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Hypothermia-Related Deaths — Georgia, January 1996–December 1997, and United States, 1979–1995

Although hypothermia-related deaths are prevalent during the winter in states that have moderately cold (e.g., Illinois, New York, and Pennsylvania) to severely cold (e.g., Alaska and North Dakota) winters and in states with mountainous or desert terrain (e.g., Arizona, Montana, and New Mexico), hypothermia-related deaths also occur in states with milder climates (e.g., Georgia, Mississippi, and South Carolina), where weather systems can cause rapid changes in temperature. This report summarizes three hypothermia-related deaths in Fulton County, Georgia, representing persons in the highest risk groups for hypothermia; and summarizes hypothermia-related deaths in Georgia during January 1996–December 1997 and in the United States during 1979–1995 .

Case Reports

Case 1. In January 1996, a 35-year-old man was found dead in an abandoned apartment building complex. He was dressed in a T-shirt and trousers and was severely emaciated, with gangrene and mummification of both feet. On the day of his death, the minimum temperature recorded by the National Weather Service (NWS) for Atlanta was 18 F (–7.8 C). At autopsy, he was negative for ethanol and drugs but positive for HIV infection. Cause of death was attributed to environmental hypothermia.

Case 2. In February 1996, an 84-year-old woman was found dead outside her home. She was partially dressed and had blood on her face, feet, and hands. According to the medical examiner, the woman had left her home during the night to go next door to a family member's house when she became disoriented and fell. On the day of her death, the daily minimum temperature recorded by the NWS for Atlanta was 15 F (–9.4 C). At autopsy, gross and histopathologic examination of her brain showed changes consistent with Alzheimer disease. The cause of death was listed as hypothermia.

Case 3. In December 1996, a 38-year-old man was found dead in the parking lot of the building complex in which he lived. The man was fully dressed and was wearing a jacket. On the day of his death, the daily minimum temperature recorded by the NWS for Atlanta was 44 F (6.7 C). When the man was found, his body temperature was 80 F (26.7 C), and the outdoors ambient temperature was 72 F (22.2 C). At autopsy, the

Hypothermia-Related Deaths — Continued

decedent was well nourished and had a blunt-trauma injury to his head and abrasions on his face. His blood alcohol concentration was 0.37 g/dL, indicative of acute ethanol intoxication. The medical examiner concluded that the man died from hypothermia after falling and striking his face and head, which resulted in a skull fracture and unconsciousness.

Georgia

From January 1996 through December 1997, 14 deaths attributable to hypothermia were reported to the Georgia Division of Public Health. The average age of the decedents was 61 years (range: 1–84 years; median: 63 years); nine (64%) decedents were men. During 1997, five hypothermia-related deaths occurred in a densely populated urban area of Fulton County, part of the Atlanta metropolitan area.

United States

During 1979–1995 (the most recent year for which data are available), an annual average of 723 deaths in the United States were attributed to hypothermia (range: 551 in 1995 to 1021 in 1983). During this 17-year period, 12,368 deaths were attributable to environmental hypothermia or excessive cold (Table 1), for a rate of 0.3 deaths per 100,000 population (*International Classification of Diseases, Ninth Revision*

TABLE 1. Crude and adjusted rates* of hypothermia-related death, by state — United States, 1979–1995

State	Crude rate	Adjusted rate	State	Crude rate	Adjusted rate
Alabama	0.5	0.5	Missouri	0.3	0.1
Alaska	2.5	2.9	Montana	1.0	1.0
Arizona	0.4	0.3	Nebraska	0.3	0.2
Arkansas	0.4	0.3	Nevada	0.3	0.2
California	0.1	0	New Hampshire	0.3	0.2
Colorado	0.4	0.3	New Jersey	0.2	0.1
Connecticut	0.2	0.1	New Mexico	1.1	1.2
Delaware	0.4	0.4	New York	0.2	0
District of Columbia	1.2	1.0	North Carolina	0.6	0.5
Florida	0.1	0	North Dakota	0.8	0.7
Georgia	0.3	0.4	Ohio	0.2	0
Hawaii	0	0	Oklahoma	0.4	0.5
Idaho	0.5	0.5	Oregon	0.3	0.2
Illinois	0.4	0.4	Pennsylvania	0.3	0.1
Indiana	0.3	0.1	Rhode Island	0.2	0
Iowa	0.3	0.2	South Carolina	0.6	0.6
Kansas	0.4	0.2	South Dakota	1.1	1.0
Kentucky	0.4	0.2	Tennessee	0.4	0.4
Louisiana	0.2	0	Texas	0.1	0
Maine	0.3	0.2	Utah	0.3	0.3
Maryland	0.2	0.1	Vermont	0.5	0.3
Massachusetts	0.2	0	Virginia	0.5	0.5
Michigan	0.3	0.3	Washington	0.2	0
Minnesota	0.4	0.3	West Virginia	0.4	0.4
Mississippi	0.5	0.5	Wisconsin	0.4	0.2
			Wyoming	0.8	0.7

*Per 100,000 population.

Hypothermia-Related Deaths — Continued

[ICD-9], codes E901.0, E901.8, and E901.9; excludes man-made cold [E901.1]).* Approximately half (6036 [49%]) of all hypothermia-related deaths occurred among persons aged ≥65 years (Figure 1); the annual death rate for hypothermia in this age group was 1.2 per 100,000. The age-adjusted death rate for men was almost triple that for women (0.5, compared with 0.2 per 100,000, standardized to the 1980 U.S. population).

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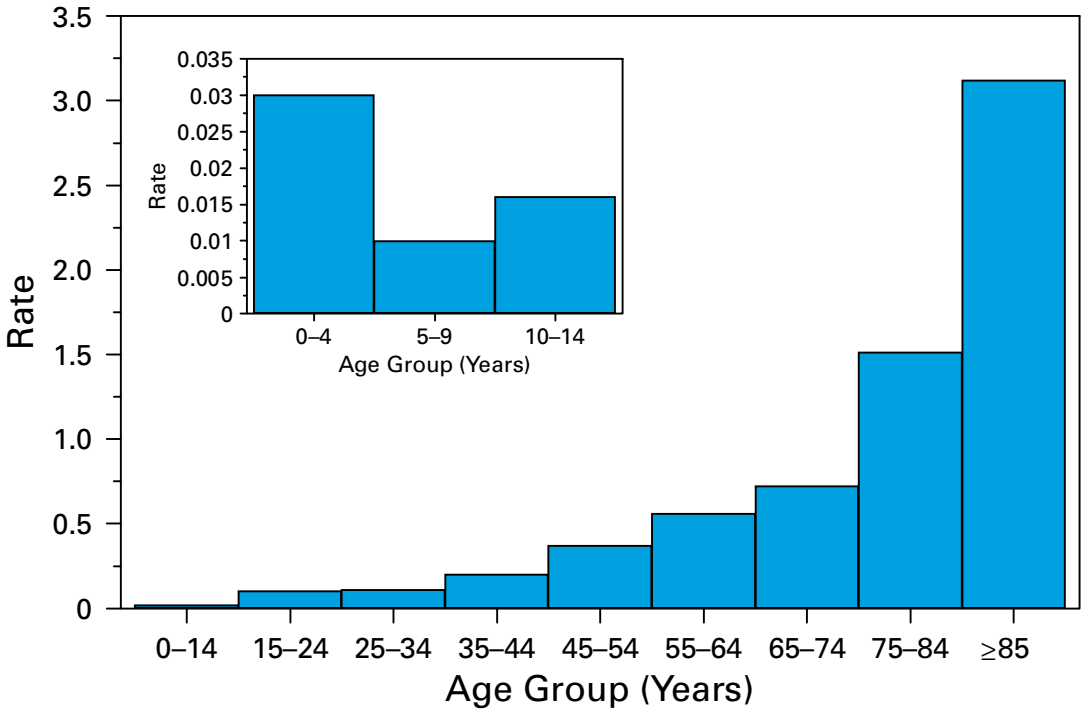
Editorial Note: Hypothermia is a medical emergency (*1*). It is clinically defined as unintentional lowering of the core body temperature to ≤95 F (≤35 C) (*2*). Environmental hypothermia results from a combination of heat loss by convection (degree of wind exposure), conduction, and radiation to the surrounding ambient air. The severity of hypothermia is indicated by the degree to which core body temperature is lowered: mild (93 F–95 F [34 C–35 C]), moderate (86 F–93 F [30 C–34 C]), and severe (<86 F [<30 C]) (*3*).

Risk for death from hypothermia is related to age, pre-existing disease, nutritional status, and alcohol and drug intoxication. Socioeconomic factors such as social isolation or homelessness (especially in combination with chronic disease such as

*These data were obtained from the Compressed Mortality File (CMF), maintained by CDC's National Center for Health Statistics, and have been prepared in accordance with the external cause-of-death codes from the ICD-9. The CMF contains information from death certificates filed in the 50 states and the District of Columbia.

FIGURE 1. Average annual rate* of hypothermia-related deaths, by age group — United States, 1979–1995



*Per 100,000 population.

Hypothermia-Related Deaths — Continued

immunosuppression) also may increase risk. Alcohol abuse results in vasodilation and interferes with peripheral vasoconstriction, an important physiologic mechanism of defense against cold. Neuroleptic drugs also predispose a person to hypothermia by inducing vasodilation and suppressing the shivering response; lower ambient temperatures amplify the hypothermic effects of these drugs (*4*). Other risk factors associated with hypothermia include hypothyroidism, mental illness, starvation, poverty, dehydration, immobilizing illnesses, and sustained contact with materials that promote conductive heat loss (e.g., water) (*5*). Hypothermia death rates increase with age, with the elderly at the highest risk for mortality because of physiologic changes (e.g., lack of appropriate vasoconstriction in response to cold environments, decreased basal metabolic rate, and impaired shivering mechanism) and underlying disease.

The onset of hypothermia is often insidious. Early manifestations of exposure include shivering, numbness, fatigue, poor coordination, slurred speech, impaired mental state, blueness or puffiness of the skin, and irrationality (*6*). Other clinical problems may include hematologic, respiratory, renal, and endocrinologic abnormalities. Coma, hypotension, apnea, and/or cardiac arrhythmia (*7,8*) characterize severe hypothermia.

Hypothermia-related morbidity and mortality can be prevented by early recognition of symptoms and prompt medical attention. Persons who are outdoors for extended periods during cold weather should wear insulated or layered clothing, including headgear, that does not retain moisture; maintain their fluid and calorie intake; abstain from drinking alcoholic beverages; and avoid overexertion and excessive sweating. Public health strategies to reduce hypothermia-related deaths should be targeted toward high-risk populations (e.g., elderly and homeless persons). Preventive measures include educating the public and health-care providers about heat-preservation strategies and providing outreach programs that identify and shelter persons at risk, especially in large urban communities where there are larger groups of homeless persons (*9*).

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Lead Poisoning Associated with Imported Candy and Powdered Food Coloring — California and Michigan

Although the most common source of pediatric lead poisoning is dust within the home that contains deteriorated lead-based paint from walls and windowsills, other less common sources (*1–3*) can result in excess exposure among children (i.e., blood lead levels [BLLs] ≥10 μg/dL). This report describes two cases of pediatric lead poisoning associated with eating imported candy and food stuffs and underscores the importance of thorough history-taking to identify unusual sources of lead exposure.

Case 1

In 1993, a 6-year-old boy in California was identified by routine screening during a well-child examination as having a BLL of 59 μg/dL. During 1993–1997, he underwent chelation therapy seven times to reduce his BLL. His five siblings, ranging in age from 11 to 17 years, also were tested within 9 months of their brother and had BLLs of 35–46 μg/dL; the mother had a BLL of 26 μg/dL. In 1995, two cousins, aged 3 and 7 years, were identified with BLLs of 50 μg/dL and 57 μg/dL, respectively. In addition, a ninth child (a niece of the index case patient) was born in 1996 and had a BLL of 26 μg/dL at age 1 year.

No potential source of exposure was identified for the children and mother. However, on review of serial BLLs, elevations coincided with the return of the maternal aunt from visits to Mexico.

In 1997, repeated questioning of family members revealed that the aunt had transported in her personal baggage tamarindo candy jam products, produced in Mexico and restricted from importation into the United States since 1993, and had given it to the children. Although the family had been cautioned about the ingestion of ethnic remedies, they were unaware of the potential dangers of ingesting candy packaged in ceramic jars from Mexico.

No product was available from the family for analysis. The California Department of Health Services issued a health alert on April 3, 1998, warning consumers to avoid eating these products. In addition, the Food and Drug Administration (FDA) initiated administrative actions to prevent future importation of these products into the United States (*4*).

Case 2

In May 1997, a 3-year-old boy in Michigan had a BLL of 27 μg/dL. His 2-year-old brother had a BLL of 36 μg/dL. Subsequently, their home was cleaned professionally with a trisodium phosphate solution and a high-efficiency particulate air (HEPA) filter vacuum; interior dust samples were found negative for lead. Despite extensive history-taking and several environmental investigations of both the home and the father's workplace, no source of lead was determined.

By January 1998, the two brothers and both parents had BLLs of 50 μg/dL to 60 μg/dL. The brothers' BLLs increased after chelation therapy. In April 1998, samples of household spices were analyzed; no significant lead levels were found in any spice except lozeena, a bright orange powder used by Iraqis to color rice and meat, which contained 7.8%–8.9% lead.

Nine of 18 extended family members subsequently tested had elevated BLLs ranging from 25 μg/dL to 84 μg/dL. Elevated BLLs were found only among maternal

Lead Poisoning — Continued

relatives who had eaten food prepared with a single supply of lozeena. The lozeena had been purchased in Iraq and brought into the United States by the maternal grandmother. The contaminated lozeena was removed from the affected households, and the family was encouraged to destroy any frozen foods made with this supply of lozeena.

Customs officials were notified about the possibility of travelers bringing contaminated lozeena into the United States from Iraq. Educational materials were translated into Arabic, and health alerts were sent to local physicians. The Oakland County Health Department screened 212 persons in the community for lead, and no other elevated BLLs were identified.

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Editorial Note: Because lead poisoning in children can result from multiple sources, successful case management requires a systematic review of all potential sources of lead exposure. This review includes thorough history-taking and home inspection to prevent further lead exposure or clinical lead poisoning and to avoid increased lead absorption should chelation therapy be required.

When a child's BLLs are persistently elevated and case-management efforts fail to identify a source, screening other members of the index household for blood lead should be considered. Detecting excess lead exposure in more than one family member of the same household can be important to directing the investigation toward a shared source of exposure. Blood from other household contacts, extended family, or visitors that may regularly share this exposure source also should be screened for lead.

Several commercial retail lots of the tamarindo jellied fruit candy were embargoed by California in 1993 because of high lead levels in the product. The tamarindo products still are being sold in California through ethnic markets, swap meets, and itinerant vendors. Persons frequently bring these products into the United States in small quantities while traveling from Mexico. These products can be found under the brand names Margarita-brand Tamarindo Pulpa (with and without chili), Licona-imported Tamarindo, Picarindo-brand jellied tamarindo candy, and Jarrita Chonita-brand jellied tejocote candy with chili. All four fruit-derived products are packaged in stoneware or terra cotta ceramic jars. The lead-based glazing applied to the jars appears to be the major source of lead in these products. Improperly fired lead-glazed pottery is a well-known source of food adulteration (*1,3,5*). Candied jam in green jars had the highest lead levels. Both tamarindo and tejocote fruits are acidic, which increases lead leaching. However, some jams from plastic-lined jars contain substantial amounts of lead and may have been contaminated with lead from another source. Chili, an ingredient in some of these products, can be contaminated by lead through the practice of air-drying or fuel-assisted drying in Mexico, where leaded gasoline is used as fuel (R. Jacobs, PhD, FDA, San Francisco District Office, personal communication, 1998).

FDA recommends a 6-μg per day tolerable limit for dietary intake of lead for children aged <6 years to prevent the more subtle adverse neurologic and behavioral

Lead Poisoning — Continued

effects of lead exposure (*6*). A typical serving of 60 g of the tejocote product could expose a child to 6.7–1956.0 μg of lead; the same serving of the tamarindo products would provide 11.4–36.0 μg of lead.

Spices occasionally have been implicated as lead sources in other countries (T. Venkatesh, St. Johns Medical College, Bangalore, India, personal communication, 1998). Lead is sometimes added to certain ethnic foods or food supplements to impart a yellow or orange color or a sweet taste or to increase weight (*7*).

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

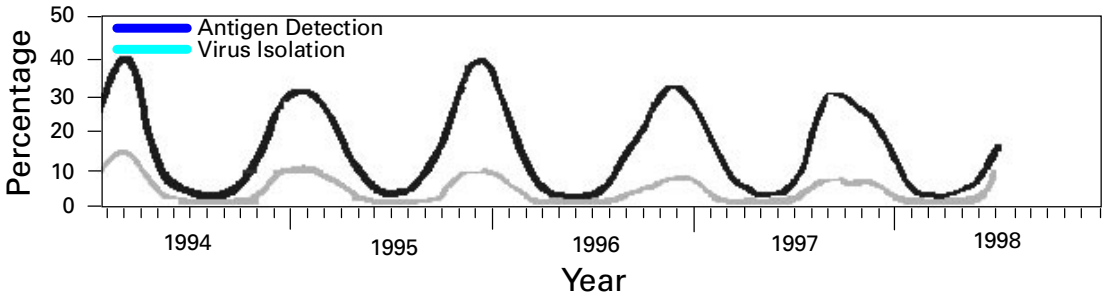
Respiratory syncytial virus (RSV) is the single most important cause of serious lower respiratory tract disease in infants and young children worldwide (*1*). In temperate climates, infections primarily occur during yearly outbreaks that usually peak during the winter months (*2*). RSV activity in the United States is monitored by the National Respiratory and Enteric Virus Surveillance System (NREVSS), a voluntary, laboratory-based system. This report summarizes trends for RSV reported to NREVSS from July 1997 to June 1998 and presents preliminary surveillance data from July 1 to November 18, 1998.

Since July 1, 1990, 107 clinical and public health laboratories in 47 states and the District of Columbia have contributed data to NREVSS. Laboratories report weekly to CDC the number of specimens tested for RSV by antigen-detection and/or virus-isolation methods and the number of positive results. RSV activity is considered widespread by NREVSS when at least half of laboratories report any RSV detections for at least 2 consecutive weeks and when >10% of all specimens tested by antigen detection for RSV are positive.

From July 1990 through June 1998, widespread RSV activity began each November and continued for a mean of 22 weeks (range: 20–26 weeks), until April to mid-May (Figure 1). Peak activity for most laboratories occurred in January or February. For the 1997–98 season, 141,444 tests were performed, and 19,591 were positive for RSV.

Respiratory Syncytial Virus — Continued

FIGURE 1. Percentage* of specimens testing positive for respiratory syncytial virus, by method of confirmation and week† — United States, January 1994–November 1998



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

Median peak activity was observed in late December with peak activity occurring slightly earlier in southern sites* (November–December) than in northern sites† (January–February). Since the week ending November 13, 1998, 60% of the 59 laboratories reporting RSV test results have identified specimens positive for RSV, and 20% of reporting laboratories had >10% of all tests positive for RSV, indicating the onset of widespread RSV activity for the 1998–99 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: The 1997–98 RSV season featured a longer period of widespread activity (26 weeks) than usual. The total specimens positive for RSV, months of peak activity, and south-to-north trend were consistent with data reported during previous years. Although not a population-based system, NREVSS consists of a large number of widely distributed laboratories and is an important tool for characterizing the spatiotemporal trends of RSV infections in the United States and can alert public health officials and physicians to seasonal RSV activity.

During the RSV season (November–May), health-care providers should consider RSV as a cause of acute respiratory disease in both children and adults. RSV causes repeated symptomatic infections throughout life because of limited protective immunity induced by natural infection. Severe manifestations of RSV infection (e.g., pneumonia and bronchiolitis) most commonly occur in infants aged 2–6 months. In addition, RSV infection also can result in serious complications in older children and adults, especially those who have underlying cardiac or pulmonary disease or who are immunocompromised or elderly (*3,4*). Infection in immunocompromised persons can result in high death rates (*5*).

RSV is a common but preventable cause of nosocomially acquired infection; the risk for nosocomial transmission increases during community outbreaks (*6*). Nosocomial infection may be acquired from infected patients, staff, visitors, or contaminated items in the patient's environment. Nosocomial outbreaks or transmission of

*Alabama, Arizona, Arkansas, California, Colorado, Delaware, District of Columbia, Florida, Georgia, Indiana, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
†Idaho, Illinois, Michigan, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Dakota, Utah, Washington, Wisconsin, and Wyoming.

Respiratory Syncytial Virus — Continued

RSV can be controlled with strict attention to contact-isolation procedures (*6*). Although vaccines are under development, none have been demonstrated to be safe and effective in preventing RSV-associated disease. RSV intravenous immune globulin and a recently licensed, humanized murine anti-RSV monoclonal antibody are available as prophylaxis for serious RSV infections in some high-risk infants and young children (e.g., those born prematurely or with chronic lung disease) (*7*). Ribavirin is the only available antiviral agent for treating RSV infection and may be considered for some patients (*8*).

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Laboratory Performance Evaluation of N95 Filtering Facepiece Respirators, 1996

In 1995, CDC's National Institute for Occupational Safety and Health (NIOSH) introduced a new classification scheme for particulate air-purifying respirators (*1*). Most health-care workers use type N95 half-mask filtering facepiece respirators (i.e., N95 respirators) to prevent occupational transmission of tuberculosis.* As a result, NIOSH received inquiries about how well N95 respirators fit, whether they need to be fit tested, and whether they can be quantitatively fit tested.† In response to these inquiries, NIOSH evaluated the performance of 21 N95 respirator models on a 25-person panel. This report summarizes the results of this evaluation, which indicate that fit

*There are nine classes of filters (three classes of filter efficiency [95%, 99%, and 99.97%] each with three categories of resistance to filter efficiency degradation [N, R, and P]). N-category filters are the least resistant to degradation by oil aerosols. An N95 filter is an N-category filter that is at least 95% efficient.

†Fit testing is a procedure used to evaluate how well a given respirator fits a given person by assessing leakage around the face seal; fit testing can either be qualitative (i.e., relying on a subjective response of the wearer) or quantitative (i.e., using a measurement of actual leakage).

Laboratory Performance Evaluation — Continued

testing is needed to ensure at least the expected level of protection (i.e., the concentration of airborne contaminants inside the respirator is ≤10% of ambient levels).

The panel comprised 15 women and 10 men (all experienced in wearing respirators and fit testing); the distribution of face lengths and face widths approximated that of the general population (*2*). The 21 respirator models were the only respirators commercially available in July 1996, when the evaluation began.

Each respirator model was assessed by 1) the 25-person panel without fit testing and 2) removing from the panel those persons for whom a model failed a surrogate fit test. For each model, total penetration (i.e., direct penetration through the filter and leakage around the face seal[§] combined) was measured with each person on the panel using the TSI 8020 Portacount Plus™¶, a fit-test instrument that uses ambient air particles as the challenge agent (*3*). In a previous study, fit factors (the reciprocal of face-seal leakage) measured by this instrument correlated with actual exposure (*4*).

For each test, the person donned the respirator and performed a user seal check (i.e., pressure-tightness test, fit check, or negative/positive pressure check) according to the manufacturer's instructions; when respirator models were available in multiple sizes, the size with the best subjective fit was used. Each person then performed a six-exercise** test during which total respirator penetration was measured. These exercises, each lasting approximately 80 seconds, simulate facial movements during normal use and typically are included in fit testing protocols. After removing the respirator, three identical repeat tests were performed. Total penetration was measured during each test; thus, four total penetration measurements were obtained with each respirator for each of the 25 persons.

For each respirator model, the resulting 100 total penetrations were used to calculate the 95th percentile of the total penetration, using the geometric mean (GM) and the geometric standard deviation (GSD) of these measures, as GM X $GSD^{1.645}$ (*5*). These results summarize the performance of these 21 models without fit testing. Values for the 95th percentile ranged from 6% to 88% total penetration. Five respirator models had 95th percentiles of ≤10% total penetration (Table 1). The computed figure indicates that 95% of wearers of that model can expect a total respirator penetration less than this value and is used to indicate overall respirator performance (*6*).

For each person-respirator model combination, the first total penetration measurement then was used as a surrogate fit test to estimate N95 respirator performance when fit testing is conducted before use. Because fit tests are intended to assess only face-seal leakage, the measured total penetration was adjusted by subtracting the filter penetration,[††] measured separately on each respirator by using the Portacount™ with a specially designed fixture. Each respirator having face-seal leakage >1%[§§] during the first trial was considered to have failed the fit test for that person,

[§] $P_T=P_{fp}+P_{fsl}$, where P_T is the total penetration, P_{fp} is filter penetration, and P_{fsl} is face-seal leakage.

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

** Normal breathing, deep breathing, moving head side to side, moving the head up and down, reading a prepared text aloud, and normal breathing.

†† $P_{fsl}=P_T-P_{fp}$.

§§ The 1% criterion is the standard value used by the Occupational Safety and Health Administration and the American National Standards Institute to assess face seal leakage and is intended to provide a 10-fold safety factor between laboratory-based assessments of leakage and leakage during actual working conditions (i.e., <1% leakage in the lab should assure <10% leakage in the field).

Laboratory Performance Evaluation — Continued

TABLE 1. Performance testing data for 21 N95 filtering facepiece respirators for 25 persons, 1996

Respirator model	Total penetration* (95th percentile)†	Respirators passing surrogate fit test	
		No. passing	Total penetration* (95th percentile)†
1	6%	14	3%
2	7%	8	2%
3	18%	16	1%
4	88%	4	1%
5	31%	0	NA§
6	11%	15	4%
7	10%	5	2%
8	6%	9	2%
9	18%	0	NA§
10	12%	8	2%
11	33%	3	16%
12	41%	3	3%
13	21%	8	4%
14	26%	0	NA§
15	19%	3	3%
16	13%	9	4%
17	50%	11	1%
18	7%	20	2%
19	32%	3	4%
20	61%	1	2%
21	24%	6	5%
All	**33%**	**146**	**4%**

*Total penetration is the sum of the filter penetration and face seal leakage. For example, a total penetration of 25% corresponds to an exposure equal to ¼ of the exposure without a respirator. Total penetration is expected to be ≤10% for this class of respirators.

†Ninety-five percent of wearers are expected to have total respirator penetration less than the stated value. For this class of respirators a value of ≤10% is expected.

§This model failed the fit test (i.e., had a first-donning face fit leakage ≤1%) with all 25 persons; therefore, the 95th percentile total penetration could not be computed.

and data for that person's trials were then removed from the data set for that respirator model (*2*). For respirators passing this criterion, total penetrations measured for trials 2, 3, and 4 were used to calculate the 95th percentile of the total penetration. These values summarize the performance of the respirators after a fit test was used to screen out respirators that have face-seal leakage >1% (Table 1). The total penetrations ranged from 1% to 16%. For three models, none of the respirators passed the fit test (i.e., none had a first-donning face fit leakage ≤1%); therefore, the 95th percentile could not be computed. By applying the surrogate fit test, 17 of the 21 models had total penetration values ≤10%, a substantial increase in protection. Many models had a high fit test failure rate; 17 had acceptable fit tests for fewer than half of the panel members (Table 1).

Reported by: Laboratory Investigations Br, Div of Respiratory Disease Studies, National Institute for Occupational Safety and Health, CDC.

Editorial Note: The findings in this report indicate that fit testing N95 respirators is essential in programs employing these respirators and can eliminate poorly fitting

Laboratory Performance Evaluation — Continued

respirators, ensuring at least the expected level of protection. Without surrogate fit testing, average exposure for the 25-person panel was reduced to 33% of the ambient level, which is much less protection than expected of this class of respirators (i.e., exposure reduced to ≤10% of ambient levels). However, when fit tested first, the panel received substantially greater protection than normally expected (the average exposure was reduced to 4% of the ambient level). Without fit testing, persons unknowingly may have poor face seals, resulting in excessive leakage and exposure. For example, the respirators in this study had high fit test failure rates, with 20%–100% of panel members unable to achieve a satisfactory fit with a given respirator model.

The Portacount™ fit test instrument measures the large number (several thousand per cubic centimeter) of small particles present in normal room atmospheres. The instrument counts the number of such particles that penetrate the respirator—either through face-seal leakage or directly through the filter. Previously, this instrument was recommended for use only with high-efficiency respirators that had negligible filter penetration because any particles detected inside the facepiece could be attributed to face-seal leakage. This study tested N95 respirators using the same procedure. However, because N95 filters are not 100% efficient in removing ambient air particles, two additional were steps needed: 1) separate measuring of filter penetration and 2) subtracting this filter penetration (*2*). The technique for quantitatively fit testing N95 respirators in this report is appropriate only for research purposes. The manufacturer has recently developed an accessory to test N95 respirators with the Portacount Plus™; the accessory removes the aerosols in the range that is most penetrating to the respirator filter, so filter penetration is not a concern. The approach used in this study suggests the possibility of commercial adaptation of similar fit test systems, resulting in a second, inexpensive means of quantitative fit testing N95 respirators. The availability of such a fit test system could simplify fit testing and would provide an option to persons responsible for overseeing respirator programs, especially those who already have the basic hardware for quantitative fit testing.

Although some models had (95th percentile) total penetrations ≤10% even without fit testing, these models should be fit tested. The findings in this report indicate that the models evaluated do not provide the expected level of protection for every user. Therefore, even for these models, performing a fit test has value in identifying those wearers having poor fit.

The findings in this study are subject to at least two limitations. First, specific models used do not necessarily represent the models now available; many are no longer marketed in the version tested, and continued product modifications by the respirator manufacturer may affect the fitting characteristics of specific models. Second, some models tested have been replaced with newer versions, and additional models are now available.

The fit test pass/fail level of 1% used in this report typically is recommended by respirator authorities (*7*). This criterion, however, is based on professional judgement. NIOSH will further analyze these data to determine the effect of adjusted pass/fail levels. Such analysis may provide insight into the appropriateness of that pass/fail level.

Laboratory Performance Evaluation — Continued

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Progress Toward Global Measles Control and Regional Elimination, 1990–1997

In 1989, the World Health Assembly resolved to reduce measles morbidity and mortality by 90% and 95%, respectively, by 1995, compared with disease burden during the prevaccine era (*1*). In 1990, the World Summit for Children adopted a goal of vaccinating 90% of children against measles by 2000. Regional measles-elimination goals have been established in the American Region (AMR) by 2000, the European Region (EUR) by 2007, and the Eastern Mediterranean Region (EMR) by 2010. This report updates progress toward global measles control and regional elimination (*2*), and presents measles vaccination coverage and incidence for 1997* and WHO estimates of global measles morbidity and mortality in 1997 compared with the prevaccine era†.

Reported Measles Morbidity and Routine Vaccination Coverage

In 1997, 702,298 cases were reported to WHO, a 48% decline compared with 1990 (*3*). Among the six WHO regions§, the African Region (AFR) reported the highest measles incidence (47.5 per 100,000), and AMR reported the lowest (6.5 per 100,000). However, the 51,915 cases of measles reported from AMR in 1997 represent a 25-fold increase over the record low 2109 cases in 1996 (*2,3*). The increase resulted from a measles outbreak of >42,000 confirmed cases in São Paulo State, Brazil, that spread to other states in Brazil and to other countries in the region (*4,5*).

Vaccination coverage data were based on reports provided by member states to WHO and adjusted for the target population (annual number of infants surviving their

*Reported to the World Health Organization (WHO) as of July 20, 1998.
†Number of measles cases during the prevaccine era was estimated by WHO on a country-by-country basis, and assumed equivalent to 95% of the surviving infants in 1980 for most developing countries, or in 1975 for developed countries. Surviving infants were defined as all live-born infants during a 1-year period minus the number of deaths during the first year of life.
§African, American, Eastern Mediterranean, European, South East Asian, and Western Pacific regions.

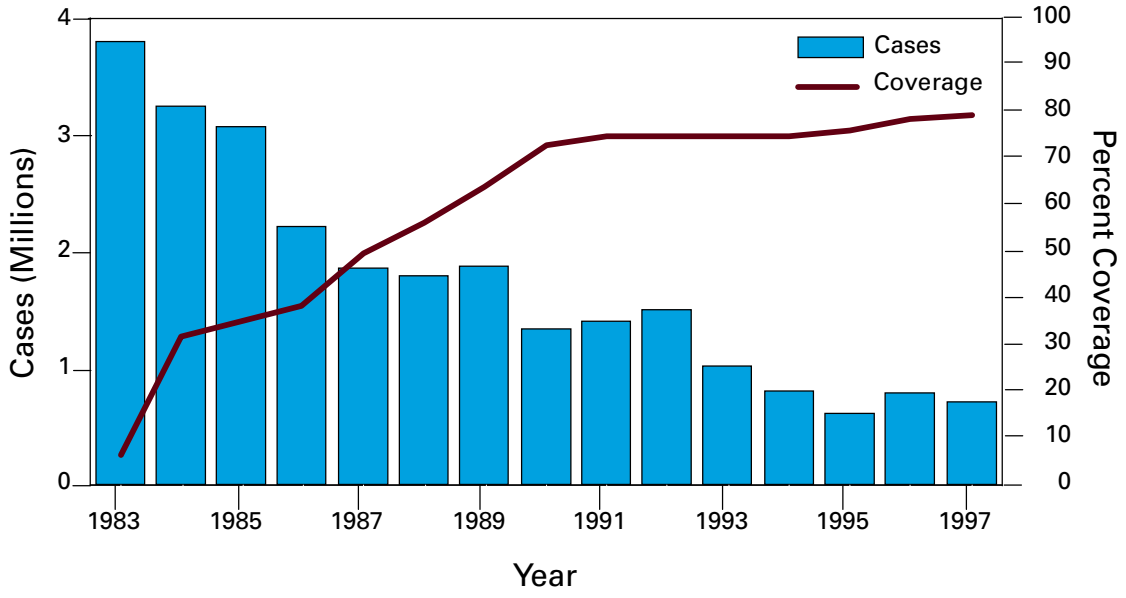
Global Measles Control and Regional Elimination — Continued

first year of life) (*3*). Since 1990, global routine vaccination coverage among children aged 1 year with one dose of measles vaccine has remained relatively stable at approximately 80% (Figure 1). In 1997, reported global coverage was 82%; vaccination coverage was 93% in AMR and the Western Pacific Region (WPR). The lowest vaccination coverage (57%) was reported from AFR, where only two (4%) of 48 countries reported vaccination coverage of ≥90%, and 10 (21%) countries reported routine coverage of <50%. Approximately 346 million children, 57% of the world's children aged <5 years, reside in the countries that either reported routine measles vaccination coverage of <90% or did not provide a report in 1997. More than two thirds of these children reside in Africa and South East Asia (Table 1).

Estimated Morbidity and Mortality

Because measles deaths are not reported routinely to WHO, measles is not a notifiable disease in some countries, and underreporting of measles occurs in all regions, each year WHO estimates actual measles morbidity and mortality. These estimates are based on the annual number of surviving infants, reported vaccination coverage data (routine and mass campaigns), and average vaccine effectiveness and case-fatality rates based on published literature. For 1997, WHO estimated that approximately 31 million measles cases and 960,000 measles-related deaths occurred worldwide (Table 2). By the end of 1997, global measles morbidity and mortality had decreased 74% and 85%, respectively, compared with the annual morbidity and mortality during the prevaccine era. AMR and WPR reached the 1995 morbidity and mortality reduction goals of the World Health Assembly; EUR reached the mortality reduction goal. When grouped by economic development status, 99% of the estimated measles deaths in 1997 occurred in the least developed and developing countries and <1% in developed countries or countries in economic transition.

FIGURE 1. Reported number of measles cases and routine measles vaccination coverage among children aged 1 year, by year — worldwide, 1983–1997*



*As of July 20, 1998.

TABLE 1. Reported measles cases, reported routine vaccination coverage among children aged 1 year, and progress toward achievement of vaccination coverage goals, by World Health Organization (WHO) region — worldwide, 1990 and 1997*

	Reported cases†			Reported coverage§				1997			
								No. countries with coverage		No. children¶ aged <5 years residing in countries with coverage	
Region	1990	1997	% Change from 1990 to 1997	1990	1997	% Change from 1990 to 1997	1997 Incidence	<90% or unknown	≥90%	<90% or unknown	≥90%
African	481,294	290,942	–40%	53%	57%	4%	47.5	46	2	107.2	0.2
American	246,607	51,915	–80%	77%	93%	16%	6.5	20	27	12.5	63.2
Eastern Mediterranean	59,502	33,342	–44%	77%	83%	6%	7.5	7	16	32.9	39.1
European	188,306	103,129	–45%	79%	87%	8%	11.9	25	26	38.3	16.0
Southeast Asian	225,144	114,331	–49%	85%	85%	0	7.8	6	4	128.1	37.2
Western Pacific	156,139	108,639	–30%	93%	93%	0	6.6	24	12	27.4	110.2
Total	**1,356,992**	**702,298**	**–48%**	**80%**	**82%**	**2%**	**12.0**	**128**	**87**	**346.4**	**265.9**

* Reported to WHO as of July 20, 1998.
† Reported cases from 197 and 198 countries in 1990 and 1997, respectively.
§ Reports received from countries representing 94% and 88% of global population in 1990 and 1997, respectively.
¶ In millions.

TABLE 2. Estimated annual number of measles cases and deaths and progress toward achieving measles morbidity and mortality reduction goals in 1997 compared with the prevaccine era, by World Health Organization region

Region	Estimated annual cases in prevaccine era	1997 Estimated cases	% Reduction in cases*	Estimated annual deaths in prevaccine era	1997 Estimated deaths	% Reduction in deaths*
African	14,477,000	11,439,541	48%	1,309,000	549,125	73%
American	13,277,000	53,661	>99%	695,000	61†	>99%
Eastern Mediterranean	10,536,000	4,444,713	70%	767,000	111,114	90%
European	12,085,000	1,923,217	81%	151,000	6,509	95%
South East Asian	30,597,000	9,586,577	70%	2,142,000	268,482	88%
Western Pacific	25,485,000	3,531,880	90%§	720,000	25,188	97%
Total	**106,457,000**	**30,979,589**	**74%**	**5,784,000**	**960,479**	**85%**

* Adjusted for population growth.
† Reported number of measles cases and deaths as of December 8, 1998. The Pan American Health Organization estimates that the completeness of reporting for measles cases and deaths is nearly 100%.
§ Based on Western Pacific regional office estimate.

Global Measles Control and Regional Elimination — Continued

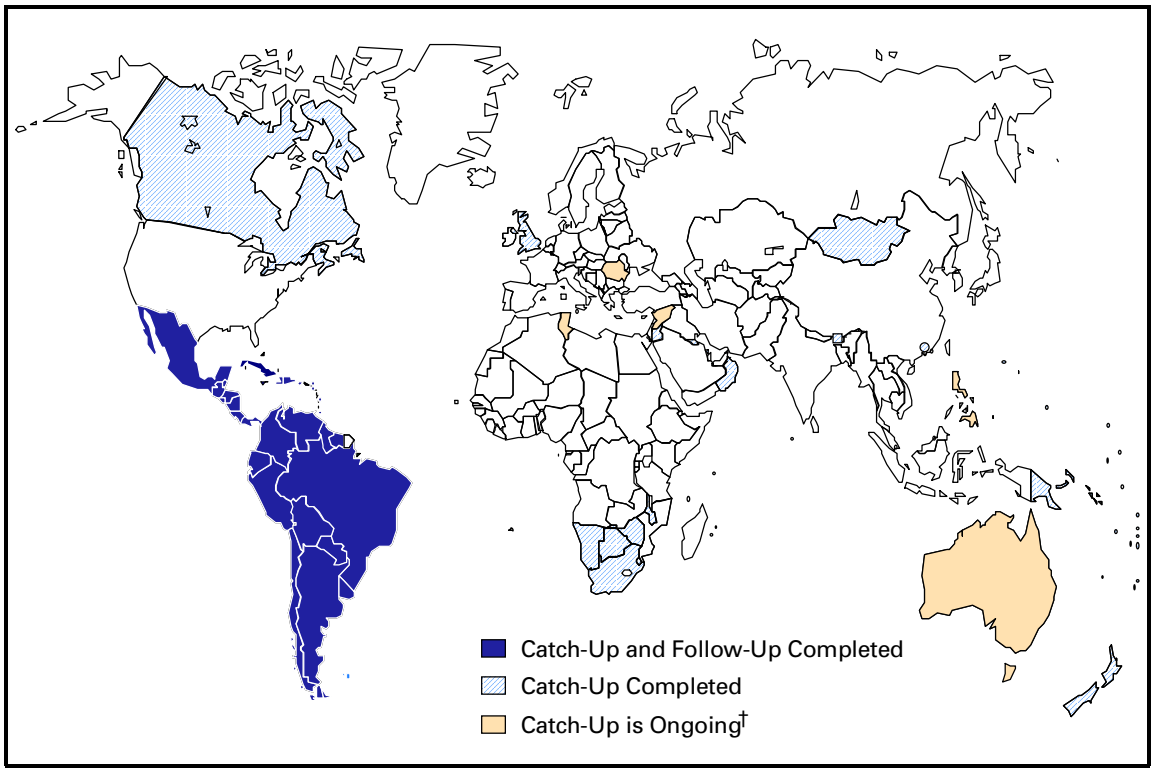
Supplementary Vaccination Campaigns

In 1994, the ministries of health of AMR resolved to eliminate indigenous measles transmission from the Western Hemisphere by 2000 using a three-vaccination component strategy (i.e., "catch-up," "keep-up," and "follow-up"¶) and enhanced surveillance with laboratory investigation of suspected cases (*5,6*). By the end of 1996, all countries in AMR, except the United States, French Guiana, and several Caribbean islands, had catch-up campaigns. Most countries of AMR also have completed follow-up campaigns (Figure 2).

Outside AMR, catch-up campaigns have been used increasingly to supplement routine vaccination in countries targeting outbreak prevention or measles elimination (Figure 2). Countries in EUR (i.e., the United Kingdom), WPR (i.e., Mongolia, New Zealand, and the Pacific Island nations), AFR (i.e., Southern African countries), EMR (i.e., Bahrain, Jordan, Kuwait, and Oman), and the South East Asian Region (SEAR) (i.e., Bhutan and Maldives) have completed catch-up campaigns. In 1997, 32.8 million children were vaccinated as part of catch-up or follow-up campaigns. As of November 1998, catch-up campaigns were ongoing in Australia, the Philippines, Romania, Syran Arab Republic, and Tunisia.

¶Catch-up is defined as a one-time, nationwide vaccination campaign targeting usually all children aged 9 months–14 years, regardless of history of measles disease or vaccination status; keep-up is defined as routine services aimed at vaccinating 90% of each successive birth cohort; and follow-up is defined as subsequent nationwide vaccination campaigns conducted every 2–5 years targeting usually all children born after the catch-up campaign.

FIGURE 2. Countries that conducted measles catch-up and/or follow-up vaccination campaigns — worldwide, 1987–October 1998*



*As of October 30, 1998.
†Catch-up is ongoing in Australia, Philippines, Romania, Syrian Arab Republic, and Tunisia.

Global Measles Control and Regional Elimination — Continued

Supplementary measles vaccination campaigns in high-risk areas, such as densely populated cities in developing countries, have been implemented to reduce measles mortality and accelerate measles control. In 1997, vaccination campaigns were implemented in high-risk areas for measles in 10 countries (five in AFR, four in SEAR, and one in WPR). These campaigns reached approximately 5.8 million children.

Reported by: Expanded Program on Immunization, Dept of Vaccines and Other Biologics, World Health Organization, Geneva, Switzerland. Respiratory and Enteric Viruses Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Measles Activity, Epidemiology and Surveillance Div, and Vaccine Preventable Disease Eradication Div, National Immunization Program; and an EIS Officer, CDC.

Editorial Note: Despite the widespread availability of safe and effective measles vaccines since 1963, measles still accounts for approximately 1 million deaths annually (*7*). Measles was the eighth leading cause of death worldwide in 1990, representing 2.7% of disability-adjusted life years (*7*). Measles remains highly endemic in several countries in Europe, Asia, and Africa, irrespective of level of economic development. However, measles-related deaths occur almost exclusively in developing countries.

Routine measles vaccination coverage at the global level reached 80% in 1990, and has shown minimal progress from 1990 through 1997. Routine global coverage conceals large differences in coverage levels attained by the six WHO regions and among countries within regions. AMR and WPR achieved the World Summit for Children coverage goal; however, both regions have countries with coverage of <90%.

AMR, EMR, and EUR have begun regional measles elimination and continue to make progress toward achieving the goal. In 1996, implementation of measles-elimination strategies by the Pan American Health Organization (PAHO) (*5,6*) resulted in the lowest measles incidence ever reported by a WHO region and in elimination of measles-related deaths in AMR. In 1998, EMR held two workshops to develop plans for accelerated measles control or elimination, and Persian Gulf countries (i.e., Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates) established a target of measles elimination by 2000. In EUR, the goal of eliminating measles by 2007 was endorsed by the 48th Regional Committee in September 1998. In addition, six AFR countries (Botswana, Malawi, Namibia, South Africa, Swaziland, and Zimbabwe) adopted national measles-elimination goals.

Effective measles surveillance is critical for monitoring the impact of vaccination activities and adapting policies and strategies. Further strengthening of measles surveillance systems is required both in developing and developed countries. Measles surveillance, which combines epidemiologic data and virologic surveillance, is necessary when incidence of disease decreases to low levels following intensive outbreak-prevention and/or measles-elimination measures (*4*). To facilitate virologic surveillance, a standardized nomenclature for describing the genetic characteristics and relations among eight groups of wild-type measles viruses has been proposed (*8*).

Progress toward achieving global measles reduction and vaccination coverage goals by 2000 primarily depends on future performance of vaccination programs. To accelerate measles control and achieve regional elimination, three vaccination-related priority areas should be addressed. First, strengthening of infrastructures necessary to improve global routine vaccination coverage among infants and young children is needed. Second, supplementary mass vaccination campaigns designed to reach children not covered by routine services are needed in low-income countries to reduce measles-related deaths (*4*). Any supplemental vaccination campaign in high-risk

Global Measles Control and Regional Elimination — Continued

areas should reach all children in the target age range regardless of measles vaccination status or history of previous measles disease (*4*). Third, in countries with measles-elimination goals, the highest coverage possible (>90%) in the catch-up and subsequent follow-up campaigns is needed to achieve and maintain interruption of indigenous measles virus transmission.

The phased implementation of accelerated measles control/elimination activities must facilitate and not jeopardize the current global poliomyelitis eradication initiative that is now at an advanced stage. Measles-control activities in countries where polio is endemic or countries with focal poliovirus transmission should target morbidity and mortality reduction (*9*). Measles elimination in the Western Hemisphere by 2000 is possible if vaccination and surveillance activities are rapidly intensified in the remaining countries with continuing transmission. In July 1996, WHO, PAHO, and CDC cosponsored a meeting where participants concluded that global measles eradication was technically feasible with available vaccines (*10*). Initiation of a global effort to eradicate measles early in the 21st century will require completion of global polio eradication and continued progress toward interruption of indigenous transmission of measles in the Western Hemisphere.

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National Drunk and Drugged Driving Prevention Month — December 1998

Persons who drive while impaired by alcohol or other drugs pose a public health hazard to themselves and others. During 1997, alcohol-related motor-vehicle crashes resulted in 16,189 deaths in the United States (*1*). During 1987–1997, the proportion of all traffic fatalities that were alcohol-related decreased by 24% (from 51.0% to 38.6%) (*1*). During the same period, the rate of alcohol-related motor-vehicle deaths decreased 39%, from 9.8 to 6.0 per 100,000 persons (*2,3*). The national health objective for 2000 for alcohol-related motor-vehicle deaths is 5.5 per 100,000 persons. A draft of the national health objectives for 2010 for impaired driving are available for public comment through December 15, 1998, at the Healthy People 2010 World-Wide Web site, http://web.health.gov/healthypeople/1998.htm.

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, 400 7th Street, SW, Washington, DC 20590; telephone (202) 366-9588; or World-Wide Web site http://www.nhtsa.dot.gov/people/outreach/safesobr/17qp/index.html.

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Notice to Readers

Alcohol Involvement in Fatal Motor-Vehicle Crashes — United States, 1996–1997

The table and figure on page 1063 compare alcohol involvement in fatal motor-vehicle crashes for 1996 and 1997. 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 blood alcohol concentration (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 based on a discriminant analysis of information from all cases for which driver or nonoccupant BAC data are available (*1*).

Notices to Readers — Continued

Overall, the number of alcohol-related traffic fatalities decreased by 6% from 1996 to 1997; for BACs of 0.01–0.09 g/dL, the decrease was 7.7%, and for BACs ≥0.10 g/dL (the legal limit of intoxication in most states), the decrease was 5.5%. Reductions were seen among all age groups.

Reference

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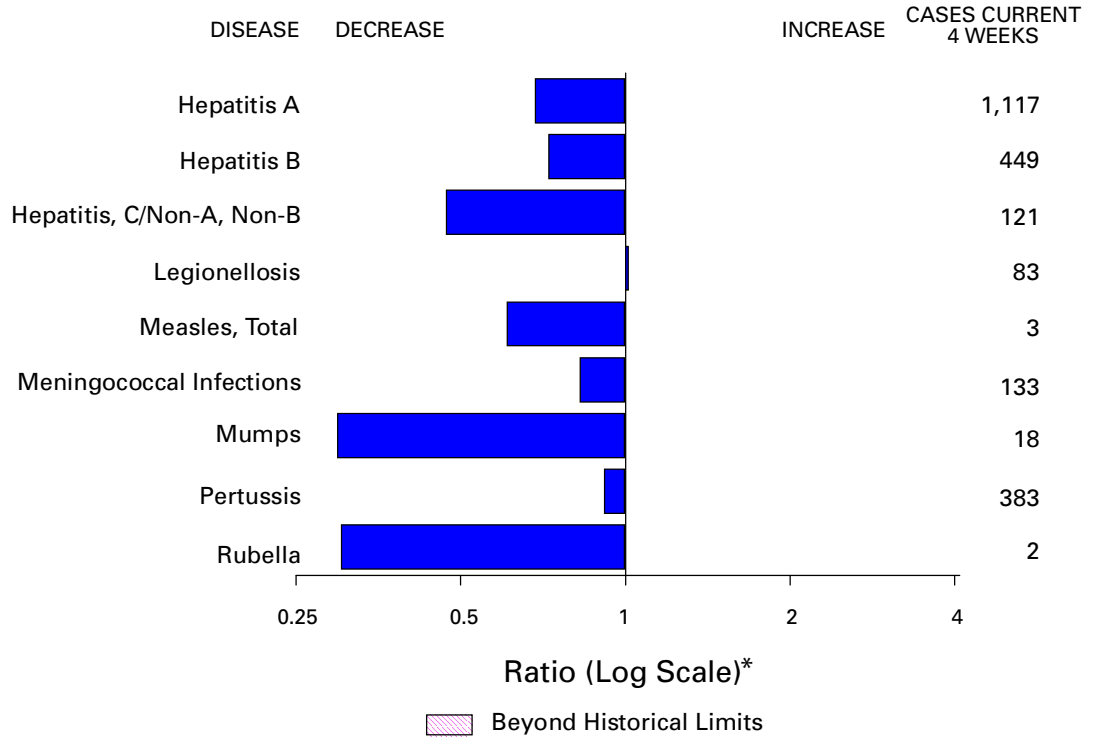
Notice to Readers

Federal Register Notice on the Draft Guidelines for HIV Case Surveillance, Including Monitoring HIV Infection and AIDS

The *Draft Guidelines for HIV Case Surveillance, Including Monitoring HIV Infection and Acquired Immunodeficiency Syndrome (AIDS)* became available for public comment on December 10, 1998. Comments must be submitted in writing by January 9, 1999, after date of publication in the *Federal Register*. Comments should be submitted to the Technical Information and Communications Branch, Division of HIV/AIDS Prevention, Mailstop E-49, National Center for HIV, STD, and TB Prevention, CDC, 1600 Clifton Rd, N.E., Atlanta, GA 30333; fax: 404-639-2007; e-mail: hivmail@cdc.gov.

Requests for copies of the draft *Guidelines* should be submitted to the CDC National Prevention Information Network, P.O. Box 6003, Rockville, Maryland 20849-6003; telephone (800) 458-5231; copies also are available on the CDC website at http://www.cdc.gov/nchstp/hiv_aids/dhap.htm.

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending December 5, 1998, 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 5, 1998 (48th Week)

	Cum. 1998		Cum. 1998
Anthrax	-	Plague	8
Brucellosis	53	Poliomyelitis, paralytic¶	1
Cholera	12	Psittacosis	47
Congenital rubella syndrome	3	Rabies, human	-
Cryptosporidiosis*	2,971	Rocky Mountain spotted fever (RMSF)	319
Diphtheria	1	Streptococcal disease, invasive Group A	1,918
Encephalitis: California*	84	Streptococcal toxic-shock syndrome*	49
eastern equine*	3	Syphilis, congenital**	361
St. Louis*	25	Tetanus	34
western equine*	-	Toxic-shock syndrome	121
Hansen Disease	98	Trichinosis	12
Hantavirus pulmonary syndrome*†	19	Typhoid fever	308
Hemolytic uremic syndrome, post-diarrheal*	80	Yellow fever	-
HIV infection, pediatric*§	243		

-: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 November 29, 1998.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending December 5, 1998, and November 29, 1997 (48th Week)

Reporting Area	AIDS		Chlamydia		*Escherichia coli* O157:H7		Gonorrhea		Hepatitis C/NA,NB	
					NETSS†	PHLIS§				
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1998	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997
UNITED STATES	42,564	53,705	512,489	434,652	2,785	1,865	307,483	274,510	4,585	3,224
NEW ENGLAND	1,688	2,248	16,728	16,604	322	259	4,758	5,464	99	52
Maine	28	51	959	912	36	-	61	61	-	-
N.H.	40	39	872	751	44	44	81	89	-	-
Vt.	19	32	378	396	20	17	34	47	3	3
Mass.	862	803	7,733	6,738	146	147	2,125	1,938	93	42
R.I.	118	145	2,113	1,873	12	1	383	398	3	7
Conn.	621	1,178	4,673	5,934	64	50	2,074	2,931	-	-
MID. ATLANTIC	11,418	16,079	55,035	52,562	279	70	33,650	35,326	338	297
Upstate N.Y.	1,323	2,379	N	N	209	-	6,105	6,086	251	220
N.Y. City	6,564	8,583	31,564	25,282	8	12	14,164	13,342	-	-
N.J.	2,025	3,119	10,385	9,336	62	48	7,137	6,937	-	-
Pa.	1,506	1,998	13,086	17,944	N	10	6,244	8,961	87	77
E.N. CENTRAL	3,063	4,078	82,967	58,868	435	312	60,018	37,820	460	502
Ohio	640	837	23,752	20,653	121	65	15,309	13,539	8	18
Ind.	472	485	4,656	8,616	98	49	4,638	5,618	7	12
Ill.	1,195	1,710	24,936	U	108	58	20,681	U	32	84
Mich.	578	801	20,247	19,339	108	62	15,335	14,090	413	363
Wis.	178	245	9,376	10,260	N	78	4,055	4,573	-	25
W.N. CENTRAL	832	1,099	28,651	30,103	470	384	14,659	13,279	278	58
Minn.	163	191	6,044	6,154	195	202	2,326	2,185	10	4
Iowa	63	99	2,063	3,943	93	58	660	1,012	8	27
Mo.	402	557	11,205	11,178	50	61	8,210	6,833	250	10
N. Dak.	5	10	849	800	11	15	71	66	-	3
S. Dak.	15	8	1,446	1,271	33	34	212	151	-	-
Nebr.	65	90	2,364	2,494	55	-	960	1,094	5	2
Kans.	119	144	4,680	4,263	33	14	2,220	1,938	5	12
S. ATLANTIC	11,132	13,315	104,172	86,886	247	155	85,827	85,524	174	231
Del.	154	211	2,391	55	-	2	1,413	1,183	-	-
Md.	1,489	1,800	6,735	6,887	35	14	8,910	10,641	18	10
D.C.	809	1,016	N	N	1	-	3,287	4,028	-	-
Va.	910	1,113	12,485	10,878	N	42	8,608	8,073	11	25
W. Va.	79	117	2,400	2,680	13	10	757	847	7	16
N.C.	752	796	20,316	15,922	54	46	17,491	15,852	20	47
S.C.	719	746	15,890	11,521	17	12	10,165	10,606	9	37
Ga.	1,174	1,600	21,118	14,445	73	-	17,782	16,827	9	-
Fla.	5,046	5,916	22,837	24,498	54	29	17,414	17,467	100	96
E.S. CENTRAL	1,684	1,901	35,701	32,398	112	39	35,116	32,434	184	330
Ky.	263	340	5,963	5,816	32	-	3,513	3,723	20	13
Tenn.	622	738	12,243	11,634	53	33	10,661	10,191	157	220
Ala.	456	511	9,462	7,815	24	2	12,038	10,949	5	11
Miss.	343	312	8,033	7,133	3	4	8,904	7,571	2	86
W.S. CENTRAL	5,140	5,650	74,528	64,612	118	24	45,037	41,887	401	471
Ark.	189	216	3,665	2,536	11	10	3,640	4,299	10	14
La.	878	1,016	13,684	9,388	5	7	11,720	9,069	103	213
Okla.	272	274	8,611	6,783	23	7	4,796	4,405	16	7
Tex.	3,801	4,144	48,568	45,905	79	-	24,881	24,114	272	237
MOUNTAIN	1,479	1,548	30,118	27,564	340	236	8,394	7,562	335	301
Mont.	28	40	1,205	1,092	15	-	44	60	7	21
Idaho	28	50	1,878	1,519	41	23	163	142	87	71
Wyo.	3	14	626	571	53	55	29	50	66	73
Colo.	286	366	7,760	6,686	90	68	2,128	2,112	33	32
N. Mex.	202	164	3,565	3,553	19	20	858	808	92	59
Ariz.	589	375	10,243	9,916	21	26	3,717	3,385	8	25
Utah	128	140	2,018	1,617	79	21	215	253	23	5
Nev.	215	399	2,823	2,610	22	23	1,240	752	19	15
PACIFIC	6,128	7,787	84,589	65,055	462	386	20,024	15,214	2,316	982
Wash.	390	608	10,236	8,510	105	125	1,827	1,773	22	26
Oreg.	166	284	5,502	4,569	102	98	807	684	5	3
Calif.	5,396	6,757	64,912	48,921	248	147	16,656	11,949	2,234	792
Alaska	17	46	1,687	1,409	7	-	288	344	1	-
Hawaii	159	92	2,252	1,646	N	16	446	464	54	161
Guam	1	2	201	193	N	-	24	27	-	-
P.R.	1,602	1,974	U	U	6	U	342	515	-	-
V.I.	31	94	N	N	N	U	U	U	U	U
Amer. Samoa	-	-	U	U	N	U	U	U	U	U
C.N.M.I.	-	1	N	N	N	U	28	23	-	2

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

*Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update November 29, 1998.

†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 5, 1998, and November 29, 1997 (48th Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998*	Cum. 1997	Cum. 1998
UNITED STATES	1,200	1,000	12,003	11,246	1,256	1,712	6,533	7,768	13,443	16,291	6,346
NEW ENGLAND	78	79	2,554	2,862	55	82	69	124	423	406	1,357
Maine	1	3	12	8	5	1	1	2	10	18	211
N.H.	7	7	45	36	5	8	2	-	12	15	77
Vt.	7	13	11	8	1	2	4	-	4	6	63
Mass.	31	27	718	285	16	30	42	62	242	230	479
R.I.	19	12	603	385	10	10	1	2	50	31	96
Conn.	13	17	1,165	2,140	18	31	19	58	105	106	431
MID. ATLANTIC	287	222	7,966	6,581	318	488	243	373	2,780	2,882	1,476
Upstate N.Y.	100	69	3,956	2,755	89	68	35	41	361	411	1,013
N.Y. City	27	23	28	171	147	300	72	81	1,384	1,453	U
N.J.	15	29	1,690	1,805	52	83	78	146	574	626	204
Pa.	145	101	2,292	1,850	30	37	58	105	461	392	259
E.N. CENTRAL	385	324	163	572	123	156	1,031	586	1,121	1,640	128
Ohio	124	115	83	37	15	19	125	198	87	238	56
Ind.	118	53	60	33	11	16	234	162	101	139	11
Ill.	36	33	8	13	41	63	443	U	574	885	16
Mich.	75	83	12	27	47	42	176	128	341	265	35
Wis.	32	40	U	462	9	16	53	98	18	113	10
W.N. CENTRAL	73	57	196	151	90	57	120	164	377	517	653
Minn.	8	3	158	110	55	28	9	16	141	134	115
Iowa	10	9	23	7	8	9	-	7	48	57	143
Mo.	24	21	2	27	15	11	91	108	93	215	26
N. Dak.	-	2	-	-	2	3	-	-	8	12	131
S. Dak.	3	2	-	1	-	1	1	1	17	10	143
Nebr.	20	15	3	2	1	1	6	3	27	20	7
Kans.	8	5	10	4	9	4	13	29	43	69	88
S. ATLANTIC	138	116	827	733	304	306	2,391	3,224	1,847	3,106	1,822
Del.	13	11	41	109	3	5	20	22	18	32	30
Md.	28	20	579	466	86	80	599	846	257	285	419
D.C.	7	4	4	9	18	20	73	102	96	92	-
Va.	20	26	65	62	54	64	140	221	250	305	525
W. Va.	N	N	12	10	2	1	3	3	39	49	76
N.C.	14	14	55	33	27	19	686	921	420	396	136
S.C.	11	8	7	2	6	17	308	346	223	309	143
Ga.	8	1	5	7	37	46	268	487	474	542	288
Fla.	35	32	59	35	71	54	294	276	70	1,096	205
E.S. CENTRAL	63	55	88	87	30	36	1,118	1,567	981	1,189	256
Ky.	25	11	24	16	6	12	100	123	154	169	31
Tenn.	23	33	42	40	16	8	521	678	341	418	133
Ala.	8	4	19	10	6	10	268	391	302	382	90
Miss.	7	7	3	21	2	6	229	375	184	220	2
W.S. CENTRAL	39	33	29	90	28	55	977	1,242	2,081	2,315	135
Ark.	-	2	7	25	1	5	103	150	143	171	31
La.	4	6	4	3	15	14	394	338	255	204	-
Okla.	12	2	2	27	4	8	113	112	147	186	104
Tex.	23	23	16	35	8	28	367	642	1,536	1,754	-
MOUNTAIN	73	62	23	12	62	65	211	168	402	503	211
Mont.	2	1	-	-	1	2	-	-	18	16	52
Idaho	2	2	6	3	8	-	2	1	13	11	-
Wyo.	1	1	1	3	-	2	1	-	4	2	63
Colo.	18	18	5	-	19	30	11	15	U	76	39
N. Mex.	2	3	4	1	12	8	22	8	64	60	6
Ariz.	19	12	1	2	9	11	160	129	190	207	19
Utah	22	18	-	1	1	3	4	5	48	31	26
Nev.	7	7	6	2	12	9	11	10	65	100	6
PACIFIC	64	52	157	158	246	467	373	320	3,431	3,733	308
Wash.	12	8	7	10	20	48	27	10	196	277	-
Oreg.	1	-	21	17	16	25	6	9	125	135	7
Calif.	49	43	128	129	202	380	338	299	2,913	3,098	278
Alaska	1	-	1	2	3	3	1	1	48	66	23
Hawaii	1	1	-	-	5	11	1	1	149	157	-
Guam	2	-	-	-	1	-	1	3	36	13	-
P.R.	-	-	-	-	-	5	168	235	68	212	49
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.	-	-	-	-	-	-	164	11	77	19	-

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending December 5, 1998, and November 29, 1997 (48th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported†		Total	
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	1998	Cum. 1998	1998	Cum. 1998	Cum. 1998	Cum. 1997
UNITED STATES	942	998	20,322	26,144	7,995	8,761	-	61	-	25	86	130
NEW ENGLAND	61	59	257	605	176	172	-	1	-	2	3	19
Maine	3	5	19	59	5	6	-	-	-	-	-	1
N.H.	9	11	14	33	18	16	-	-	-	-	-	1
Vt.	7	3	16	13	6	11	-	-	-	1	1	-
Mass.	36	35	104	247	56	71	-	1	-	1	2	16
R.I.	5	3	16	127	66	16	-	-	-	-	-	-
Conn.	1	2	88	126	25	52	-	-	-	-	-	1
MID. ATLANTIC	138	152	1,376	1,966	1,032	1,263	-	8	-	6	14	26
Upstate N.Y.	60	51	339	342	275	290	-	1	-	1	2	5
N.Y. City	26	41	351	863	261	436	-	-	-	-	-	10
N.J.	46	42	321	286	181	226	-	7	-	1	8	3
Pa.	6	18	365	475	315	311	-	-	-	4	4	8
E.N. CENTRAL	154	156	3,310	2,788	1,451	1,392	-	12	-	3	15	10
Ohio	46	82	289	295	72	84	-	-	-	1	1	-
Ind.	40	16	325	300	739	94	-	2	-	1	3	-
Ill.	53	39	638	776	184	261	-	1	-	-	1	7
Mich.	8	18	1,900	1,248	416	417	-	9	-	1	10	2
Wis.	7	1	158	169	40	536	-	-	-	-	-	1
W.N. CENTRAL	87	58	1,256	2,017	389	446	-	1	-	-	1	17
Minn.	66	44	118	192	48	41	-	-	-	-	-	8
Iowa	2	6	394	429	55	39	-	1	-	-	1	-
Mo.	12	5	571	1,030	240	315	-	-	-	-	-	1
N. Dak.	-	-	3	10	4	5	U	-	U	-	-	-
S. Dak.	-	2	31	23	2	1	-	-	-	-	-	8
Nebr.	1	1	40	87	14	16	-	-	-	-	-	-
Kans.	6	-	99	246	26	29	-	-	-	-	-	-
S. ATLANTIC	180	152	1,898	1,860	1,079	1,129	-	3	-	5	8	15
Del.	-	-	4	29	4	6	-	-	-	1	1	-
Md.	51	56	315	179	149	154	-	-	-	1	1	2
D.C.	-	-	61	33	14	29	-	-	-	-	-	1
Va.	17	13	198	213	93	118	-	-	-	2	2	1
W. Va.	5	4	7	11	10	16	-	-	-	-	-	-
N.C.	24	21	120	188	228	245	-	-	-	-	-	2
S.C.	3	4	38	98	44	91	-	-	-	-	-	1
Ga.	45	31	638	559	128	126	-	1	-	1	2	1
Fla.	35	23	517	550	409	344	-	2	-	-	2	7
E.S. CENTRAL	57	54	344	581	376	665	-	-	-	2	2	1
Ky.	7	8	23	69	42	37	-	-	-	-	-	-
Tenn.	34	30	209	356	261	416	-	-	-	1	1	-
Ala.	14	14	69	79	71	72	-	-	-	1	1	1
Miss.	2	2	43	77	2	140	-	-	-	-	-	-
W.S. CENTRAL	54	47	3,817	5,306	1,140	1,205	-	1	-	-	1	8
Ark.	-	2	87	202	88	81	-	-	-	-	-	-
La.	23	12	108	218	154	161	U	1	U	-	1	-
Okla.	28	30	572	1,329	98	48	-	-	-	-	-	1
Tex.	3	3	3,050	3,557	800	915	-	-	-	-	-	7
MOUNTAIN	108	83	3,038	3,961	779	803	-	3	-	2	5	8
Mont.	-	1	93	68	5	12	-	-	-	-	-	-
Idaho	2	1	229	132	45	52	-	-	-	-	-	-
Wyo.	1	4	36	31	8	24	U	-	U	-	-	-
Colo.	18	19	324	380	105	138	-	-	-	-	-	-
N. Mex.	8	8	141	328	303	238	-	-	-	-	-	-
Ariz.	54	31	1,825	2,089	170	184	-	3	-	2	5	5
Utah	6	3	183	524	66	85	-	-	-	-	-	1
Nev.	19	16	207	409	77	70	-	-	-	-	-	2
PACIFIC	103	237	5,026	7,060	1,573	1,686	-	32	-	5	37	26
Wash.	10	5	884	606	113	73	-	-	-	1	1	2
Oreg.	39	33	360	348	117	109	-	-	-	-	-	-
Calif.	45	183	3,728	5,930	1,325	1,480	-	5	-	3	8	20
Alaska	1	8	17	33	12	14	-	27	-	1	28	-
Hawaii	8	8	37	143	6	10	-	-	-	-	-	4
Guam	-	-	-	-	2	3	U	-	U	-	-	-
P.R.	2	-	49	262	333	756	U	-	U	-	-	-
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.	-	6	3	1	53	46	U	-	U	-	-	1

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

*Of 218 cases among children aged <5 years, serotype was reported for 109 and of those, 42 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 5, 1998, and November 29, 1997 (48th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997
UNITED STATES	2,418	2,928	6	441	596	73	5,645	5,189	1	330	158
NEW ENGLAND	104	184	-	7	12	10	882	947	-	38	1
Maine	6	17	-	-	-	-	5	20	-	-	-
N.H.	4	14	-	-	1	6	119	128	-	-	-
Vt.	5	4	-	-	-	1	72	239	-	-	-
Mass.	56	92	-	4	4	3	632	518	-	8	1
R.I.	8	20	-	1	6	-	9	16	-	1	-
Conn.	25	37	-	2	1	-	45	26	-	29	-
MID. ATLANTIC	231	318	3	34	55	20	547	374	1	131	34
Upstate N.Y.	67	83	2	10	11	2	293	153	-	111	6
N.Y. City	23	51	-	4	3	-	23	60	-	14	28
N.J.	55	68	-	2	8	-	5	14	-	4	-
Pa.	86	116	1	18	33	18	226	147	1	2	-
E.N. CENTRAL	362	459	-	72	81	10	601	580	-	-	6
Ohio	134	155	-	28	31	5	269	152	-	-	-
Ind.	67	53	-	6	12	4	144	69	-	-	-
Ill.	88	146	-	11	12	1	106	98	-	-	2
Mich.	41	66	-	27	22	-	65	58	-	-	-
Wis.	32	39	-	-	4	-	17	203	-	-	4
W.N. CENTRAL	209	213	-	30	17	12	529	486	-	33	-
Minn.	32	34	-	13	6	11	331	281	-	-	-
Iowa	45	44	-	11	9	1	71	97	-	-	-
Mo.	75	92	-	3	-	-	32	66	-	2	-
N. Dak.	5	2	U	2	-	U	3	1	U	-	-
S. Dak.	7	5	-	-	-	-	8	5	-	-	-
Nebr.	15	15	-	-	1	-	18	10	-	-	-
Kans.	30	21	-	1	1	-	66	26	-	31	-
S. ATLANTIC	432	497	-	48	72	7	318	410	-	19	78
Del.	2	5	-	-	-	-	5	1	-	-	-
Md.	31	42	-	-	1	-	54	112	-	1	-
D.C.	2	12	-	-	-	-	1	3	-	-	1
Va.	44	58	-	8	18	5	41	52	-	1	1
W. Va.	16	19	-	-	-	-	4	6	-	-	-
N.C.	56	88	-	11	11	-	98	118	-	13	59
S.C.	55	52	-	7	11	-	27	29	-	-	15
Ga.	97	94	-	1	10	-	27	13	-	-	-
Fla.	129	127	-	21	21	2	61	76	-	4	2
E.S. CENTRAL	222	220	1	15	31	1	118	138	-	2	1
Ky.	34	45	-	-	3	-	50	61	-	-	-
Tenn.	68	76	-	1	6	1	37	36	-	2	-
Ala.	96	74	-	8	9	-	28	30	-	-	1
Miss.	24	25	1	6	13	-	3	11	-	-	-
W.S. CENTRAL	275	275	1	60	82	1	352	273	-	88	4
Ark.	30	33	-	12	1	-	91	52	-	-	-
La.	58	48	U	10	14	U	9	19	U	-	-
Okla.	41	39	-	-	-	-	30	51	-	-	-
Tex.	146	155	1	38	67	1	222	151	-	88	4
MOUNTAIN	138	169	1	39	55	5	1,072	1,111	-	5	7
Mont.	4	8	-	-	-	1	13	18	-	-	-
Idaho	13	10	1	6	3	-	251	521	-	-	2
Wyo.	7	3	U	1	1	U	8	7	U	-	-
Colo.	24	45	-	6	3	2	224	356	-	-	-
N. Mex.	26	29	N	N	N	2	96	124	-	1	-
Ariz.	41	41	-	6	33	-	199	36	-	1	5
Utah	14	15	-	6	8	-	240	25	-	2	-
Nev.	9	18	-	14	7	-	41	24	-	1	-
PACIFIC	445	593	-	136	191	7	1,226	870	-	14	27
Wash.	60	85	-	11	19	3	311	370	-	9	5
Oreg.	83	117	N	N	N	1	88	47	-	-	-
Calif.	294	381	-	100	139	2	797	418	-	3	14
Alaska	3	3	-	2	8	1	15	16	-	-	-
Hawaii	5	7	-	23	25	-	15	19	-	2	8
Guam	1	1	U	2	1	U	-	-	U	-	-
P.R.	6	8	U	1	7	U	6	-	U	-	-
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	2	4	U	1	-	U	-	-

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

TABLE IV. Deaths in 122 U.S. cities,* week ending December 5, 1998 (48th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	727	526	111	55	16	19	55
Boston, Mass.	168	103	37	19	2	7	17
Bridgeport, Conn.	34	22	7	1	4	-	3
Cambridge, Mass.	29	21	3	5	-	-	2
Fall River, Mass.	43	34	5	4	-	-	3
Hartford, Conn.	74	55	11	2	3	3	3
Lowell, Mass.	23	21	1	1	-	-	2
Lynn, Mass.	21	17	3	1	-	-	-
New Bedford, Mass.	33	26	5	2	-	-	2
New Haven, Conn.	55	35	10	5	1	4	3
Providence, R.I.	81	64	11	3	1	2	1
Somerville, Mass.	4	3	1	-	-	-	-
Springfield, Mass.	64	48	5	6	2	3	9
Waterbury, Conn.	37	28	5	3	1	-	2
Worcester, Mass.	61	49	7	3	2	-	8
MID. ATLANTIC	1,936	1,412	336	125	39	24	116
Albany, N.Y.	51	35	10	3	2	1	5
Allentown, Pa.	23	19	4	-	-	-	-
Buffalo, N.Y.	92	69	15	5	1	2	2
Camden, N.J.	28	22	3	-	2	1	3
Elizabeth, N.J.	18	14	2	2	-	-	-
Erie, Pa.	41	37	2	1	1	-	2
Jersey City, N.J.	72	46	14	7	1	4	3
New York City, N.Y.	752	549	132	51	14	6	37
Newark, N.J.	U	U	U	U	U	U	U
Paterson, N.J.	13	9	2	-	1	1	-
Philadelphia, Pa.	298	191	65	27	12	3	23
Pittsburgh, Pa.§	98	68	22	8	-	-	6
Reading, Pa.	27	23	3	1	-	-	-
Rochester, N.Y.	195	153	25	10	4	3	20
Schenectady, N.Y.	25	22	2	1	-	-	2
Scranton, Pa.	40	34	5	-	-	1	2
Syracuse, N.Y.	125	94	21	7	1	2	11
Trenton, N.J.	23	18	4	1	-	-	-
Utica, N.Y.	15	9	5	1	-	-	-
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,237	1,552	426	149	55	55	156
Akron, Ohio	65	45	13	4	1	2	-
Canton, Ohio	39	32	7	-	-	-	6
Chicago, Ill.	391	244	82	33	23	9	31
Cincinnati, Ohio	101	71	17	8	2	3	8
Cleveland, Ohio	154	91	41	13	2	7	5
Columbus, Ohio	237	171	42	13	3	8	16
Dayton, Ohio	184	140	34	8	-	2	9
Detroit, Mich.	277	153	68	34	14	8	10
Evansville, Ind.	50	43	7	-	-	-	3
Fort Wayne, Ind.	62	46	8	6	1	1	5
Gary, Ind.	12	8	3	1	-	-	-
Grand Rapids, Mich.	65	47	12	1	2	3	8
Indianapolis, Ind.	U	U	U	U	U	U	U
Lansing, Mich.	73	54	12	5	-	2	3
Milwaukee, Wis.	145	113	21	3	-	8	18
Peoria, Ill.	63	44	15	4	-	-	3
Rockford, Ill.	59	45	10	3	1	-	12
South Bend, Ind.	66	50	8	6	2	-	5
Toledo, Ohio	107	86	15	2	4	-	8
Youngstown, Ohio	87	69	11	5	-	2	6
W.N. CENTRAL	904	618	162	71	27	19	54
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	16	9	4	1	1	1	1
Kansas City, Kans.	51	33	12	4	2	-	3
Kansas City, Mo.	82	47	17	6	3	3	5
Lincoln, Nebr.	57	46	8	2	-	1	5
Minneapolis, Minn.	243	175	39	17	5	7	19
Omaha, Nebr.	109	72	19	12	5	-	8
St. Louis, Mo.	124	79	27	13	3	2	-
St. Paul, Minn.	114	85	15	5	5	4	10
Wichita, Kans.	108	72	21	11	3	1	3

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,178	778	245	118	24	12	82
Atlanta, Ga.	180	111	38	25	5	1	7
Baltimore, Md.	129	76	32	13	6	1	21
Charlotte, N.C.	108	78	19	7	3	1	14
Jacksonville, Fla.	159	92	45	16	5	1	2
Miami, Fla.	104	63	32	8	1	-	1
Norfolk, Va.	39	26	7	4	-	2	1
Richmond, Va.	57	43	8	6	-	-	6
Savannah, Ga.	73	54	9	9	-	1	5
St. Petersburg, Fla.	62	51	9	1	-	1	9
Tampa, Fla.	157	114	23	18	-	2	14
Washington, D.C.	100	60	23	11	4	2	2
Wilmington, Del.	10	10	-	-	-	-	-
E.S. CENTRAL	697	498	135	44	12	8	49
Birmingham, Ala.	128	90	24	11	2	1	10
Chattanooga, Tenn.	71	52	14	3	1	1	4
Knoxville, Tenn.	79	55	15	5	1	3	3
Lexington, Ky.	67	51	12	3	1	-	8
Memphis, Tenn.	141	100	27	10	2	2	11
Mobile, Ala.	45	33	9	2	1	-	1
Montgomery, Ala.	40	32	5	2	1	-	6
Nashville, Tenn.	126	85	29	8	3	1	6
W.S. CENTRAL	1,452	953	295	130	38	36	98
Austin, Tex.	92	59	16	12	2	3	2
Baton Rouge, La.	31	24	5	2	-	-	-
Corpus Christi, Tex.	53	44	7	2	-	-	4
Dallas, Tex.	258	158	57	27	11	5	11
El Paso, Tex.	57	42	8	4	1	2	3
Ft. Worth, Tex.	169	111	30	15	5	8	15
Houston, Tex.	359	199	99	42	11	8	29
Little Rock, Ark.	86	61	15	3	2	5	8
New Orleans, La.	U	U	U	U	U	U	U
San Antonio, Tex.	224	167	34	20	3	-	13
Shreveport, La.	12	11	1	-	-	-	2
Tulsa, Okla.	111	77	23	3	3	5	11
MOUNTAIN	879	580	168	85	25	17	57
Albuquerque, N.M.	154	99	32	17	3	3	6
Boise, Idaho	41	32	7	2	-	-	1
Colo. Springs, Colo.	47	35	7	4	1	-	-
Denver, Colo.	87	55	19	9	1	3	13
Las Vegas, Nev.	189	121	41	17	7	2	11
Ogden, Utah	30	20	3	5	2	-	1
Phoenix, Ariz.	59	33	13	4	2	4	3
Pueblo, Colo.	28	21	6	1	-	-	-
Salt Lake City, Utah	105	66	21	10	5	3	12
Tucson, Ariz.	139	98	19	16	4	2	10
PACIFIC	2,151	1,485	394	179	47	46	167
Berkeley, Calif.	23	16	4	2	-	1	2
Fresno, Calif.	163	118	27	12	4	2	15
Glendale, Calif.	27	21	2	4	-	-	2
Honolulu, Hawaii	87	56	20	6	1	4	9
Long Beach, Calif.	68	49	12	5	1	1	7
Los Angeles, Calif.	609	406	113	53	20	17	37
Pasadena, Calif.	29	22	4	1	2	-	5
Portland, Oreg.	163	115	21	15	6	6	8
Sacramento, Calif.	131	93	28	4	5	1	15
San Diego, Calif.	181	128	32	14	2	5	16
San Francisco, Calif.	139	86	31	19	1	2	18
San Jose, Calif.	119	91	20	6	1	1	14
Santa Cruz, Calif.	44	34	5	5	-	-	9
Seattle, Wash.	192	127	42	18	2	3	3
Spokane, Wash.	64	48	14	1	1	-	5
Tacoma, Wash.	112	75	19	14	1	3	2
TOTAL	12,161¶	8,402	2,272	956	283	236	834

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.

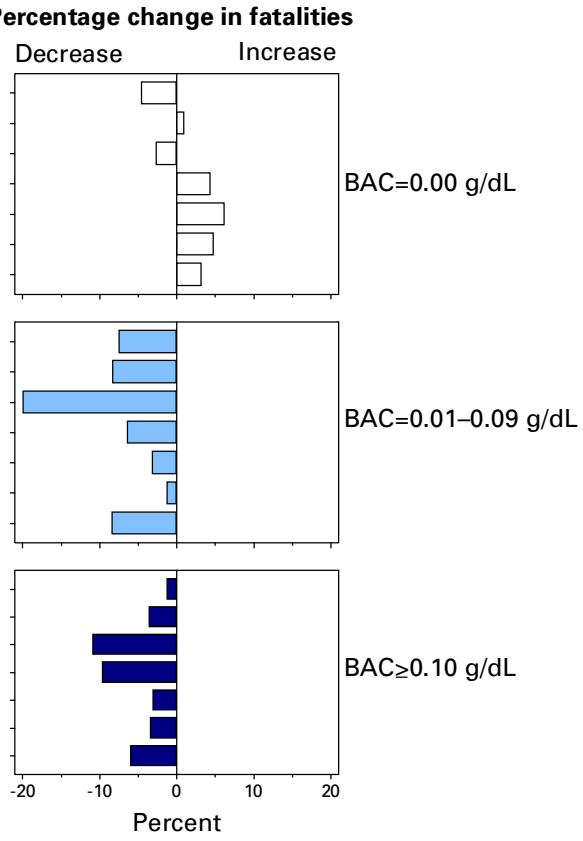
§Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

Notices to Readers — Continued

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, 1996, compared with January 1–December 31, 1997

	No. fatalities	
Age group (yrs)	1996	1997
<15	2,201	2,099
15–20	4,008	4,049
21–24	1,776	1,728
25–34	3,194	3,334
35–64	7,637	8,113
≥65	5,979	6,268
Total ¶	**24,847**	**25,778**
<15	200	185
15–20	702	644
21–24	540	432
25–34	786	736
35–64	1,148	1,111
≥65	390	338
Total ¶	**3,774**	**3,485**
<15	377	372
15–20	1,623	1,565
21–24	1,820	1,621
25–34	3,648	3,295
35–64	5,176	5,013
≥65	745	720
Total¶	**13,444**	**12,704**



*Age was unknown for 117 traffic fatalities in 1996 and 345 in 1997. Fatalities 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 of 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.

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

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