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Hypothermia-Related Deaths — Virginia, November 1996–April 1997

Hypothermia is defined as a central or core body temperature of ≤95 F (≤35 C) and is a medical emergency (*1*). Persons with hypothermia are at high risk for death (*2*). Although hypothermia-related deaths are common during winter months in states characterized by cold winters (e.g., Alaska and North Dakota) and with mountainous or desert terrain (e.g., Arizona and New Mexico), hypothermia and associated deaths also occur in states with milder climates. For example, during November 1996–April 1997, the Chief Medical Examiner's Office in Virginia identified 20 deaths caused by hypothermia; of these, 11 (55%) were among men and decedents ranged in age from 22 to 86 years (mean: 63 years). This report describes selected cases of hypothermia-related deaths in Virginia during November 1996–April 1997 and summarizes hypothermia-related deaths in the United States during 1979–1994.

Case 1. In December 1996, an 80-year-old woman was found lying dead in a ditch near the nursing home in which she resided. The decedent had Alzheimer disease, Parkinson disease, and congestive heart failure and had been reported missing from the nursing home approximately 12 hours earlier. She was fully clothed, and an autopsy indicated no evidence of life-threatening trauma, preexisting infection, or new intracranial hemorrhage. The outside temperature during the period she was presumed to be outside was approximately 40 F (4 C). There was no detectable blood alcohol. The cause of death was listed as hypothermia attributed to environmental exposure.

Case 2. In January 1997, a motorist found a 45-year-old woman lying dead in a ditch on the side of a road. The body was fully clothed with the torso immersed in water; there were no signs of lethal trauma. The decedent had last been seen alive 3 days earlier, and temperatures during the intervening time had been below freezing. The decedent had a history of alcohol abuse, and an empty wine bottle was found nearby. Her blood alcohol concentration (BAC) was 0.19%; levels were higher in the vitreous humor, indicating that, before death, her BAC had been substantially higher. The cause of death was listed as hypothermia attributed to exposure to environmental cold.

Case 3. In February 1997, an 83-year-old man was found dead in his home. He had no known history of medical problems. He was partially dressed, and there were no signs of traumatic injury. The temperatures during the preceding days had been below

Hypothermia-Related Deaths — Continued

freezing, and there was no heat in the house. The cause of death was listed as exposure to cold.

Reported by: M Fierro, MD, Office of the Chief Medical Examiner; SR Jenkins, VMD, State Epidemiologist, Virginia Dept of Health. Health Studies Br, Div of Environmental Hazards and Health Effects, National Center for Environmental Health, CDC.

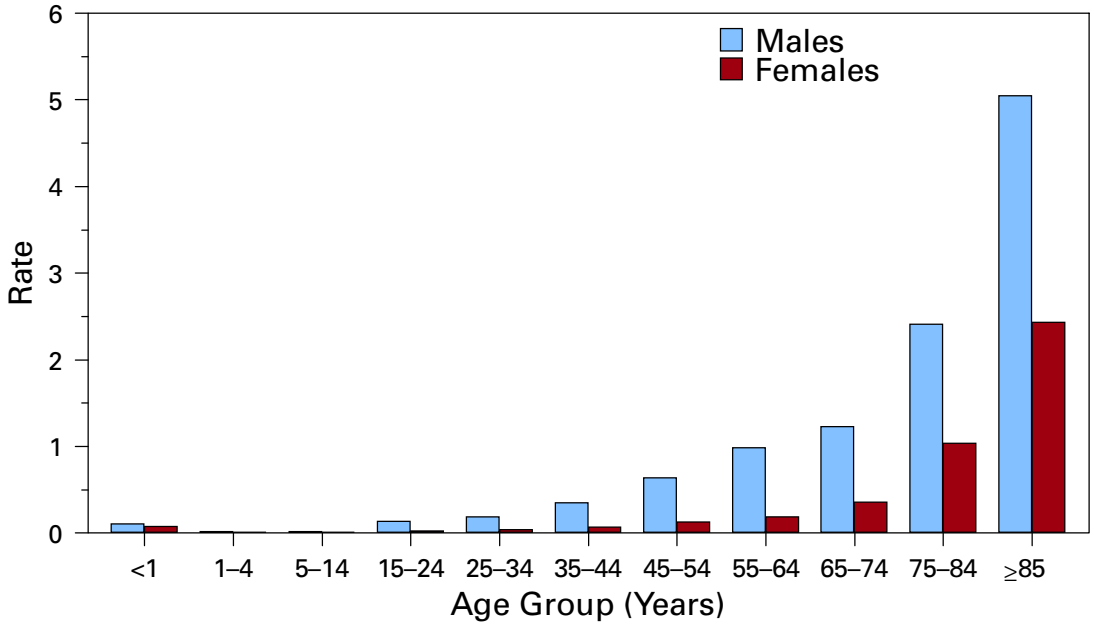
Editorial Note: From 1979 through 1994, a total of 11,817 deaths were reported in the United States for which hypothermia was the underlying cause (average annual number and rate: 739 and 0.3 per 100,000 population).* For an additional 9720 deaths, injury attributed to cold was listed as a contributing factor.† In nearly half (5769 [49%]) of deaths for which hypothermia was the underlying cause, decedents were aged ≥65 years (Figure 1). In every age group, the hypothermia-related death rate for males exceeded that for females; for persons aged ≥65 years, the rate for men was more than double that for women (1.8 versus 0.8). In addition, for persons aged ≥65 years, the death rate for men of black and other races was 6.4 and for white men was 1.4. For women of black and other races, the death rate was 2.5 compared with 0.7 for white women.§ Race-specific differences may have reflected variations in socioeconomic determinants for factors such as access to protective clothing, shelter, and medical care.

*Data obtained from the Compressed Mortality File maintained by CDC. Hypothermia was defined as the *International Classification of Diseases, Ninth Revision* (ICD-9), codes E901.0, E901.8, and E901.9 (excludes manmade cold–E901.1).

†Data obtained from CDC's Multiple Cause of Mortality file. Cases defined by ICD–9, codes E901.0, E901.8, and E901.9 and Nature of Injury code 991.

§Data on race/ethnicity were collected only for white, black, and other races. In this analysis, black and other races are grouped together because rates for other races were too small for stable estimates.

FIGURE 1. Average annual death rate* for hypothermia, by age group and sex — United States, 1979–1994



*Per 100,000 population.

Hypothermia-Related Deaths — Continued

In settings of cold exposure, the risk for developing hypothermia is greatest among the elderly, persons who are homeless or mentally ill, outdoor workers, trauma victims, and persons with serious medical conditions (e.g., cardiovascular disease, adrenal disease, and hypothyroidism) (*1,2*). Other risk factors include excessive alcohol use, exhaustion, poor nutrition, inadequate housing, and drug use (e.g., sedatives, anxiolytics, phenothiazines, and tricyclic antidepressants) (*1–3*). Hypothermia can occur when even moderately low ambient temperatures (e.g., as high as 60 F [15.5 C]) overcome a person's ability to conserve heat (*2*).

The prognosis for hypothermia is improved by prompt recognition of the clinical presentation and initiation of treatment. Shivering is an early indication of hypothermia, and a decline in the core temperature can be accompanied by neurologic abnormalities (e.g., amnesia, dysarthria, ataxia, and confusion). Other problems may include hematologic, respiratory, renal, and endocrinologic abnormalities, and severe hypothermia may be characterized by coma, hypotension, apnea, and/or cardiac arrhythmias (*4,5*). Because most standard thermometers do not record temperatures below 93 F (34 C), use of special equipment (e.g., cold-recording rectal thermometers) may be required for accurately determining core body temperature.

Public health strategies for reducing the risk for hypothermia include public education and programs targeting high-risk populations. Specific preventive measures include wearing adequate clothing (particularly headgear), maintaining fluid and caloric intake, avoiding fatigue, ensuring heated shelter, and refraining from alcohol consumption. In addition, outreach programs should include providing short-term, specialized emergency medical and social services during periods of extreme cold (*6*) and providing shelter to homeless persons. Workers in cold weather should avoid heavy exertion and wear appropriate protective clothing. Because of the importance of adequate housing during winter months, elderly persons or persons with serious underlying medical conditions who live at home should be monitored by family, neighbors, or social service providers.

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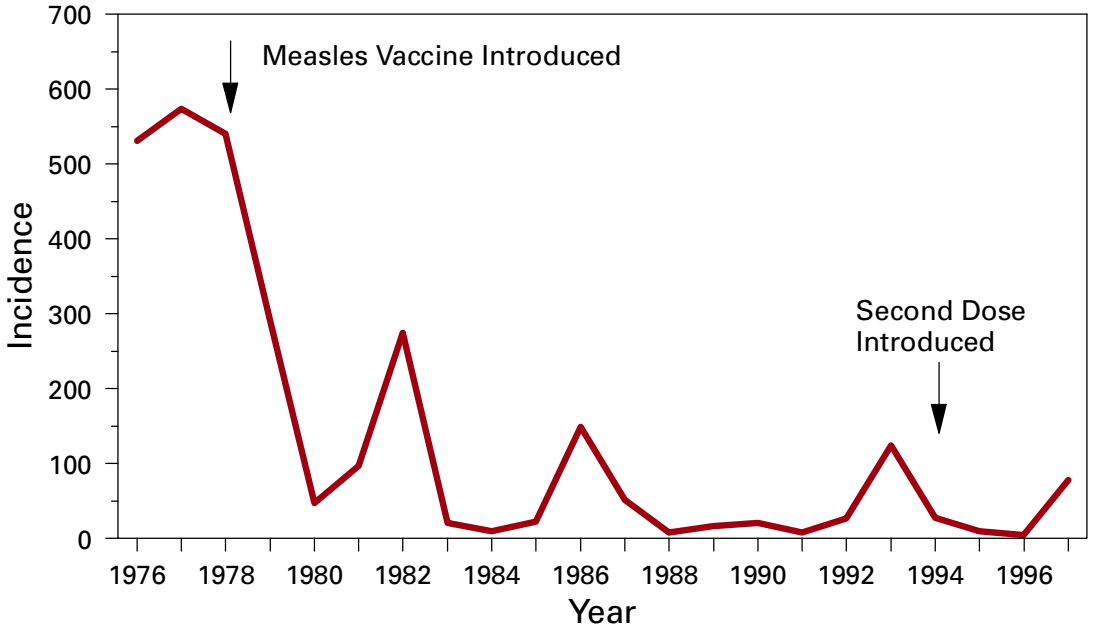
Measles Outbreak — Romania, 1997

During December 1, 1996–September 30, 1997, a total of 20,034 cases of measles (incidence: 88.7 per 100,000 population) were reported to the Ministry of Health (MOH) in Romania (Figure 1); 13 cases were fatal. The outbreak began in December 1996, peaked in May 1997, then declined. Cases occurred in the capital (Bucharest) and all 40 other districts (1996 total population: 22.6 million). District-specific attack rates were highest in the northwest and lower in the south, ranging from 10 to 258 cases per 100,000 population. This report describes the investigation of this epidemic by MOH

Measles — Continued

FIGURE 1. Incidence* of measles, by year — Romania, January 1, 1976–September 30, 1997



*Per 100,000 population.

and estimates the efficacy of measles vaccine using the screening method (*1*); the findings of the investigation suggest that high routine vaccination coverage with a single dose of measles vaccine with an estimated efficacy of 77%–90% was not sufficient to prevent periodic outbreaks of measles.

In May 1979, Romania introduced routine measles vaccination with an imported, live attenuated measles vaccine. Since 1981, measles vaccine (Schwarz strain, >1000 median tissue culture infectious doses) produced by Institute Cantacuzino in Bucharest has been used exclusively in Romania. From 1979 through 1994, a single dose of measles vaccine was administered to children aged 9–15 months during mass campaigns conducted in February and September each year (*2*). In 1994, a second dose of measles vaccine was introduced for children entering school at age 7 years. On October 1, 1995, measles vaccination policy was changed from administration in biannual campaigns to continuous administration to all children attaining age 9 months by means of minicampaigns conducted during the last week of each month. During 1983–1996, reported coverage with one dose of measles vaccine by age 2 years averaged 93%. Since 1994, reported coverage with the second dose in each school-entry cohort has been 95%.

Notification of a patient with measles diagnosed by a physician is compulsory by law in Romania. Supplementary information about the vaccination status, disease complications (recorded in mutually exclusive categories), and outcome of individual notified cases is collected by district epidemiologists.

Data entry has been completed for all 3969 cases with onset during December 1, 1996–March 31, 1997, and for a systematic sample of every fifth case (n=3002 cases)

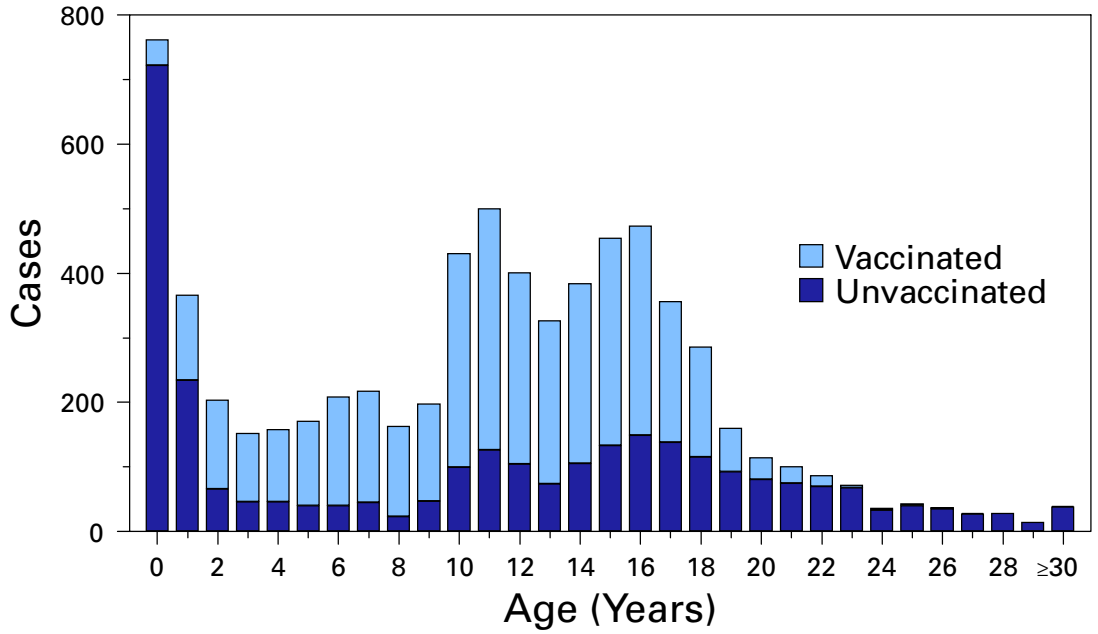
Measles — Continued

with onset during April 1–September 30, 1997. Because the mean age and the vaccination status of cases occurring during these two periods were similar, these groups were combined (n=6971) in the analysis. Children aged <2 years and 10–18 years accounted for the highest number of cases (Figure 2). Overall, students (kindergarten–12th grade) accounted for 3834 (55%) cases. Of the 762 cases reported among infants, 40% occurred in infants aged 9–11 months; 38%, in those aged 6–8 months; and 22%, in those aged <6 months. Overall, 4019 (58%) persons with measles were reported to have received at least one dose of measles vaccine. A history of receipt of vaccine was established for 5% of infants with measles; among ill persons aged 1–4 years, 5–9 years, 10–14 years, 15–19 years, and 20–24 years, history of receipt of vaccine was established for 56%, 80%, 75%, 64%, and 20%, respectively. Based on the screening method, vaccine efficacy was estimated to be 90% among persons aged 1–4 years and 77% among persons aged 10–14 years.

Complications of measles were reported in 2201 (32%) of 6971 cases: 1519 (22%) persons were hospitalized for treatment of measles, 579 (8%) had pneumonia, four (0.1%) had convulsions, three (<0.1%) had encephalopathy, and 96 (1.4%) had other complications (e.g., otitis media and bronchitis). The median age of the 13 persons who died was 2 years (range: 4 months–18 years); seven persons who died were unvaccinated, and six were reported to have received one dose of measles vaccine.

Measures to control the epidemic were initiated by MOH in January 1997. These measures focused on persons potentially exposed to measles diagnosed in institutional settings (e.g., orphanages, day care centers, schools, hospitals, and military camps). In these settings, measles vaccination was recommended for unvaccinated persons aged 6 months–23 years and vaccinated persons aged ≤23 years in whom

FIGURE 2. Number of persons with measles*, by age and vaccination status — Romania, December 1996–September 1997



*n=6971.

Measles — Continued

≥6 years had elapsed since vaccination. No mass vaccination efforts were undertaken because of limited vaccine supplies.

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Editorial Note: The measles vaccination program in Romania achieved a >90% reduction in measles incidence (Figure 1), compared with the incidence during the prevaccine era. Following the introduction of measles vaccination in 1979, epidemics of measles occurred in 1982, 1986, 1993, and 1997. These epidemics have been of progressively smaller magnitude, while the median age of persons with cases increased from 6.5 years in 1986 to 10.8 years in 1997. Unlike previous epidemics, the 1997 epidemic involved predominantly school-aged children who were vaccinated.

The large outbreak in Romania during 1996–1997 occurred despite maintenance of high coverage with the first dose of measles vaccine for approximately 15 years and the introduction of a second dose of measles vaccine in 1994. However, this pattern is consistent with that in other countries with well established vaccination programs (e.g., Hungary and the United States) in which large numbers of susceptible persons accumulated and outbreaks occurred (*3,4*). In Romania, susceptible persons included school-aged children who either failed to respond to the first dose of vaccine or whose immunity from the first dose had waned and young preschool children who have not yet been vaccinated. The incidence was lowest among children aged 8–9 years, suggesting high efficacy of the two-dose schedule used among this age group. The increased incidence among persons born during 1980–1987 may reflect reduced vaccine efficacy, increased contact rates, or a combination of these factors.

The findings in this report underscore the potential for large outbreaks of measles in countries that have achieved high coverage with a single dose of measles vaccine unless such countries provide a second dose of vaccine to at least all persons born since the introduction of vaccine. A routine second dose (e.g., administered at school entry) may result in the elimination of measles if coverage levels of >95% can be achieved and maintained for an extended period (*5*). Alternatively, catch-up campaigns (e.g., those conducted in Canada, Latin America, and United Kingdom that targeted children across a broad age range regardless of previous vaccination status) have been effective in preventing outbreaks and interrupting transmission (*6–8*). The selection of a specific strategy may be determined by levels of resources available and by the commitment of the country to accelerate measles control. In Romania, the optimal approach may be to implement a catch-up campaign targeting school-aged children (aged ≤18 years) in conjunction with efforts to increase routine vaccination coverage with the first dose to 90% in all districts and to maintain high routine coverage with the second dose. Ongoing studies to evaluate vaccine efficacy during the outbreak and to determine age-specific susceptibility to measles will guide the development of a measles-elimination strategy for Romania.

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Measles — Continued

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Update: Respiratory Syncytial Virus Activity — United States, 1997–98 Season

Respiratory syncytial virus (RSV), a common cause of winter outbreaks of acute respiratory disease, results in an estimated 90,000 hospitalizations and 4500 deaths each year from lower respiratory tract disease among infants and young children in the United States (*1*). Outbreaks occur annually throughout the country (*2,3*). RSV activity in the United States is monitored by the National Respiratory and Enteric Virus Surveillance System (NREVSS), a voluntary, laboratory-based system. This report summarizes trends in RSV reported by NREVSS for July 1992–June 1997 and presents provisional surveillance results for July–November 1997. These data indicate onset of widespread RSV activity for the 1997–98 season.

Since July 1992, a total of 100 clinical and public health laboratories in 47 states have participated in NREVSS and have reported weekly to CDC the number of specimens tested for RSV by the antigen-detection and virus-isolation methods and the number of positive results. RSV activity is considered by NREVSS to have become widespread during the first of 2 consecutive weeks during which at least half of participating laboratories report any RSV detections. This definition generally indicates a mean percentage of specimens positive by antigen detection in excess of 10%.

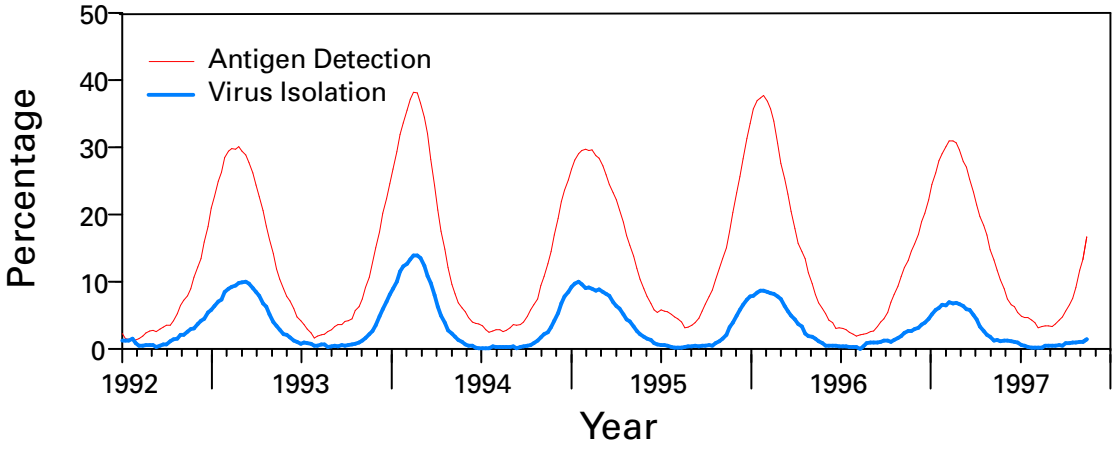
From July 1992 through June 1997, onset of widespread RSV activity began each November and continued for a mean of 22 weeks, until April or mid-May (Figure 1). In most parts of the 48 contiguous states, the peak in activity occurred each year in January or February; however, in the Southeast, activity peaked as early as November or December (*3*). For the reporting period beginning July 1997, a total of 71 laboratories in 41 states reported results of testing for RSV. Since the week ending November 7, more than half of the participating laboratories reported detections of RSV each week, indicating onset of widespread RSV activity for the 1997–98 season.

Reported by: National Respiratory and Enteric Virus Surveillance System collaborating laboratories. Respiratory and Enteric Viruses Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: During the RSV season, health-care providers should consider RSV as a cause of acute respiratory disease in both children and adults. Most severe manifestations of infection with RSV (e.g., pneumonia and bronchiolitis) occur in infants aged 2–6 months; however, children of any age who have underlying cardiac or pulmonary

Respiratory Syncytial Virus — Continued

FIGURE 1. Percentage* of specimens testing positive for respiratory syncytial virus, by method of confirmation and week† — United States, July 1992–November 1997



*Laboratory group mean, smoothed using a 7-week running mean.
†Tick marks on the x-axis delimit 1-month time intervals.

disease or are immunocompromised are at risk for serious complications from this infection. Because natural infection with RSV provides limited protective immunity, RSV can cause repeated symptomatic infections throughout life. In adults, RSV usually causes upper respiratory tract symptoms but can cause lower respiratory tract disease, especially in elderly and in immunocompromised persons (*4–6*). Infection in immunocompromised persons can be associated with high death rates (*6*).

RSV is a common but preventable cause of nosocomially acquired infection; the risk for nosocomial transmission increases during community outbreaks (*7*). Sources for nosocomially acquired infection include infected patients, staff, or visitors or contaminated fomites. Nosocomial outbreaks or transmission of RSV can be controlled with strict attention to contact-isolation procedures (*7*). In addition, chemotherapy with ribavirin may be considered for some patients (e.g., those at high risk for severe complications or who are seriously ill with this infection) (*8*); RSV immune globulin intravenous (human) is available for prevention of serious RSV infections in some high-risk infants and children (*9*). Vaccines for RSV are being developed, but none have been demonstrated to be safe and efficacious in infants (*10*).

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Respiratory Syncytial Virus — Continued

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Vaccination Levels Among Hispanics and Non-Hispanic Whites Aged ≥65 Years — Los Angeles County, California, 1996

An estimated 90% of deaths from pneumonia and influenza occur each year in the United States among adults aged ≥65 years. Despite the substantial impact of these and other vaccine-preventable diseases on older adults, national vaccination levels are suboptimal and disproportionately lower among some racial/ethnic minorities than among others. For example, in 1995, influenza and pneumococcal vaccination rates for older Hispanics (50.0% and 24.2%, respectively) were substantially lower than those for non-Hispanic whites (60.1% and 37.4%, respectively) (*1*). To develop and implement community-based activities to increase vaccination levels among older Hispanic adults in Los Angeles County, California, the Edward R. Roybal Institute for Applied Gerontology at California State University, Los Angeles, formed a community consortium involving multiple public and private organizations. During August–November 1996, this consortium, in collaboration with the Center for the Study of Latino Health at the University of California, Los Angeles (UCLA), conducted a telephone survey to assess vaccination knowledge, attitudes, and practices of older Hispanic adults and to provide baseline information for developing interventions. This report summarizes the results of the initial assessment conducted in two geographic areas; the findings document low vaccination levels among the populations surveyed and race/ethnicity-specific differences in barriers to vaccination and places where vaccinations were received.

Target (for future interventions) and control areas matched for demographic characteristics were selected in areas of east Los Angeles (65% Hispanic, 25% non-Hispanic white, and 10% other races/ethnicities) and 20 miles away in San Fernando Valley (65% Hispanic and 35% other races/ethnicities). The survey targeted samples of 300 Hispanic and 300 non-Hispanic white older adults (aged ≥65 years) in each of the two areas; because interventions had not been implemented at the time of the survey, data from the two areas were combined for this analysis. Households were selected using random-digit–dialing; one eligible person aged ≥65 years was interviewed in each household.

The survey instrument was translated from English into Spanish, then back-translated into English and field tested. Bilingual interviewers were trained to administer the instrument. A total of 1371 eligible households were screened to achieve the goal of approximately 1200 total respondents (172 households declined to participate

Vaccination Levels — Continued

or could not be included). The proportion of Hispanic respondents who chose to be interviewed in Spanish was similar in the target (81%) and control (80%) areas. Because data were similar for influenza, pneumococcal, and tetanus vaccination, data are presented only for influenza vaccination.

Sex and age distributions were similar for Hispanics and non-Hispanic whites. However, Hispanics were less likely to report having completed high school (24% [95% confidence interval (CI)=20%–27%]) and were more likely to report an annual family income of <$30,000 (90% [95% CI=87%–93%]) than were non-Hispanic whites (80% [95% CI=77%–84%] and 69% [95% CI=65%–73%], respectively).

Vaccination levels were similar for Hispanics and non-Hispanic whites (Table 1). Hispanics were more likely to receive influenza vaccination at a county facility (21% [95% CI=17%–25%]) or hospital (26% [95% CI=21%–30%]) than non-Hispanic whites (3% [95% CI=1%–4%] and 17% [95% CI=13%–20%], respectively). In addition, Hispanics were less likely to receive vaccinations in a private physician's office or managed-care settings than non-Hispanic whites. Small proportions of both Hispanics and non-Hispanic whites reported receiving vaccinations at senior centers, recreation/community centers, and other settings.

The most common reasons reported by both groups for receiving influenza vaccine included recommendation by a physician, fear of developing disease, and offering of vaccines at a clinic (Table 1). Hispanics were more likely to report receipt of vaccination because of fear of developing disease, because they never had received vaccine, because their spouse suggested vaccination, or because friends or family members suggested vaccination.

The most common reasons reported by both groups for not receiving influenza vaccine were belief of no need for the vaccine, having no knowledge of the vaccine, not being informed by a physician of the need for vaccine, concern that the vaccine would cause illness, and belief of vaccine ineffectiveness (Table 1). Compared with non-Hispanic whites, Hispanics were less likely to believe the vaccine was ineffective or could cause illness and were more likely to report lack of transportation to vaccination sites and inability to afford vaccination. Hispanics also reported that health provider's lack of fluency in Spanish was one reason for nonvaccination.

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Editorial Note: Vaccination-related national health objectives for adults for 2000 are 1) to increase to at least 60% influenza and pneumococcal vaccination levels for noninstitutionalized persons at high risk for complications from pneumococcal disease and influenza, including those aged ≥65 years and 2) to increase to at least 40% the proportion of adults who have received tetanus vaccination during the preceding 10 years (*2*; objectives 20.11 and 21.2). The findings in this report document low levels of self-reported vaccination against influenza, pneumococcal disease, and tetanus in selected Hispanic and non-Hispanic white populations in the Los Angeles area. The influenza and pneumococcal vaccination levels reported for the non-Hispanic white populations surveyed (39% and 21%, respectively) were lower than statewide levels among non-Hispanic whites as measured by the 1995 California Behavioral Risk Factor Surveillance System (BRFSS) (60% and 46%, respectively) (CDC, unpublished

Vaccination Levels — Continued

TABLE 1. Percentage of persons aged ≥65 years who reported vaccination knowledge, attitudes, and practices, by race/ethnicity — Los Angeles County, California, 1996*

	Hispanic		White, non-Hispanic	
Category	**%**	**(95% CI†)**	**%**	**(95% CI)**
Receipt of vaccination				
Influenza§	38	(34%–43%)	39	(35%–43%)
Pneumococcal¶	16	(13%–19%)	21	(18%–24%)
Tetanus**	43	(39%–47%)	44	(40%–48%)
Settings where received influenza vaccination				
County clinic	21	(17%–25%)	3	(1%– 4%)
Hospital	26	(21%–30%)	17	(13%–20%)
Private physician	27	(23%–32%)	42	(37%–47%)
Health maintenance organization	16	(13%–20%)	28	(24%–32%)
Senior center	2	(1%– 3%)	4	(2%– 6%)
Recreation center	2	(0 – 3%)	1	(0 – 2%)
Health fair	2	(0 – 3%)	1	(0 – 2%)
Church	0	—	1	(0 – 2%)
Injectionist††	2	(1%– 4%)	2	(1%– 4%)
Reported reasons for receiving vaccine				
Physician recommended	78	(74%–82%)	71	(67%–75%)
Fear of developing disease	76	(72%–80%)	60	(56%–64%)
Clinic offered vaccine	60	(55%–64%)	52	(48%–57%)
Never had vaccination/Thought vaccination was a good idea	45	(40%–50%)	19	(15%–23%)
Spouse suggested vaccination	17	(13%–21%)	9	(6%–12%)
Friends or family suggested vaccination	17	(13%–20%)	8	(6%–10%)
Spouse had been vaccinated	15	(11%–19%)	13	(10%–16%)
Friends or family had been vaccinated	11	(8%–14%)	7	(4%– 9%)
Informed about vaccination at senior center	11	(8%–14%)	7	(5%–10%)
Reported reasons for not receiving vaccine				
Believed that vaccination was not needed	52	(45%–58%)	62	(54%–70%)
Had no knowledge of the vaccine	47	(40%–53%)	19	(13%–26%)
Physician did not inform about need for vaccination	41	(34%–48%)	39	(31%–47%)
Vaccine too expensive	33	(26%–39%)	5	(1%– 9%)
Did not know where to obtain vaccination	28	(21%–34%)	7	(3%–11%)
Provider did not speak Spanish	26	(20%–31%)	0	—
No transportation	23	(17%–29%)	6	(2%–10%)
Concern that vaccine would cause illness	22	(16%–27%)	46	(38%–54%)
Poor hours at clinic	21	(15%–26%)	3	(0 – 6%)
Doubt of effectiveness of vaccine	19	(13%–24%)	39	(31%–47%)
Long wait for appointment	16	(11%–21%)	1	(0 – 2%)
Long clinic wait	14	(9%–18%)	1	(0 – 2%)

*n=1199.
†Confidence interval.
§Respondents were asked whether they had received influenza vaccination during the preceding year (i.e., October 1995–September 1996).
¶Respondents were asked whether they had ever received pneumococcal vaccination.
**Respondents were asked whether they had received tetanus vaccination during the preceding 10 years.
††An unlicensed layperson who provides various types of injections.

Vaccination Levels — Continued

data, 1996), while levels for the Hispanic populations (38% and 16%, respectively) were similar to state estimates (48% and 20%, respectively). Reasons for not receiving influenza vaccine as documented in this survey are consistent with previous assessments of vaccination behavior (e.g., the perception of not needing vaccination, lack of a physician recommendation, concern about adverse events following vaccination, and perception of vaccine ineffectiveness) (*3–5*). Reasons for the race-/ethnicity-specific differences in places where vaccination services were obtained and financial and physical barriers to receipt of vaccination services may have been associated with socioeconomic factors (e.g., Hispanics reported lower family income than non-Hispanic whites).

This assessment represents the first phase of steps recommended by the community consortium to enhance vaccination levels in the Hispanic community and emphasizes the usefulness and importance of involving community members in developing health promotions and prevention activities. The community consortium is working with local and state public health officials to remove barriers to vaccination and has established a dialogue among community members about issues affecting vaccination of older adults. For example, data from this assessment have been used to customize vaccination services in community vaccination campaigns, educational mailings to the public in both Spanish and English about the availability of vaccination services, reminders to health-care providers about the importance of vaccination, and a Spanish language public service announcement about available vaccination services. A second survey was conducted in mid-1997 to assess changes in vaccination levels and the impact of these interventions; however, the data are not yet available for analysis. In addition, plans have been developed to improve outreach methods, scheduling practices, and Spanish language services and to increase availability of adult vaccination services.

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Human Monkeypox — Kasai Oriental, Democratic Republic of Congo, February 1996–October 1997

Human monkeypox is a severe smallpox-like illness caused by monkeypox virus (MPV); monkeypox occurs in sporadic outbreaks, and infection is enzootic among squirrels and monkeys in the rainforests of western and central Africa (*1*). In 1996, cases of monkeypox were reported from villages in the Katako-Kombe Health Zone, Kasai Oriental, Zaire (i.e., Democratic Republic of Congo) (*2,3*). The World Health

Human Monkeypox — Continued

Organization (WHO), in collaboration with CDC, investigated this outbreak and identified 92 suspected cases with onset during February 1996–February 1997, and isolated MPV from lesions of active cases (*4*). Cases continued to be reported, and a new investigation was initiated by WHO and CDC in October 1997. This report summarizes the results of the field investigation, which indicate that this is the largest human monkeypox outbreak ever recorded.

In October 1997, active case ascertainment was conducted in the Katako-Kombe and Lodja health-care zones, Kasai Oriental, Democratic Republic of Congo. A probable case of monkeypox was defined as the occurrence since February 1996 of fever, a vesicular-pustular rash similar to that depicted in a WHO reference photo, or five or more facial pock marks in a resident of Kasai Oriental. A possible case was defined as a history of fever and vesicular or crusty rash in a resident of Kasai Oriental. A primary case was defined as monkeypox in a person who reported no contact with another person with monkeypox; a secondary case was defined as monkeypox in a person who had contact with a person with monkeypox 7–21 days before onset of disease. Serum was collected from approximately 300 case-patients and crusted scabs or vesicular fluid from 19 case-patients with active disease. Data and specimens are being analyzed.

In the current investigation, 419 cases have been identified: 344 in the Katako-Kombe Health Zone (attack rate [AR]=1.1 per 1000 population) and 75 in the Lodja Health Zone (AR=0.3). Of these, 304 (73%) met the probable case definition, and 115 (27%) were considered possible monkeypox cases. Most (85%) cases occurred in persons aged <16 years. Nineteen persons had active disease. Preliminary testing of lesional material identified MPV in nine cases and varicella zoster virus in four.

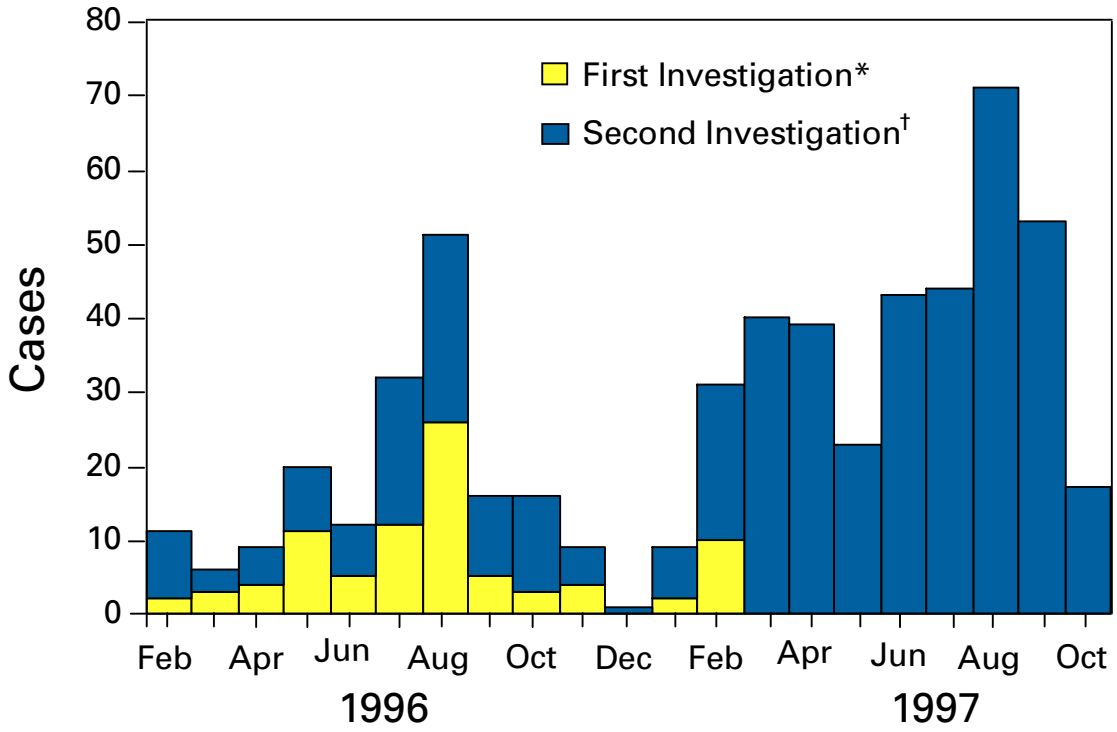
Of the 344 cases in the Katako-Kombe Health Zone, five persons died (case fatality ratio: 1.5%) within 3 weeks of rash onset; decedents ranged in age from 4 to 8 years. All 339 surviving case-patients were examined and interviewed. Of these, 183 (54%) had been confined to bed rest for 3–10 days. Twenty (6%) case-patients had scar evidence of vaccinia vaccination, and 19 reported a past history of chickenpox. Other reported manifestations included cervical lymphadenopathy (69%), sore throat (63%), mouth ulcers (50%), cough (41%), and diarrhea (11%).

Since February 1996, a total of 511 human monkeypox cases have been identified in the Katako-Kombe and Lodja health zones. Onsets of illness peaked in August 1996 and August 1997 (Figure 1). Case-patients resided in 54 villages in Katako-Kombe and 24 in Lodja. The highest AR (113) occurred in Akungula (1997 population: 399), the epicenter of the outbreak in August 1996. The largest number of cases occurred in the adjacent village of Ekanga (54 cases clustered in 13 housing compounds) (AR=43). Cases increased substantially in Ekanga and the two nearby villages of Ombeka (21 cases; AR=22) and Dimanga (seven cases; AR=20) in March 1997. The peak in August 1997 primarily represented case-patients who resided in other villages.

Of the 419 cases identified during the investigation initiated in October 1997, 94 (22%) were primary, and the remainder were secondary; 147 (35%) reported having traveled outside their home village during the 3 weeks preceding disease onset. Of the secondary cases, 53% reported having had antecedent contact with another case-patient in the neighborhood, 48% in the housing compound, and 42% in an individual household. Primary cases with no apparent association with the clusters in the Akungula/Ekanga occurred in 49 of the 78 affected villages.

Human Monkeypox — Continued

FIGURE 1. Number of cases of human monkeypox identified during two separate investigations — Kasai Oriental, Democratic Republic of Congo, February 1996–October 1997



*Initiated February 1996 and concluded February 1997; n=92.
†Initiated October 1997; n=419.

Reported by: A Aplogan, MD, V Mangindula, PT Muamba, MD, GN Mwema, PhD, L Okito, MD, RG Pebody, MBChB, CE Roth, MBBChir, LS Shongo, M Szczeniowski, KF Tshioko, MD, Monkeypox Investigation Team. Epicentre, Paris, France. Institut National de Recherché Biomedicale; School of Public Health, Univ of Kinshasa, Democratic Republic of Congo. European Program for Intervention Epidemiology Training, Brussels, Belgium. Public Health Laboratory Svc, England and Wales. Emerging and Other Communicable Diseases Surveillance and Control, World Health Organization, Geneva, Switzerland. Viral Examthems and Herpesvirus Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: This report describes the largest recorded outbreak of human monkeypox. Human-to-human transmission has continued for 2 years with peaks each August, and cases have occurred throughout large areas of the Katako-Kombe and Lodja health-care zones. The large number of cases in this outbreak may reflect an increase in the number of susceptible persons as a result of the cessation of smallpox vaccination, which is highly effective for preventing monkeypox, or changes in other factors related to MPV transmission. Clinical disease in this outbreak was milder than in previous outbreaks, when case fatality was approximately 10% (*1*).

In this outbreak, secondary ARs were estimated to be 8% (95% confidence interval= 5%–12%), which is similar to secondary ARs estimated during monkeypox surveillance in Zaire during the early 1980s (4%–12%) (*1*). Transmission has ceased at the epicenter of this outbreak and surrounding villages. The more recently detected cases

Human Monkeypox — Continued

have occurred in geographically distant clusters; most of these cases have not been obviously associated with cases in the epicenter. These recent cases may instead have resulted from independent introductions of the virus into the human population through animal contact. Ongoing surveillance is essential to monitor the outbreak and secondary ARs, clarify primary and secondary transmission mechanisms, and consider intervention strategies. If human monkeypox transmission is sustained without introduction from reservoir animals, vaccinia vaccination (*5*) targeted to the appropriate population may be considered.

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As part of its continuing commemoration of CDC's 50th anniversary in July 1996, MMWR *is reprinting selected* MMWR *articles of historical interest to public health, accompanied by current editorial notes. Reprinted below is the report published August 31, 1979, describing trends in the incidence of birth defects in the United States during 1970–1977.*

Surveillance Summaries

Temporal Trends in the Incidence of Birth Defects — United States

Through CDC's Birth Defects Monitoring Program (BDMP), a total of 161 categories of birth defects are analyzed quarterly to determine increases or other unusual trends. Sixteen of these malformations have been selected for review in this report because they occur in sufficient numbers to provide relatively stable rates, the coding categories for them are relatively homogenous, and they represent defects of different organ systems.

Data on the incidence of these 16 malformations in the United States in 1970-1971 and in 1976-1977 were compared, and the geometric mean percentage change in rates that occurred in the 6-year interval between these periods was calculated (Table 1). Six malformations changed an average of 5% or more per year. Anencephaly and spina bifida—2 of the most common, serious, and easily diagnosable defects—decreased 5.4% and 6.7% per year, respectively (Figure 1). The cause of this decrease is unknown.

The reported incidence of ventricular septal defect doubled, and that for patent ductus arteriosus tripled (Figure 1). A substantial search for the cause of these increases was done in the greater Atlanta area, but it could not be determined whether these increases were due to biologic factors or reporting methods (*1,2*).

Birth Defects — Continued

TABLE 1. Incidence of selected malformations reported to the Birth Defects Monitoring Program, 1970-1971 and 1976-1977

Malformation	Cases		Rates*		Mean annual percent change
	1970-1971	1976-1977	1970-1971	1976-1977	
Anencephaly	949	833	5.48	3.94	– 5.4
Spina bifida without anencephaly	1,306	1,053	7.55	4.97	– 6.7
Hydrocephalus without spina bifida	833	925	4.81	4.37	– 1.6
Transposition of great vessels	131	175	0.76	0.83	+ 1.5
Ventricular septal defect	770	1,889	4.45	8.92	+12.3
Patent ductus arteriosus	686	2,804	3.96	13.25	+22.3
Cleft palate without cleft lip	873	1,093	5.05	5.16	+ 0.4
Cleft lip with or without cleft palate	1,715	1,890	9.91	8.93	– 1.7
Clubfoot without CNS† defects	4,756	4,912	27.49	23.21	– 2.8
Reduction deformity	547	705	3.16	3.33	+ 0.9
Hip dislocation without CNS defects	1,382	6,407	7.99	30.27	+24.9
Tracheo-esophageal fistula	289	327	1.67	1.54	– 1.3
Rectal atresia and stenosis	648	679	3.75	3.21	– 2.6
Renal agenesis	123	263	0.71	1.24	+ 9.7
Hypospadias	3,565	5,036	40.02‡	46.22‡	+ 2.4
Down's syndrome	1,413	1,590	8.17	7.51	– 1.4

*Cases per 10,000 total births.
†Central nervous system.
‡Cases per 10,000 male births.

The incidence of congenital hip dislocation (without central nervous system anomalies) increased an average of almost 25% per year. Part of the increase was artifactual: a coding change in 1974 assigned hip dysplasia to the hip dislocation category. In addition, the diagnosis of this defect lacks clear, reproducible criteria. Changes in the manner of newborn examinations can, therefore, make substantial changes in reported incidence.

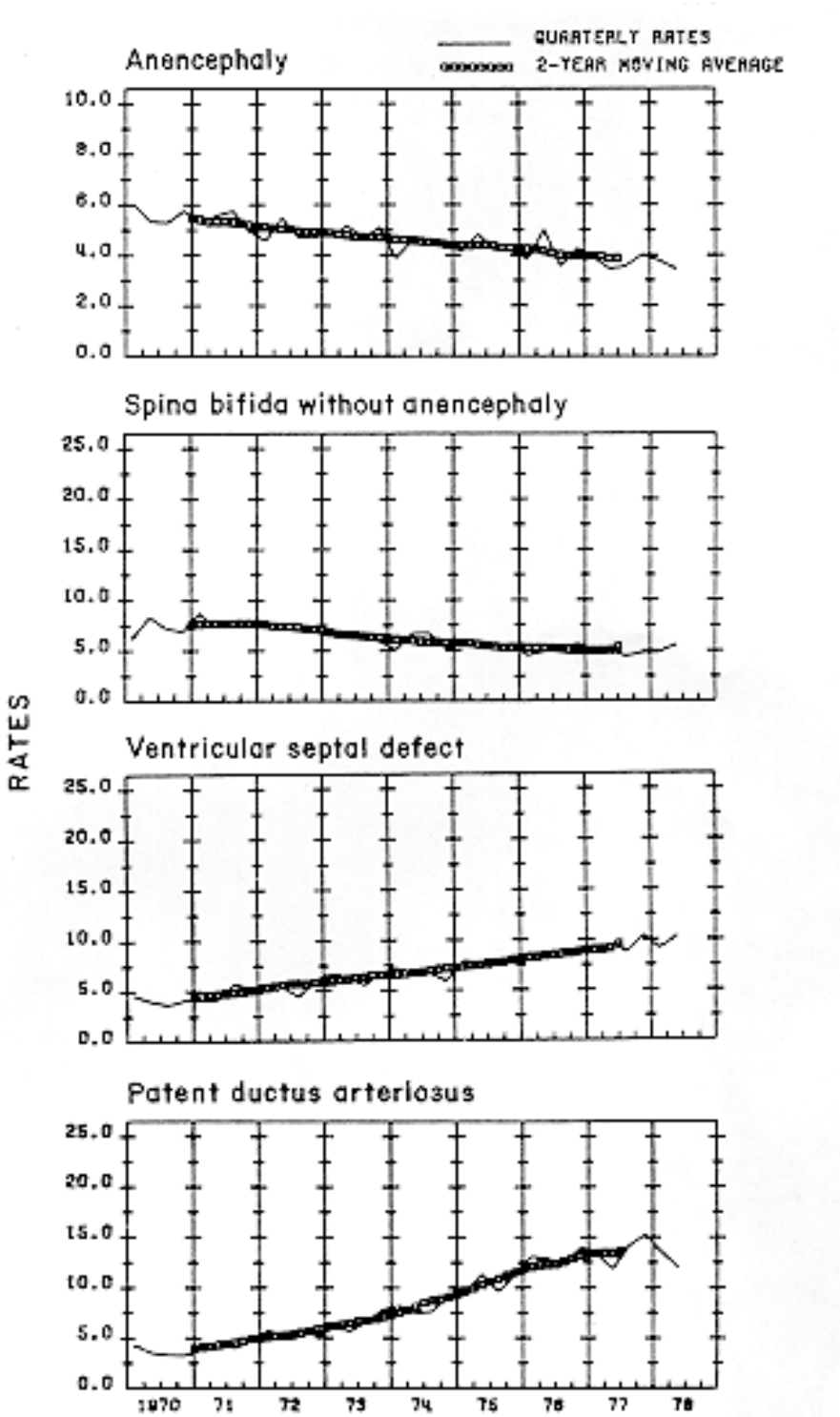
The reported incidence rate of renal agenesis increased an average of 9.7% per year. This increase—as yet unexplained—is under investigation.

Reported by Birth Defects Br, Chronic Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: The BDMP is conducted by CDC's Birth Defects Branch with data provided under contract by the Commission on Professional and Hospital Activities (CPHA) in Ann Arbor, Michigan. BDMP's primary purpose is to monitor the incidence of birth defects and other newborn conditions. Abstracts of hospital discharge summaries are coded by medical records staff from participating hospitals and submitted regularly to CPHA for data processing. CPHA uses some of the data on newborns to produce monitoring reports and other tabulations; these are sent to CDC for analysis. Since 1970, the tabulations have covered the births of 8 million infants. The present annual number of births covered, from 1,130 hospitals, is 975,000—about one-third of the births in the country.

Birth Defects — Continued

FIGURE 1. Trends in reported incidence* of 4 birth defects reported to the Birth Defects Monitoring Program, by quarter of birth, January 1970 through June 1978



*Rates per 10,000 total births.

Birth Defects — Continued

The advent of new means for the prevention of birth defects or of a widespread exposure to a powerful new teratogen would likely be followed by substantial changes in the incidence of birth defects. Rh hemolytic disease, for example, decreased following the widespread availability and use of rhesus immune globulin (RhIG) (*3*). In the period covered in this report, the incidence of the majority of birth defects neither substantially decreased nor increased. The paucity of decreasing rates indicates the need for discovering and implementing prevention strategies for birth defects—the cause of nearly 20% of infant mortality in the United States. The paucity of increases suggests that few, if any, widespread and powerful new teratogens were introduced. The possibility of such an introduction requires continuing surveillance of the incidence of birth defects in the United States.

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Editorial Note—1997: Birth defects are the leading cause of infant mortality in the United States (*1,2*), and 18 of the most common birth defects account for annual expenditures of $8 billion (*2*). Even though the prevention of birth defects improves the health of children, prevention efforts have been hampered because the specific causes of most (75%) are unknown. CDC's involvement in the surveillance for birth defects began in late 1967 when Clark Heath, M.D., Chief of the Leukemia Section, Viral Diseases Branch, Epidemiology Program, and Epidemic Intelligence Service Officer Allan Ebbin, M.D., with the support of CDC Chief Epidemiologist Alexander Langmuir, M.D., and Arthur Falek, M.D., and Suzanne Schimpler of the Georgia Mental Health Institute, established birth defects surveillance in metropolitan Atlanta (*3*). This local surveillance program provided not only excellent surveillance data but also the foundation on which CDC built a group of public health scientists dedicated to determining the causes of birth defects and to preventing birth defects.

One purpose of birth defects surveillance is to provide an early warning of an "emerging" birth defects problem. Moreover, an important rationale for birth defects surveillance is that appropriate surveillance programs might have enabled more rapid identification of the birth defects associated with maternal use of thalidomide in Europe during the late 1950s and early 1960s and, thereby, might have contributed to a more timely ending of that tragic epidemic. However, subsequent epidemics of birth defects cannot be predicted, and a single local surveillance system, while providing useful information about exposures that are distributed relatively equally throughout the country, cannot provide data about other regions. For these reasons, in the early 1970s, Virginia Apgar, M.D., and her colleagues at the March of Dimes/Birth Defects Foundation articulated the need for a national birth defects surveillance system. After discussions with Dr. Apgar and her colleagues, CDC's William Flynt, M.D., with funding from the National Institute for Child Health and Human Development, established the national BDMP in 1973 (*4*).

In the August 31, 1979, issue of *MMWR*, BDMP rates for 16 birth defects during 1970–1971 were compared with those during 1976–1977; the results indicated that the reported rates for most birth defects were stable, although rates for some were either increasing or decreasing. These findings indicated that the epidemiologies of various

Birth Defects — Continued

birth defects can be as different as the varying epidemiologies of different infectious diseases. The figure presented in the 1979 *MMWR* showed declines in the rates of spina bifida and anencephaly—two common and severe birth defects with many similar epidemiologic findings. These declines were consistent with improvement in the environment (e.g., improved nutrition and fewer exposures to harmful chemicals).

During the weeks surrounding publication of the 1979 *MMWR*, CDC staff members learned of a study in England suggesting that one or more vitamins might prevent spina bifida and anencephaly (*5*). At the same time, CDC's David Erickson, D.D.S., and colleagues were designing the Atlanta birth defects case-control study to assess the increased risk for birth defects among children of Vietnam veterans (*6*); the design included questions about the mothers' use of vitamins before and during the early weeks of pregnancy. Findings of this study included a strong association between regular maternal consumption of multivitamins before and during early pregnancy and a reduction in risk for having a child with spina bifida and/or anencephaly (*7*).

In 1991, the results of a randomized clinical trial from the United Kingdom established that folic acid was the specific vitamin associated with prevention of spina bifida and anencephaly (*8*). Following publication of those results, the CDC birth defects group assisted in fostering a science-based public policy for this "emerged" prevention opportunity. In particular, CDC guidelines for high-risk women (i.e., those with a previous spina bifida- or anencephaly-affected pregnancy) were published in *MMWR* 2 weeks after the publication of the randomized clinical trial (*9*). Findings of earlier case-control studies (*7*) supported the Public Health Service (PHS) recommendation published September 11, 1992, that all women of reproductive age consume 400 μg of folic acid each day to prevent neural tube defects (*10*). In the United States, these two recommendations have served as the foundation for intervention programs subsequently implemented by industry, public health organizations, and voluntary agencies (e.g., the March of Dimes Birth Defects Foundation and the Spina Bifida Association of America). In 1996, the Food and Drug Administration issued regulations that required "enriched" cereal-grain products to be fortified with folic acid no later than January 1, 1998 (*11*). As a result of this fortification, the consumption of folic acid by U.S. women will increase by 100 μg per day.

Birth defects surveillance data are important in evaluating the effectiveness of prevention programs. The BDMP was discontinued during the mid-1990s because of changing technology, but was replaced by a network of state-based surveillance systems. In 1992, Congress mandated that CDC establish such a network to collect, analyze, and share data needed to prevent birth defects. By 1996, CDC assistance to states had included the establishment of the National Birth Defects Prevention Network (NBDPN), with a mission of creating and maintaining a national network of state- and population-based programs for birth defects surveillance and research. These programs assess the impact of birth defects on children and families; identify factors that can be used to develop primary prevention strategies; and assist families and their health-care providers in secondary prevention of disabilities. NBDPN recently reported on data from 21 states (*12*). These surveillance systems will be used to assist health officials in assessing efforts to prevent folic acid-preventable birth defects and in providing surveillance data for etiologic research.

State-based birth defects surveillance systems have not yet detected changes in the rates of spina bifida and anencephaly. Conversely, surveys of folic acid con-

Birth Defects — Continued

sumption indicate that approximately 45 million women of reproductive age still do not consume sufficient folic acid to protect the children they may have from neural tube defects (*13*). During the next 10 years, additional programs to increase the amount of folic acid consumed by women of reproductive age could result in the prevention of most folic-acid preventable spina bifida.

In 1996, CDC intensified efforts to prevent birth defects by establishing a new program comprising eight Centers for Birth Defects Research and Prevention (CBDRP). These eight centers collaborate in epidemiologic studies to provide a timely, continuing source of information on potential causes of birth defects. Each center also will maintain center-specific, investigator-initiated research projects. This new program should assist in advancing the prevention of birth defects by identifying modifiable causes of birth defects, just as earlier epidemiologic studies identified folic acid as the agent that can prevent serious birth defects in thousands of children each year.

1997 Editorial Note by: Godfrey P Oakley, MD, Director, Division of Birth Defects and Developmental Disabilities, National Center for Environmental Health, CDC.

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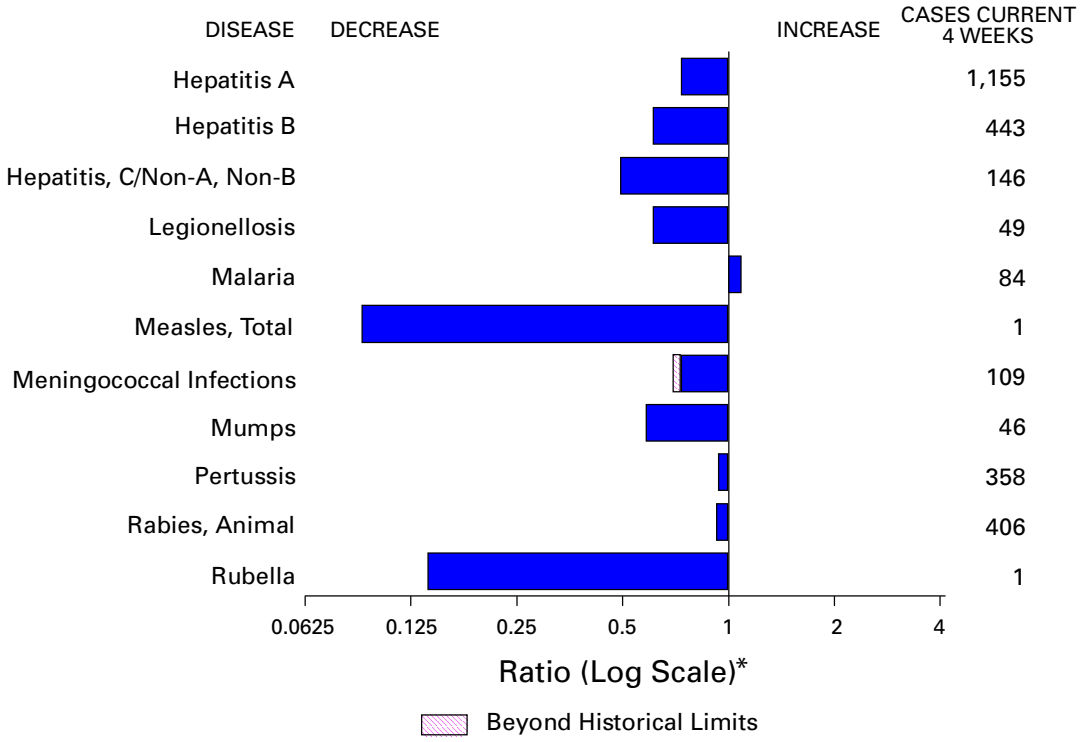
FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending December 6, 1997, with historical data — United States



*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 December 6, 1997 (49th Week)

	Cum. 1997		Cum. 1997
Anthrax	-	Plague	3
Brucellosis	71	Poliomyelitis, paralytic¶	1
Cholera	9	Psittacosis	37
Congenital rubella syndrome	4	Rabies, human	2
Cryptosporidiosis*	1,829	Rocky Mountain spotted fever (RMSF)	389
Diphtheria	5	Streptococcal disease, invasive Group A	1,298
Encephalitis: California*	115	Streptococcal toxic-shock syndrome*	30
eastern equine*	10	Syphilis, congenital**	525
St. Louis*	13	Tetanus	41
western equine*	-	Toxic-shock syndrome	122
Hansen Disease	104	Trichinosis	8
Hantavirus pulmonary syndrome*†	17	Typhoid fever	325
Hemolytic uremic syndrome, post-diarrheal*	60	Yellow fever	-
HIV infection, pediatric*§	214		

-: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 to the Division of HIV/AIDS Prevention–Surveillance, and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update November 25, 1997.
¶One suspected case of polio with onset in 1997 has also been reported to date.
**Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending December 6, 1997, and December 7, 1996 (49th Week)

Reporting Area	AIDS		Chlamydia		*Escherichia coli* O157:H7		Gonorrhea		Hepatitis C/NA,NB	
					NETSS†	PHLIS§				
	Cum. 1997*	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996
UNITED STATES	53,031	62,102	433,406	405,690	2,223	1,486	269,984	300,969	2,951	3,273
NEW ENGLAND	2,252	2,544	16,228	16,176	190	121	5,356	5,994	54	96
Maine	51	42	949	848	17	-	63	50	-	-
N.H.	40	85	752	710	12	14	89	154	8	7
Vt.	32	19	390	371	8	3	46	45	2	25
Mass.	808	1,249	6,789	6,520	103	89	1,978	2,050	37	58
R.I.	142	166	1,696	1,737	10	-	378	470	7	6
Conn.	1,179	983	5,652	5,990	40	15	2,802	3,225	-	-
MID. ATLANTIC	16,043	17,301	56,883	54,682	137	47	35,482	40,048	337	284
Upstate N.Y.	2,390	2,384	N	N	95	-	5,816	7,006	260	228
N.Y. City	8,610	9,488	29,709	25,815	13	8	13,786	12,670	-	3
N.J.	3,044	3,333	8,847	11,655	29	24	6,706	8,403	-	-
Pa.	1,999	2,096	18,327	17,212	N	15	9,174	11,969	77	53
E.N. CENTRAL	3,957	4,752	65,540	79,944	395	269	40,352	54,843	475	451
Ohio	798	1,052	18,662	19,500	106	52	11,713	14,192	19	33
Ind.	488	544	8,616	9,578	78	40	5,618	6,104	11	8
Ill.	1,715	2,079	10,214	21,849	67	31	4,968	15,439	78	88
Mich.	716	824	19,616	19,269	144	102	14,284	14,438	367	322
Wis.	240	253	8,432	9,748	N	44	3,769	4,670	-	-
W.N. CENTRAL	1,055	1,426	29,849	29,851	523	397	13,219	14,612	150	90
Minn.	194	269	6,972	5,096	225	198	2,559	2,205	4	4
Iowa	100	82	4,195	3,960	116	74	1,082	1,077	33	41
Mo.	505	741	11,043	11,590	54	69	6,893	8,142	97	22
N. Dak.	12	12	623	932	15	12	44	33	3	-
S. Dak.	8	12	1,134	1,386	28	32	129	165	-	-
Nebr.	90	93	2,201	2,621	60	-	899	1,025	3	8
Kans.	146	217	3,681	4,266	25	12	1,613	1,965	10	15
S. ATLANTIC	13,084	15,523	84,661	47,015	204	130	83,968	87,525	255	193
Del.	214	264	1,276	1,148	5	4	1,149	1,382	-	1
Md.	1,811	2,154	7,045	U	25	13	12,318	10,567	19	4
D.C.	955	1,193	N	N	2	-	4,116	4,254	-	-
Va.	1,113	1,095	10,785	10,975	N	41	8,120	8,652	24	16
W. Va.	121	112	2,756	2,162	N	1	871	773	16	9
N.C.	795	833	17,205	U	70	34	17,010	17,515	48	46
S.C.	754	804	11,520	U	9	8	10,602	10,735	37	32
Ga.	1,604	2,304	11,630	11,445	41	-	13,561	17,151	U	-
Fla.	5,717	6,764	22,444	21,285	44	29	16,221	16,496	111	85
E.S. CENTRAL	1,908	2,083	30,054	30,480	94	39	30,199	33,875	319	540
Ky.	338	362	5,950	6,325	30	-	3,787	3,990	13	29
Tenn.	745	737	11,794	12,621	46	39	10,339	11,249	223	372
Ala.	512	569	8,038	7,873	14	-	11,216	12,676	11	8
Miss.	313	415	4,272	3,661	4	-	4,857	5,960	72	131
W.S. CENTRAL	5,663	6,275	55,476	54,855	67	16	36,821	36,585	465	370
Ark.	216	245	2,296	1,631	9	5	3,953	3,704	10	8
La.	997	1,367	9,603	6,941	6	3	9,316	7,556	219	218
Okla.	275	245	6,779	6,928	10	5	4,398	4,562	7	1
Tex.	4,175	4,418	36,798	39,355	42	3	19,154	20,763	229	143
MOUNTAIN	1,527	1,794	22,145	24,591	236	138	7,753	7,082	459	529
Mont.	41	34	1,005	1,162	24	-	46	34	21	18
Idaho	50	36	1,559	1,399	35	23	147	93	79	96
Wyo.	14	6	585	578	17	12	50	40	221	172
Colo.	352	461	1,896	3,467	83	57	2,059	1,317	36	62
N. Mex.	163	154	3,014	3,689	7	6	1,062	844	56	72
Ariz.	374	535	10,550	10,087	N	30	3,596	3,494	25	69
Utah	134	176	1,655	1,456	59	-	262	268	5	19
Nev.	399	392	1,881	2,753	11	10	531	992	16	21
PACIFIC	7,542	10,403	72,570	68,096	377	325	16,834	20,405	437	720
Wash.	617	637	8,764	8,823	118	131	1,809	1,936	27	50
Oreg.	286	438	4,701	5,088	78	93	700	817	3	8
Calif.	6,510	9,128	56,085	51,259	169	89	13,509	16,786	258	455
Alaska	40	30	1,436	1,235	12	3	360	421	-	3
Hawaii	89	170	1,584	1,691	N	9	456	445	149	204
Guam	2	4	193	349	N	-	27	61	-	6
P.R.	1,975	2,166	U	U	41	U	519	604	142	144
V.I.	95	18	N	N	N	U	-	-	-	-
Amer. Samoa	-	-	-	-	N	U	-	-	-	-
C.N.M.I.	1	-	N	N	N	U	17	11	2	-

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

*Updated monthly to the Division of HIV/AIDS Prevention–Surveillance, and Epidemiology, National Center for HIV, STD, and TB Prevention, last update November 25, 1997.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending December 6, 1997, and December 7, 1996 (49th Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997
UNITED STATES	959	1,037	9,869	14,563	1,656	1,542	7,416	10,828	15,862	18,210	7,378
NEW ENGLAND	78	73	2,803	3,970	83	71	119	178	406	394	1,159
Maine	2	3	8	54	1	8	2	-	11	20	209
N.H.	7	4	38	46	10	3	-	1	15	15	43
Vt.	13	5	8	23	2	8	-	-	5	1	112
Mass.	27	31	347	262	29	26	59	77	235	197	259
R.I.	12	30	385	518	10	8	2	4	33	30	38
Conn.	17	N	2,017	3,067	31	18	56	96	107	131	498
MID. ATLANTIC	205	227	5,715	8,999	419	440	343	490	2,939	3,367	1,575
Upstate N.Y.	68	72	2,324	4,210	65	83	37	71	416	416	1,154
N.Y. City	12	19	103	398	244	259	81	131	1,502	1,740	U
N.J.	20	14	1,361	1,987	77	66	119	170	641	702	181
Pa.	105	122	1,927	2,404	33	32	106	118	380	509	240
E.N. CENTRAL	282	340	93	407	129	165	631	1,528	1,502	1,863	176
Ohio	120	109	58	28	19	13	195	567	228	289	115
Ind.	50	50	29	30	16	15	148	197	146	174	13
Ill.	14	34	6	10	39	81	69	417	731	958	20
Mich.	83	103	-	20	40	40	128	176	280	349	28
Wis.	15	44	U	319	15	16	91	171	117	93	-
W.N. CENTRAL	70	61	147	213	59	42	169	329	508	463	454
Minn.	3	10	112	106	29	19	22	41	135	101	57
Iowa	12	10	8	18	10	2	8	23	56	66	152
Mo.	31	18	20	49	11	10	106	219	219	185	24
N. Dak.	2	-	-	1	3	1	-	-	12	8	77
S. Dak.	2	3	1	-	1	-	-	-	10	17	62
Nebr.	15	15	2	5	1	3	7	10	17	21	2
Kans.	5	5	4	34	4	7	26	36	59	65	80
S. ATLANTIC	123	159	730	677	338	290	3,026	3,602	3,121	3,306	2,954
Del.	11	12	85	173	5	4	20	35	18	36	54
Md.	27	34	474	338	83	82	850	677	299	272	574
D.C.	4	7	9	3	20	8	105	122	95	123	5
Va.	26	37	62	49	65	55	224	371	275	293	641
W. Va.	N	N	10	11	1	6	3	9	49	51	83
N.C.	14	12	34	65	19	29	687	1,015	410	462	852
S.C.	8	7	2	8	18	12	346	375	256	326	175
Ga.	1	3	7	1	48	27	505	650	591	599	306
Fla.	31	47	47	29	79	67	286	348	1,108	1,144	264
E.S. CENTRAL	48	50	74	78	33	38	1,531	2,312	1,083	1,263	264
Ky.	7	9	9	26	8	10	126	149	173	215	27
Tenn.	33	21	40	20	9	14	693	808	357	426	145
Ala.	4	5	11	8	10	6	395	510	397	397	87
Miss.	4	15	14	24	6	8	317	845	156	225	5
W.S. CENTRAL	36	23	92	114	56	67	1,114	1,706	2,205	2,340	318
Ark.	-	1	25	22	5	2	130	231	171	192	54
La.	6	2	5	8	15	7	344	470	203	231	5
Okla.	7	10	27	22	8	-	112	170	159	160	104
Tex.	23	10	35	62	28	58	528	835	1,672	1,757	155
MOUNTAIN	62	54	23	8	65	58	179	147	440	603	184
Mont.	1	1	-	-	2	7	-	-	17	19	48
Idaho	2	-	4	1	-	-	1	4	15	9	-
Wyo.	1	7	5	3	2	7	-	2	2	6	31
Colo.	17	11	6	-	30	24	14	24	75	97	28
N. Mex.	3	2	1	1	8	2	16	7	53	84	12
Ariz.	12	20	4	-	11	7	134	88	202	224	51
Utah	19	6	1	1	3	5	5	3	30	51	6
Nev.	7	7	2	2	9	6	9	19	46	113	8
PACIFIC	55	50	192	97	474	371	304	536	3,678	4,611	294
Wash.	8	6	10	18	48	22	10	9	246	261	-
Oreg.	-	-	20	19	24	24	9	9	138	163	14
Calif.	46	38	160	59	391	312	283	514	3,087	3,927	256
Alaska	-	1	2	-	3	3	1	-	67	68	24
Hawaii	1	5	-	1	8	10	1	4	140	192	-
Guam	-	1	-	-	-	-	3	3	13	93	-
P.R.	-	-	-	-	5	2	225	205	212	182	64
V.I.	-	1	-	-	-	1	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	9	1	2	-	-

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending December 6, 1997, and December 7, 1996 (49th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported†		Total	
	Cum. 1997*	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	1997	Cum. 1997	1997	Cum. 1997	Cum. 1997	Cum. 1996
UNITED STATES	971	949	26,146	27,071	8,221	9,209	-	72	-	55	127	492
NEW ENGLAND	56	36	595	400	145	210	-	11	-	8	19	16
Maine	5	-	59	22	6	2	-	-	-	1	1	-
N.H.	9	11	34	21	17	18	-	1	-	-	1	-
Vt.	3	1	14	12	7	13	-	-	-	-	-	2
Mass.	34	22	235	190	54	85	-	10	-	6	16	12
R.I.	3	2	127	22	16	10	-	-	-	-	-	-
Conn.	2	-	126	133	45	82	-	-	-	1	1	2
MID. ATLANTIC	135	197	1,771	1,839	1,227	1,309	-	18	-	8	26	37
Upstate N.Y.	36	46	335	414	290	320	-	2	-	3	5	11
N.Y. City	35	51	655	587	414	466	-	8	-	2	10	11
N.J.	44	60	246	348	201	263	-	3	-	-	3	3
Pa.	20	40	535	490	322	260	-	5	-	3	8	12
E.N. CENTRAL	154	171	2,650	2,438	857	1,025	-	6	-	3	9	20
Ohio	82	87	300	713	87	116	-	-	-	-	-	5
Ind.	18	13	309	343	92	130	-	-	-	-	-	-
Ill.	37	48	647	716	209	325	-	6	-	1	7	3
Mich.	15	11	1,253	481	426	367	-	-	-	2	2	3
Wis.	2	12	141	185	43	87	-	-	-	-	-	9
W.N. CENTRAL	60	40	2,039	2,444	436	509	-	12	-	5	17	23
Minn.	44	25	191	133	42	67	-	3	-	5	8	18
Iowa	7	4	451	315	46	67	-	-	-	-	-	1
Mo.	5	8	1,018	1,302	296	301	-	1	-	-	1	3
N. Dak.	-	-	10	138	4	2	-	-	-	-	-	-
S. Dak.	2	1	21	42	1	5	-	8	-	-	8	-
Nebr.	1	1	102	144	15	38	-	-	-	-	-	-
Kans.	1	1	246	370	32	29	-	-	-	-	-	1
S. ATLANTIC	158	170	1,998	1,311	1,194	1,254	-	2	-	13	15	11
Del.	-	2	30	21	6	9	-	-	-	-	-	1
Md.	56	61	206	234	175	161	-	-	-	2	2	2
D.C.	-	5	33	36	29	32	-	-	-	1	1	-
Va.	13	9	216	176	121	131	-	-	-	1	1	3
W. Va.	4	10	11	17	16	31	-	-	-	-	-	-
N.C.	21	25	196	173	245	322	-	-	-	2	2	2
S.C.	4	5	108	56	94	97	-	-	-	1	1	-
Ga.	32	34	621	152	126	32	-	-	-	1	1	2
Fla.	28	19	577	446	382	439	-	2	-	5	7	1
E.S. CENTRAL	45	25	579	1,194	648	844	-	-	-	-	-	2
Ky.	6	6	69	52	37	75	-	-	-	-	-	-
Tenn.	25	9	360	743	417	471	-	-	-	-	-	2
Ala.	14	9	82	193	74	73	-	-	-	-	-	-
Miss.	-	1	68	206	120	225	U	-	U	-	-	-
W.S. CENTRAL	49	40	5,389	5,381	1,163	1,144	-	3	-	5	8	26
Ark.	1	-	207	451	59	77	U	-	U	-	-	-
La.	13	5	225	185	164	148	-	-	-	-	-	-
Okla.	30	30	1,337	2,324	47	24	U	-	U	1	1	-
Tex.	5	5	3,620	2,421	893	895	U	3	U	4	7	26
MOUNTAIN	90	53	4,059	4,237	847	1,081	-	6	-	2	8	157
Mont.	-	1	69	111	12	16	-	-	-	-	-	-
Idaho	1	1	134	232	52	86	-	-	-	-	-	1
Wyo.	4	-	39	38	39	44	-	-	-	-	-	1
Colo.	18	15	394	482	149	122	-	-	-	-	-	7
N. Mex.	9	10	342	342	245	399	-	-	-	-	-	17
Ariz.	32	18	2,162	1,607	192	221	-	5	-	-	5	8
Utah	3	8	533	1,010	91	103	-	-	-	1	1	118
Nev.	23	-	386	415	67	90	U	1	U	1	2	5
PACIFIC	224	217	7,066	7,827	1,704	1,833	-	14	-	11	25	200
Wash.	5	4	616	713	74	105	-	1	-	1	2	38
Oreg.	32	31	357	842	103	125	-	-	-	-	-	14
Calif.	173	174	5,927	6,117	1,496	1,575	-	11	-	8	19	45
Alaska	7	6	33	48	21	16	-	-	-	-	-	63
Hawaii	7	2	133	107	10	12	U	2	U	2	4	40
Guam	-	-	-	7	3	1	U	-	U	-	-	-
P.R.	-	2	255	240	1,347	969	-	-	-	-	-	3
V.I.	-	-	-	36	-	41	U	-	U	-	-	-
Amer. Samoa	-	-	-	-	-	-	U	-	U	-	-	-
C.N.M.I.	6	10	1	1	34	5	U	1	U	-	1	-

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

*Of 221 cases among children aged <5 years, serotype was reported for 117 and of those, 49 were type b.

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

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending December 6, 1997, and December 7, 1996 (49th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996
UNITED STATES	2,928	3,054	17	572	664	111	4,935	6,505	-	158	229
NEW ENGLAND	185	142	-	11	1	10	863	1,636	-	1	27
Maine	18	13	-	-	-	-	7	49	-	-	-
N.H.	15	9	-	-	-	2	126	161	-	-	-
Vt.	4	4	-	-	-	3	232	225	-	-	2
Mass.	92	59	-	4	1	5	456	1,134	-	1	21
R.I.	19	14	-	6	-	-	16	32	-	-	-
Conn.	37	43	-	1	-	-	26	35	-	-	4
MID. ATLANTIC	306	333	2	54	86	7	348	683	-	31	13
Upstate N.Y.	67	85	-	10	25	1	127	434	-	4	5
N.Y. City	45	50	-	3	18	-	59	53	-	27	5
N.J.	68	72	-	6	4	-	9	31	-	-	2
Pa.	126	126	2	35	39	6	153	165	-	-	1
E.N. CENTRAL	430	430	5	75	122	21	470	733	-	5	3
Ohio	157	146	3	34	42	6	158	271	-	-	-
Ind.	53	58	2	14	8	-	68	83	-	-	-
Ill.	138	129	-	13	23	11	108	162	-	2	1
Mich.	50	44	-	11	46	4	53	52	-	-	2
Wis.	32	53	-	3	3	-	83	165	-	3	-
W.N. CENTRAL	214	224	1	18	21	34	502	408	-	-	-
Minn.	34	28	-	6	6	24	305	317	-	-	-
Iowa	47	48	1	10	3	7	101	20	-	-	-
Mo.	91	86	-	-	9	1	62	44	-	-	-
N. Dak.	2	4	-	-	2	-	2	1	-	-	-
S. Dak.	5	10	-	-	-	-	5	4	-	-	-
Nebr.	15	23	-	2	-	2	14	9	-	-	-
Kans.	20	25	-	-	1	-	13	13	-	-	-
S. ATLANTIC	527	581	4	83	105	1	423	671	-	83	98
Del.	5	2	-	-	-	-	1	25	-	-	-
Md.	42	56	2	9	33	-	117	261	-	-	-
D.C.	9	5	-	-	-	-	3	3	-	1	1
Va.	58	57	-	18	16	-	52	98	-	1	2
W. Va.	18	17	-	-	-	-	6	6	-	-	-
N.C.	88	74	1	12	21	-	118	129	-	59	84
S.C.	57	60	-	11	7	-	29	45	-	19	1
Ga.	99	130	-	10	3	-	13	20	-	-	-
Fla.	151	180	1	23	25	1	84	84	-	3	10
E.S. CENTRAL	222	218	-	27	21	4	136	195	-	-	2
Ky.	45	28	-	3	-	1	57	141	-	-	-
Tenn.	82	59	-	6	1	1	38	21	-	-	-
Ala.	76	81	-	9	5	2	33	24	-	-	2
Miss.	19	50	U	9	15	U	8	9	U	-	N
W.S. CENTRAL	272	309	2	62	55	1	248	155	-	4	8
Ark.	31	32	U	1	1	U	60	8	U	-	-
La.	47	58	2	16	18	1	20	11	-	-	1
Okla.	39	39	U	-	1	U	48	19	U	-	-
Tex.	155	180	U	45	35	U	120	117	U	4	7
MOUNTAIN	173	174	-	55	24	19	1,128	540	-	7	7
Mont.	9	9	-	-	-	-	19	35	-	-	-
Idaho	10	23	-	3	-	-	586	103	-	2	2
Wyo.	4	4	-	1	1	-	7	8	-	-	-
Colo.	46	40	-	3	4	11	303	237	-	-	3
N. Mex.	28	26	N	N	N	8	132	62	-	-	-
Ariz.	43	37	-	33	1	-	36	32	-	5	1
Utah	15	16	-	8	3	-	24	22	-	-	-
Nev.	18	19	U	7	15	U	21	41	U	-	1
PACIFIC	599	643	3	187	229	14	817	1,484	-	27	71
Wash.	83	96	-	19	21	14	378	689	-	5	15
Oreg.	122	116	N	N	N	-	19	62	-	-	1
Calif.	385	416	3	141	175	-	393	696	-	14	52
Alaska	2	9	-	4	3	-	14	3	-	-	-
Hawaii	7	6	U	23	30	U	13	34	U	8	3
Guam	1	4	U	1	10	U	-	-	U	-	-
P.R.	10	12	-	7	1	-	2	3	-	-	-
V.I.	-	-	U	-	2	U	-	-	U	-	-
Amer. Samoa	-	-	U	-	-	U	-	-	U	-	-
C.N.M.I.	-	-	U	4	-	U	-	-	U	-	-

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

TABLE IV. Deaths in 122 U.S. cities,* week ending December 6, 1997 (49th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	616	484	86	34	4	8	64
Boston, Mass.	177	123	39	10	1	4	28
Bridgeport, Conn.	51	42	7	-	1	1	1
Cambridge, Mass.	21	14	4	3	-	-	-
Fall River, Mass.	24	21	2	1	-	-	1
Hartford, Conn.	U	U	U	U	U	U	U
Lowell, Mass.	30	25	2	3	-	-	2
Lynn, Mass.	16	13	2	1	-	-	3
New Bedford, Mass.	36	29	6	1	-	-	1
New Haven, Conn.	57	47	5	4	1	-	5
Providence, R.I.	75	61	9	3	-	2	5
Somerville, Mass.	4	3	-	1	-	-	1
Springfield, Mass.	34	29	5	-	-	-	5
Waterbury, Conn.	21	18	1	2	-	-	2
Worcester, Mass.	70	59	4	5	1	1	10
MID. ATLANTIC	2,279	1,582	415	208	41	32	122
Albany, N.Y.	45	34	8	3	-	-	2
Allentown, Pa.	23	22	1	-	-	-	-
Buffalo, N.Y.	U	U	U	U	U	U	U
Camden, N.J.	47	30	10	3	-	4	5
Elizabeth, N.J.	32	27	3	2	-	-	-
Erie, Pa.	46	36	7	2	-	1	1
Jersey City, N.J.	50	27	12	10	1	-	1
New York City, N.Y.	1,099	771	191	102	21	14	45
Newark, N.J.	78	31	28	14	2	3	7
Paterson, N.J.	32	16	7	6	3	-	2
Philadelphia, Pa.	398	259	86	36	9	7	24
Pittsburgh, Pa.§	56	40	10	4	1	1	3
Reading, Pa.	29	20	2	6	-	1	1
Rochester, N.Y.	153	122	22	9	-	-	11
Schenectady, N.Y.	31	26	4	1	-	-	5
Scranton, Pa.	28	21	4	2	1	-	2
Syracuse, N.Y.	81	63	9	5	3	1	6
Trenton, N.J.	33	22	8	3	-	-	6
Utica, N.Y.	18	15	3	-	-	-	1
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,439	1,634	504	174	67	60	136
Akron, Ohio	71	53	14	3	-	1	1
Canton, Ohio	38	29	9	-	-	-	5
Chicago, Ill.	402	226	98	48	18	12	33
Cincinnati, Ohio	134	85	22	13	8	6	11
Cleveland, Ohio	176	117	40	14	3	2	4
Columbus, Ohio	195	130	43	12	2	8	20
Dayton, Ohio	154	114	30	9	-	1	8
Detroit, Mich.	285	163	61	29	17	15	10
Evansville, Ind.	44	32	7	2	1	2	1
Fort Wayne, Ind.	78	59	18	1	-	-	3
Gary, Ind.	11	5	4	2	-	-	-
Grand Rapids, Mich.	57	37	12	3	1	4	7
Indianapolis, Ind.	232	158	50	16	3	5	-
Lansing, Mich.	68	54	11	1	1	1	7
Milwaukee, Wis.	163	123	28	7	5	-	12
Peoria, Ill.	54	42	8	3	1	-	2
Rockford, Ill.	65	45	15	3	-	2	2
South Bend, Ind.	56	45	8	1	1	1	4
Toledo, Ohio	95	71	16	3	5	-	5
Youngstown, Ohio	61	46	10	4	1	-	1
W.N. CENTRAL	830	587	145	43	17	16	61
Des Moines, Iowa	34	25	7	1	-	1	4
Duluth, Minn.	U	U	U	U	U	U	U
Kansas City, Kans.	36	23	8	5	-	-	3
Kansas City, Mo.	111	60	20	6	-	3	6
Lincoln, Nebr.	46	36	8	2	-	-	2
Minneapolis, Minn.	177	130	29	13	2	3	17
Omaha, Nebr.	85	58	17	2	4	4	3
St. Louis, Mo.	126	96	23	2	4	1	16
St. Paul, Minn.	125	99	16	7	3	-	6
Wichita, Kans.	90	60	17	5	4	4	4
S. ATLANTIC	1,184	753	226	124	53	28	72
Atlanta, Ga.	127	80	28	17	2	-	3
Baltimore, Md.	105	60	25	14	5	1	10
Charlotte, N.C.	155	103	29	11	6	6	15
Jacksonville, Fla.	182	121	32	21	2	6	6
Miami, Fla.	91	48	21	13	6	3	1
Norfolk, Va.	63	40	11	5	4	3	2
Richmond, Va.	77	36	15	12	10	4	3
Savannah, Ga.	58	41	12	2	3	-	4
St. Petersburg, Fla.	69	53	9	3	2	2	9
Tampa, Fla.	153	104	27	17	3	2	13
Washington, D.C.	81	54	11	8	7	1	6
Wilmington, Del.	23	13	6	1	3	-	-
E.S. CENTRAL	877	576	171	87	22	20	49
Birmingham, Ala.	186	119	37	19	7	3	11
Chattanooga, Tenn.	96	70	16	7	1	2	3
Knoxville, Tenn.	59	47	9	3	-	-	8
Lexington, Ky.	102	61	28	5	3	5	11
Memphis, Tenn.	142	88	30	20	2	2	10
Mobile, Ala.	86	59	13	9	2	3	-
Montgomery, Ala.	39	30	5	3	-	1	2
Nashville, Tenn.	167	102	33	21	7	4	4
W.S. CENTRAL	1,553	1,050	310	126	37	30	91
Austin, Tex.	95	62	16	12	2	3	8
Baton Rouge, La.	63	45	13	3	1	1	5
Corpus Christi, Tex.	U	U	U	U	U	U	U
Dallas, Tex.	269	180	50	26	9	4	13
El Paso, Tex.	44	36	1	7	-	-	1
Ft. Worth, Tex.	143	93	30	10	2	8	6
Houston, Tex.	438	277	106	36	14	5	29
Little Rock, Ark.	68	41	20	6	-	1	-
New Orleans, La.	U	U	U	U	U	U	U
San Antonio, Tex.	250	179	42	17	6	6	14
Shreveport, La.	43	29	10	2	2	-	4
Tulsa, Okla.	140	108	22	7	1	2	11
MOUNTAIN	860	601	159	69	21	9	83
Albuquerque, N.M.	134	99	26	7	2	-	10
Boise, Idaho	44	32	6	3	2	1	3
Colo. Springs, Colo.	83	57	19	5	2	-	11
Denver, Colo.	94	69	12	8	1	4	6
Las Vegas, Nev.	171	110	41	14	5	1	14
Ogden, Utah	30	20	6	4	-	-	3
Phoenix, Ariz.	37	15	15	5	1	1	6
Pueblo, Colo.	40	37	2	-	-	1	4
Salt Lake City, Utah	98	67	12	11	7	1	16
Tucson, Ariz.	129	95	20	12	1	-	10
PACIFIC	1,714	1,186	324	128	37	39	107
Berkeley, Calif.	16	9	5	2	-	-	1
Fresno, Calif.	68	49	8	5	2	4	5
Glendale, Calif.	32	25	6	1	-	-	1
Honolulu, Hawaii	71	55	13	2	-	1	5
Long Beach, Calif.	83	55	16	8	2	2	14
Los Angeles, Calif.	427	276	85	37	14	15	19
Pasadena, Calif.	36	25	5	6	-	-	8
Portland, Oreg.	125	88	24	7	2	4	4
Sacramento, Calif.	U	U	U	U	U	U	U
San Diego, Calif.	191	135	34	12	2	8	12
San Francisco, Calif.	158	104	33	17	3	1	15
San Jose, Calif.	114	86	19	9	-	-	8
Santa Cruz, Calif.	34	27	4	1	2	-	3
Seattle, Wash.	177	113	42	12	7	3	2
Spokane, Wash.	68	54	13	1	-	-	1
Tacoma, Wash.	114	85	17	8	3	1	9
TOTAL	12,352¶	8,453	2,340	993	299	242	785

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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