. Petersburg, Fla.	44	24	12	4	2	2	2
Tampa, Fla.	121	81	28	9	2	1	1
Washington, D.C.	99	61	20	11	2	5	2
Wilmington, Del.	26	12	12	-	2	-	-
E.S. CENTRAL	714	471	151	64	13	14	52
Birmingham, Ala.	158	101	33	12	5	7	10
Chattanooga, Tenn.	69	41	16	10	1	1	5
Knoxville, Tenn.	100	76	14	8	1	1	11
Lexington, Ky.	31	21	7	2	-	-	2
Memphis, Tenn.	164	105	41	13	4	1	12
Mobile, Ala.	85	55	19	10	1	-	2
Montgomery, Ala.	34	24	6	1	-	3	2
Nashville, Tenn.	73	48	15	8	1	1	8
W.S. CENTRAL	955	623	198	79	32	23	44
Austin, Tex.	61	38	12	7	2	2	1
Baton Rouge, La.	28	17	10	1	-	-	1
Corpus Christi, Tex.	28	25	-	2	1	-	1
Dallas, Tex.	128	64	41	11	3	9	6
El Paso, Tex.	U	U	U	U	U	U	U
Ft. Worth, Tex.	59	41	11	6	1	-	1
Houston, Tex.	274	171	61	26	12	4	19
Little Rock, Ark.	62	40	14	4	2	2	4
New Orleans, La.	22	12	7	1	1	1	-
San Antonio, Tex.	137	101	19	10	6	1	6
Shreveport, La.	62	49	9	1	1	2	2
Tulsa, Okla.	94	65	14	10	3	2	3
MOUNTAIN	643	441	114	57	17	14	62
Albuquerque, N.M.	72	52	16	2	1	1	7
Boise, Idaho	40	27	7	2	1	3	4
Colo. Springs, Colo.	44	34	4	5	-	1	5
Denver, Colo.	104	65	26	11	-	2	14
Las Vegas, Nev.	183	126	29	22	5	1	15
Ogden, Utah	9	5	2	2	-	-	1
Phoenix, Ariz.	U	U	U	U	U	U	U
Pueblo, Colo.	U	U	U	U	U	U	U
Salt Lake City, Utah	95	64	19	4	5	3	10
Tucson, Ariz.	96	68	11	9	5	3	6
PACIFIC	985	693	191	64	28	9	103
Berkeley, Calif.	14	9	3	2	-	-	-
Fresno, Calif.	38	20	13	1	3	1	5
Glendale, Calif.	4	4	-	-	-	-	1
Honolulu, Hawaii	70	51	12	4	1	2	9
Long Beach, Calif.	70	46	17	6	1	-	7
Los Angeles, Calif.	73	46	14	9	3	1	4
Pasadena, Calif.	18	13	5	-	-	-	2
Portland, Oreg.	U	U	U	U	U	U	U
Sacramento, Calif.	193	131	40	14	7	1	22
San Diego, Calif.	76	54	12	6	2	2	7
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	251	185	43	14	9	-	26
Santa Cruz, Calif.	20	16	3	1	-	-	5
Seattle, Wash.	56	38	11	4	1	2	7
Spokane, Wash.	41	34	7	-	-	-	6
Tacoma, Wash.	61	46	11	3	1	-	2
TOTAL	8,969¶	6,155	1,744	695	218	150	629

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

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