

# MMWR™

MORBIDITY AND MORTALITY WEEKLY REPORT

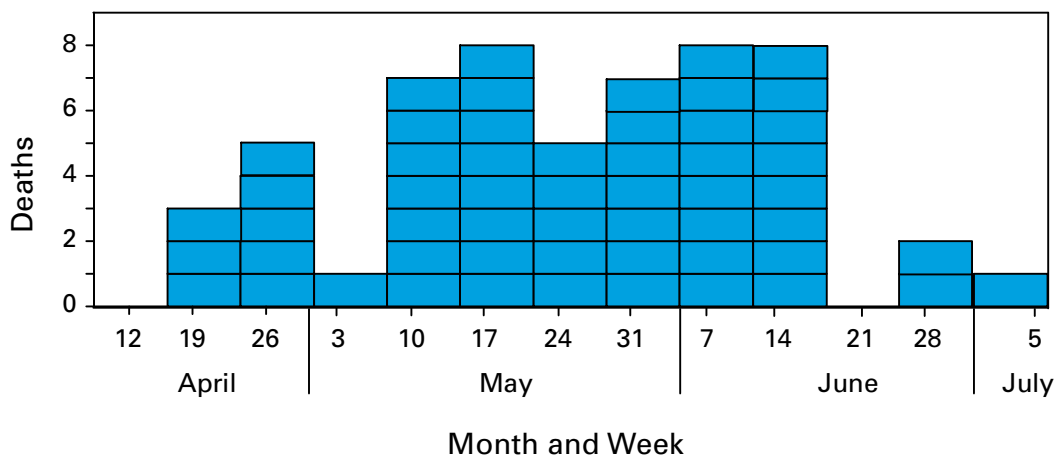
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## Deaths Among Children During an Outbreak of Hand, Foot, and Mouth Disease — Taiwan, Republic of China, April–July 1998

During April–July 1998, the Ministry of Health in Taiwan received approximately 90,000 reports of hand, foot, and mouth disease (HFMD) among young children based on passive surveillance from sentinel physicians. Approximately 320 children have been hospitalized with HFMD associated with suspected meningitis, encephalitis, or acute flaccid paralysis (AFP), and at least 55 have died. This report describes the clinical course of two fatal cases and presents summary findings from an ongoing clinical, epidemiologic, and laboratory investigation of the 55 deaths (Figure 1).

A case was defined as refractory shock following a prodromal acute illness characterized by fever or rash that resulted in the death of a previously healthy child. Cases of HFMD have been reported from all regions of Taiwan, including Taipei City, with most reported from the central and northern regions.

**FIGURE 1. Number of deaths among children\* during an outbreak of hand, foot, and mouth disease, by month and week of hospital admission — Taiwan, Republic of China, April–July 1998**



\*N=55.

*Hand, Foot, and Mouth Disease — Continued***Case Reports**

**Case 1.** On June 5, fever and headache developed in a 7-year-old girl from Taipei City. On June 6, she vomited and complained of tinnitus but was mentally alert. On June 8, she was admitted to a local hospital for suspected aseptic meningitis with a temperature of 102.6 F (39.2 C), nuchal rigidity, tonsillar enlargement, and a vesicular rash on the soles of her feet. Laboratory findings included a white blood cell (WBC) count of 14,300/mm<sup>3</sup> (normal: 3900/mm<sup>3</sup>–10,600/mm<sup>3</sup>), a hemoglobin of 12.3 gm/dL (normal: 12–16 gm/dL), and a platelet count of 344,000/mm<sup>3</sup> (normal: 150,000–400,000/mm<sup>3</sup>). There was no evidence of cerebral edema by computerized tomography scan. Following a lumbar puncture, cerebrospinal fluid (CSF) examination showed a WBC count of 153/mm<sup>3</sup> ([normal: 0–5/mm<sup>3</sup>]; differential, 70% neutrophils), a protein of 43 mg/dL (normal: 8–32 mg/dL), and a glucose level of 76 mg/dL (normal: 50–80 mg/dL). Approximately 10 hours after admission, the patient coughed up blood-tinged sputum and perioral cyanosis, tachypnea, and coarse rhonchi were observed. A chest radiograph revealed dense, bilateral pulmonary infiltrates. She was intubated and mechanically ventilated and developed hypotension and bradycardia. She died June 8, following repeated attempts at cardiopulmonary resuscitation.

Autopsy findings included acute encephalomyelitis, mild interstitial pneumonitis, and pulmonary hemorrhage. No histopathologic evidence of myocarditis was detected. Neurons in areas of inflammation and tissue necrosis were positive for enterovirus 71 (EV71) using immunohistochemical staining with a monoclonal anti-EV71 antibody.

**Case 2.** On May 16, fever developed in a previously healthy 7-month-old girl from central Taiwan. On May 20, she had episodes of vomiting, respiratory distress, and a seizure. On physical examination at a local hospital, the patient was tachycardic (heart rate of >200 beats per minute) and cyanotic, with gasping respirations and bilateral coarse rhonchi. She had a temperature of 102.2 F (39.0 C). A chest radiograph showed bilateral perihilar infiltrates. Laboratory findings included peripheral WBC of 5100/mm<sup>3</sup> (84% neutrophils and 15% lymphocytes); hemoglobin, 9.3 gm/dL; and platelets, 84,000/mm<sup>3</sup>. Prothrombin time was 29.5 seconds (control: 10.8 seconds), and activated partial thromboplastin time was 45.5 seconds (normal: 20–34 seconds). Following a lumbar puncture, CSF examination revealed WBC of 205/mm<sup>3</sup> (94% lymphocytes), protein of 43 mg/dL, and glucose level of 90 mg/dL. She was intubated and received cardiovascular support with dobutamine and dopamine. Approximately 5 hours after admission, bradycardia and hypotension developed, and she required resuscitation. She died on May 21, following multiple bradycardiac episodes. Two blood cultures drawn on admission showed no growth of bacteria or fungi; viral cultures are pending. No autopsy was performed.

**Summary Findings**

All 55 previously healthy children initially developed an acute illness characterized by fever, or rash, or mouth ulcers (Table 1). Approximately 2–7 days (median: 3 days) after onset of illness, case-patients were hospitalized for rapid cardiopulmonary failure. In 41 case-patients, death occurred within 24 hours of hospitalization despite respiratory and cardiovascular support. Of the 55 children, 43 (78%) were aged <3 years (median age: 17 months; range: 3–151 months), 32 (58%) were male, and most lived in the central (27 [49%]) or northern (21 [38%]) regions of Taiwan. Reasons for seeking

*Hand, Foot, and Mouth Disease — Continued*

medical attention included respiratory distress (17 [31%]) or an altered level of consciousness (14 [25%]). Thirteen (24%) children were comatose on admission. Forty-four (80%) case-patients either died in the emergency department or were admitted directly to an intensive-care unit. All case-patients required intubation for respiratory distress during their illness. The last child who died was admitted on July 8.

EV71 was identified in the central nervous system tissue from one autopsy (case 1) and in preliminary studies was isolated from 14 specimens from the 55 case-patients. In addition, one specimen was positive for EV71 by polymerase chain reaction.

*Reported by: Ministry of Health, The Executive Yuan, Taiwan, Republic of China; clinicians and scientists from district, district teaching, and regional hospitals, Taiwan; Kaohsiung City Health Dept, Kaohsiung; Taipei City Health Dept, Taipei; Dept of Health, Taiwan Provincial Government; Academia Sinica. Infectious Disease Pathology Activity, Respiratory and Enteric Viruses Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Div of Applied Public Health Training, Epidemiology Program Office; and EIS officers, CDC.*

**TABLE 1. Number and percentage of children\* with selected signs and symptoms who died during an outbreak of hand, foot, and mouth disease — Taiwan, Republic of China, April–July, 1998**

Characteristic	No.	(%)
<b>Symptoms</b>		
Fever	53	(96)
Vomiting	35	(64)
Poor feeding	27	(49)
Dyspnea	23	(42)
Increased sleepiness	17	(31)
Cough	14	(26)
Irritability	11	(20)
Generalized weakness	14	(26)
Diarrhea	7	(13)
Rhinorrhea	6	(11)
<b>Signs</b>		
<b>Skin/Mucous membranes</b>		
Hand or foot rash	32	(58)
Mouth ulcers	28	(51)
Herpangina	8	(15)
<b>Respiratory</b>		
Rales	26	(48)
Rhonchi	21	(39)
Retractions	17	(32)
<b>Cardiac</b>		
Central cyanosis	28	(52)
Peripheral cyanosis	22	(41)
<b>Neurologic</b>		
Somnolent or lethargic	24	(44)
Comatose	13	(24)
Alert	9	(17)
Nuchal rigidity	7	(13)
Seizure	7	(13)
Focal paralysis or weakness	1	( 2)

\*N=55.

*Hand, Foot, and Mouth Disease — Continued*

**Editorial Note:** EV71 is one of two etiologic agents of epidemic HFMD and has been associated with other febrile rash illnesses, aseptic meningitis, encephalitis, and a syndrome of AFP similar to that caused by poliovirus (1,2). This is the third known EV71 outbreak resulting in rapid clinical deterioration and death among young children; previous outbreaks primarily among children aged <3 years occurred in Bulgaria during May–September 1975 (44 cases) (3) and in Malaysia during April–June 1997 (28 cases). In Bulgaria, the outbreak was characterized by rapid onset of central nervous system disease (described as “medullary involvement”) (3); EV71 was isolated from 27 of 29 fatal cases. In Malaysia, clinical presentations were similar to the case-patients in Taiwan. The outbreak involved children who had febrile illnesses, oral ulcers, or hands or feet rash followed by rapid clinical deterioration (4). Most died within 24 hours of admission to area hospitals. Immunohistochemical evidence of EV71 infection was detected in central nervous system tissues from four of five case-patients. Other viruses isolated from Malaysian case-patients included echovirus 25, adenovirus, and coltivirus (L. Munn Sann, Malaysia Ministry of Health, personal communication, 1997).

The etiologies of the deaths in Malaysia and Taiwan are still under investigation. The epidemiologic (presence of concomitant HFMD outbreaks), clinical (presence of HFMD rash in most case-patients), and virologic (isolation of EV71 from case-patients) evidence suggest an association between EV71 infection and these deaths. However, further evidence is required to conclude that EV71 infection alone is responsible for all deaths reported from Malaysia or Taiwan. In Malaysia, various other potential causative agents were identified, and EV71 was isolated from only two of 11 specimens submitted to CDC. The EV71 isolates recovered from case-patients in Taiwan are genetically distinct from the strains from patients in Malaysia. Case-control studies are under way in Taiwan to further assess the associations between EV71 infections and rapid death and to identify other potential factors or cofactors (e.g., toxins, medicines, or environmental exposures) that might contribute to the disease process. Laboratory studies also are under way to further characterize the viral agents recovered, and clinical review of suspected cases is in progress.

Clinicians and health-care providers who encounter similar deaths among children should report cases through their local ministry of health to CDC's Respiratory and Enteric Viruses Branch, Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases; telephone (404) 639-3596.

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## Changes in Mortality From Heart Failure — United States, 1980–1995

Heart failure is a disabling chronic disease and the leading principal diagnosis for hospitalization among older adults. Among the estimated 4.8 million U.S. residents who have heart failure, 70% are aged  $\geq 60$  years (1). During the past decade, the number of hospitalizations for heart failure have increased among Medicare beneficiaries (2), and these numbers are expected to increase with progressive aging of the U.S. population even though the case-fatality rate for heart failure is high. This report summarizes trends in mortality from heart failure in the United States for 1980–1995 and presents state-specific death rates for 1995 (the most recent year for which such data are available).

National mortality statistics are based on information from death certificates filed in state vital statistics offices and are compiled by CDC. Cause-of-death statistics are based on the underlying cause of death\* recorded on the death certificate by the attending physician, medical examiner, or coroner in a manner specified by the World Health Organization and endorsed by CDC. Population estimates from the Bureau of the Census were used to calculate death rates for the U.S. population. Heart failure deaths were defined as those for which the underlying cause of death listed on the death certificate was *International Classification of Diseases, Ninth Revision* (ICD-9), code 428. This category includes congestive heart failure (ICD-9 code 428.0), left heart failure (428.1), and unspecified heart failure (428.9). Age-adjusted estimates were standardized to the 1970 U.S. population. Race-specific rates were limited to blacks and whites because numbers for other racial/ethnic groups were too small for meaningful analysis. The average annual percentage change in mortality from 1988 through 1995 was calculated as the 1995 rate minus the 1988 rate divided by the 1988 rate divided by seven and multiplied by 100.

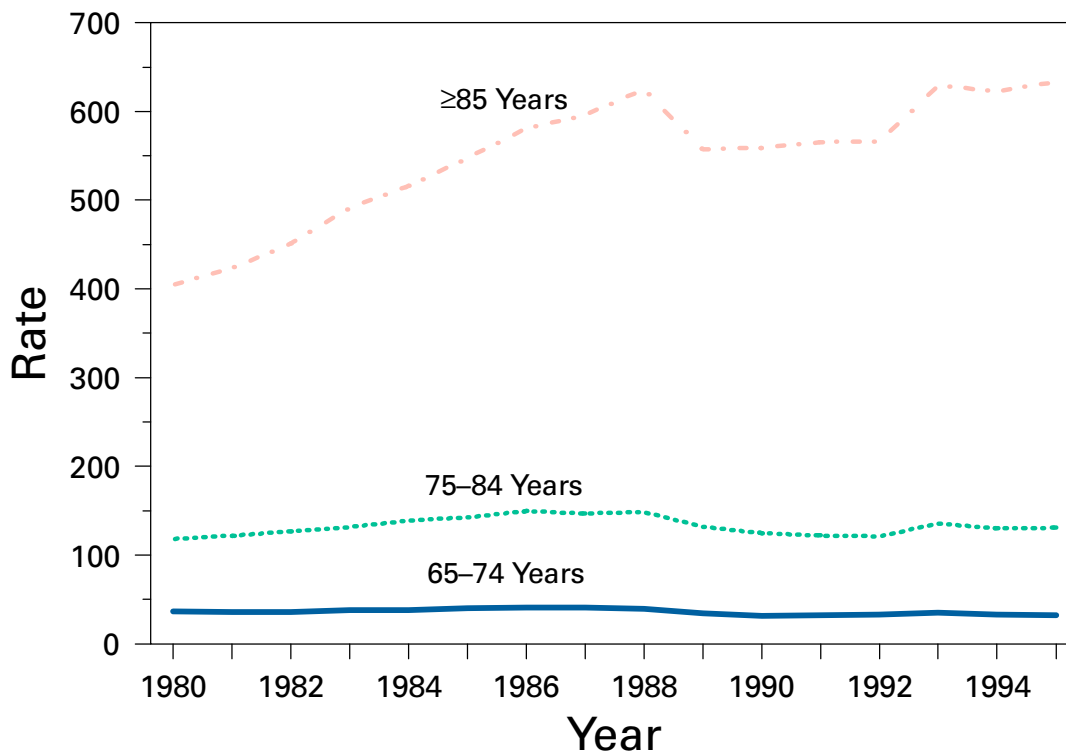
From 1980 to 1995, the number of deaths with heart failure as the underlying cause increased from 27,415 to 46,484; in 1995, approximately 43,600 (94%) of these deaths occurred among adults aged  $\geq 65$  years. The overall rate changed from 10.3 in 1980 to 11.7 in 1995. Death rates for heart failure per 100,000 population were directly proportionate to age. For example, in 1995, age-specific rates were 633.5 for persons aged  $\geq 85$  years, 130.8 for persons aged 75–84 years, and 32.2 for persons aged 65–74 years. The rate for persons aged  $\geq 85$  years increased during 1980–1988 but declined slightly during 1989–1992 (Figure 1). Similar small declines also were observed during the same period for adults aged 75–84 years and those aged 65–74 years.

For persons aged  $\geq 65$  years, age-adjusted death rates for heart failure increased during 1980–1988 and declined after 1988 in each racial and sex group (Figure 2). Age-adjusted rates for the U.S. population aged  $\geq 65$  years declined from 116.9 per 100,000 standard population in 1988 to 107.6 in 1995 (an average annual decline of 1.1% compared with 1988 rates). Among persons aged  $\geq 65$  years, age-adjusted rates for 1995 were 126.1 for black men, 117.0 for white men, 107.6 for black women, and 101.2 for white women. The largest average annual percentage decline compared with 1988 rates occurred among black men (3.0% per year), followed by black women (2.2%), white men (1.7%), and white women (0.5%). Because of greater declines in death rates

\* Defined by the World Health Organization's *International Classification of Diseases, Ninth Revision*, as "(a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury."

Mortality From Heart Failure — Continued

**FIGURE 1. Age-specific death rate\* for heart failure† for persons aged  $\geq 65$  years, by age group and year — United States, 1980–1995**



\*Per 100,000 population.

† *International Classification of Diseases, Ninth Revision, code 428.*

for heart failure among black adults, from 1980 to 1995 the black:white ratio for men narrowed from 1.3:1 to 1.1:1 and for women from 1.4:1 to 1.1:1.

In 1995, age-adjusted death rates for heart failure among all ages varied substantially among the states and ranged from 3.4 (New Hampshire) to 29.7 (Mississippi) (Table 1). For persons aged  $\geq 65$  years, age-adjusted rates for 1995 ranged from 30.7 (New Hampshire) to 255.6 (Alabama).

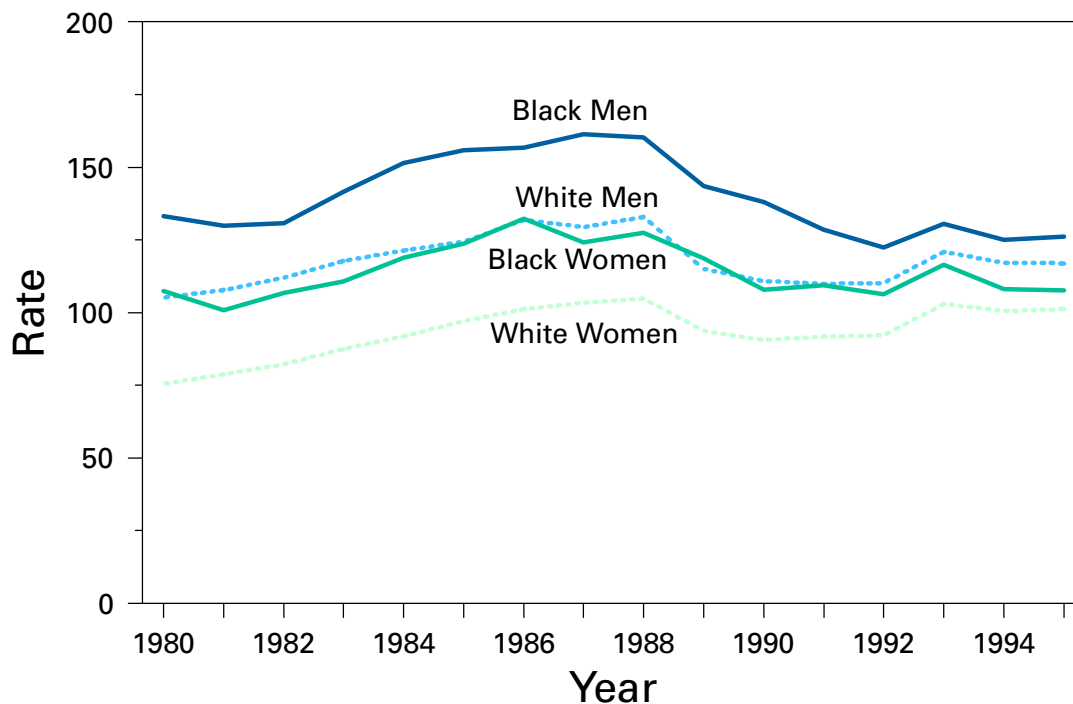
Reported by: GA Haldeman, A Rashidee, R Horswell, Louisiana Health Care Review, Inc., Baton Rouge, Louisiana. Cardiovascular Health Br, Div of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

**Editorial Note:** The findings in this report are consistent with a previously observed increase in age-adjusted death rates for heart failure during 1980–1988 (3) that was followed by a decline after 1988. The decline suggests improved survival of older adults with heart failure or misdiagnosis of the underlying cause of death among adults with heart failure. For example, heart failure is five to six times more likely to be reported as a contributor rather than as the underlying cause of death on the death certificate.

Adults who survive a myocardial infarction or other hypertension-related diseases remain at increased risk for heart failure as they age. Among Medicare beneficiaries who are hospitalized for heart failure, hypertension is the secondary condition most commonly observed among black adults, and coronary heart disease is most

Mortality From Heart Failure — Continued

**FIGURE 2. Age-adjusted death rate\* for heart failure† for persons aged ≥65 years, by race,‡ sex, and year — United States, 1980–1995**



\*Per 100,000 population, standardized to the 1970 Bureau of the Census population aged ≥65 years.

†*International Classification of Diseases, Ninth Revision*, code 428.

‡Data for racial/ethnic groups other than blacks and whites were too small for meaningful analysis.

common among white adults (2). Declines in death rates for heart failure during 1988–1995 among black adults and white men may reflect improved early detection of and changes in the therapeutic management of patients with hypertension (4), myocardial infarction (5), and heart failure (6–9). Since 1988, declines in death rates were greater among black adults than among white adults. Narrowing of the black-white ratio for heart failure mortality may reflect improved control of hypertension and access to medical care among older black adults.

Low numbers of deaths in some states should be interpreted with caution because they may reflect random variation. However, variations by state in death rates for heart failure also may reflect regional differences in the prevalence and treatment of predisposing conditions (e.g., hypertension, myocardial infarction, and other heart diseases) and variations in access to early diagnosis and therapeutic management of heart failure. Medical specialty differences in treating heart failure (9) and state variations in mortality from heart failure suggest that national professional education initiatives may be needed to ensure that the clinical practice guidelines for evaluation and care of patients with heart failure are followed appropriately by all physicians to improve survival and reduce the risk for hospitalization through consistent pharmacologic management of this condition. Peer review organizations in states such as Louisiana (10) have begun to assess statewide practices of evaluating and treating

Mortality From Heart Failure — Continued

**TABLE 1. Number of deaths from, and age-adjusted rates for heart failure,\* overall† and among persons aged ≥65 years,‡ by state — United States, 1995**

State	All ages		Persons aged ≥65 years	
	No.	Rate	No.	Rate
Alabama	1,825	28.8	1,668	255.6
Alaska	34	12.3	29	114.1
Arizona	463	7.4	431	67.3
Arkansas	1,077	25.1	1,007	226.0
California	2,277	5.5	2,148	52.0
Colorado	643	13.9	615	132.6
Connecticut	591	9.9	565	93.8
Delaware	124	12.4	114	111.3
District of Columbia	101	11.9	88	96.8
Florida	1,150	3.7	1,099	34.5
Georgia	1,405	17.1	1,277	154.4
Hawaii	87	5.5	78	46.9
Idaho	234	14.3	227	137.8
Illinois	2,619	14.6	2,460	134.0
Indiana	1,548	17.5	1,475	165.3
Iowa	202	3.6	200	33.0
Kansas	811	16.8	780	157.8
Kentucky	1,222	21.8	1,127	196.6
Louisiana	932	16.9	826	146.2
Maine	276	12.9	264	119.7
Maryland	660	10.2	614	94.4
Massachusetts	1,551	13.8	1,502	132.6
Michigan	1,804	12.9	1,706	121.5
Minnesota	884	11.1	864	107.4
Mississippi	1,124	29.7	987	247.6
Missouri	1,252	13.4	1,173	121.3
Montana	214	15.3	204	142.3
Nebraska	534	18.3	495	159.5
Nevada	291	17.3	265	158.3
New Hampshire	56	3.4	52	30.7
New Jersey	1,225	9.7	1,156	89.0
New Mexico	250	11.8	231	108.8
New York	2,272	7.7	2,148	71.0
North Carolina	1,048	10.3	964	93.7
North Dakota	176	13.4	172	129.6
Ohio	2,203	12.4	2,100	118.0
Oklahoma	1,087	19.8	1,021	181.5
Oregon	619	11.6	595	109.5
Pennsylvania	2,940	13.1	2,802	122.0
Rhode Island	66	3.5	63	32.4
South Carolina	702	15.1	628	131.8
South Dakota	197	13.5	190	127.1
Tennessee	504	6.7	458	58.6
Texas	2,764	12.4	2,517	112.5
Utah	335	16.1	320	155.1
Vermont	98	10.3	97	102.9
Virginia	1,276	15.3	1,175	140.4
Washington	786	10.1	757	97.2
West Virginia	551	17.0	529	161.8
Wisconsin	1,304	14.7	1,252	138.1
Wyoming	84	12.9	81	123.4
<b>Total</b>	<b>46,484</b>	<b>11.7</b>	<b>43,596</b>	<b>107.6</b>

\* *International Classification of Diseases, Ninth Revision*, code 428.

† Per 100,000 population; standardized to the 1970 Bureau of the Census population.

‡ Per 100,000 population; standardized to the 1970 Bureau of the Census population aged ≥65 years.



*Mortality From Heart Failure — Continued*

heart failure as the first stage for implementing standardized quality improvement efforts that will target the hospital care of all Medicare patients with heart failure.

Historically, the treatment of heart failure included combinations of diuretics and digitalis. Guidelines for clinical practice (7,8) recommend a trial of angiotensin-converting enzyme (ACE) inhibitors for heart failure patients with left ventricular systolic dysfunction (i.e., an ejection fraction of  $\leq 40\%$ ), unless specific contraindications exist, and use of diuretics for patients with volume overload. Digoxin should be initiated with ACE inhibitors and diuretics in patients with severe heart failure and should be added in patients who remain symptomatic despite optimal management with ACE inhibitors and diuretics.

Although mortality for heart failure is declining, an increasing number of older adults with heart failure will have a substantial impact on national health-care resources and expenditures. Despite potential progress in the treatment of heart failure, public health and clinical efforts should continue to target the prevention and treatment of high blood pressure and acute myocardial infarction—the two major, preventable underlying conditions associated with increased risk for heart failure. Primary prevention of heart failure includes adherence to everyday health practices associated with preventing hypertension and myocardial infarction (e.g., reduced dietary fat and/or sodium intake, moderate alcohol intake, weight maintenance, regular physical activity, and nonsmoking or smoking cessation). In addition, adults with hypertension should control blood pressure levels by improving daily health practices and using antihypertensive medications to prevent the development of heart failure.

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Outbreak Notice**Outbreak of Influenza A Infection —  
Alaska and the Yukon Territory, June–July 1998**

Since July 26, CDC and Health Canada, in cooperation with local public health authorities, have been investigating reports of febrile respiratory illness and associated pneumonia among persons traveling on land and sea, both independently and on tour packages, in Alaska and the Yukon Territory. Commonly reported symptoms include fever and cough, and laboratory evidence suggests that influenza A infection may be a cause of many of the illnesses. Summertime outbreaks of Influenza A have previously been reported among tourists in the United States and Canada (1,2). No evidence suggests increased respiratory illness activity among residents of these areas.

From June 5 through August 4, 1998, a total of 419 cases of acute respiratory infection (ARI), including 20 cases of pneumonia during June–July, have been reported to the investigation team in Anchorage. No deaths have been reported. The median age of persons with ARI is 63 years (range: 3–88 years); the median age of persons with pneumonia is 74 years (range: 61–88 years). Many cases have occurred in clusters, particularly among groups of 40–50 passengers sharing common transportation and accommodation packages on overland tours between Anchorage and Skagway or Anchorage and Seward during June–July. Affected passengers have traveled on several different tours from different companies. Information from case reports suggests that after touring inland, ill persons are boarding cruise ships, possibly resulting in further spread. In some instances, travelers are becoming ill and seeking medical attention for their respiratory illnesses only after returning home.

During June–September, approximately 70,000 overland tour and cruise ship passengers visit Alaska and the Yukon Territory each week. Most do not experience febrile respiratory illness. No special prevention measures are recommended at this time for travelers in good health.

Systematic surveillance for febrile respiratory illness and pneumonia is being initiated by CDC, Health Canada, and other public health officials in the region to better define the scope of the outbreak. Health-care providers who see patients with febrile respiratory illness and/or pneumonia should obtain a travel history and consider influenza A in the differential diagnosis for those with recent travel to Alaska or the Yukon Territory. Additional cases should be reported to CDC's Special Investigation Team; telephone (907) 729-3431; fax (907) 729-3429; or e-mail, SITEAM@cdc.gov.

*Reported by: Alaska Dept of Health and Social Svcs; Bur of Infectious Diseases and Office of Special Health Initiatives, Laboratory Center for Disease Control, Occupational Health and Safety Agency, Health Canada, Ottawa. Arctic Investigations Program, Div of Viral and Rickettsial Diseases and Div of Quarantine, National Center for Infectious Diseases; and EIS officers, CDC.*

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Notice to Readers**Satellite Broadcast on Women  
with Cervicitis and Pelvic Inflammatory Disease**

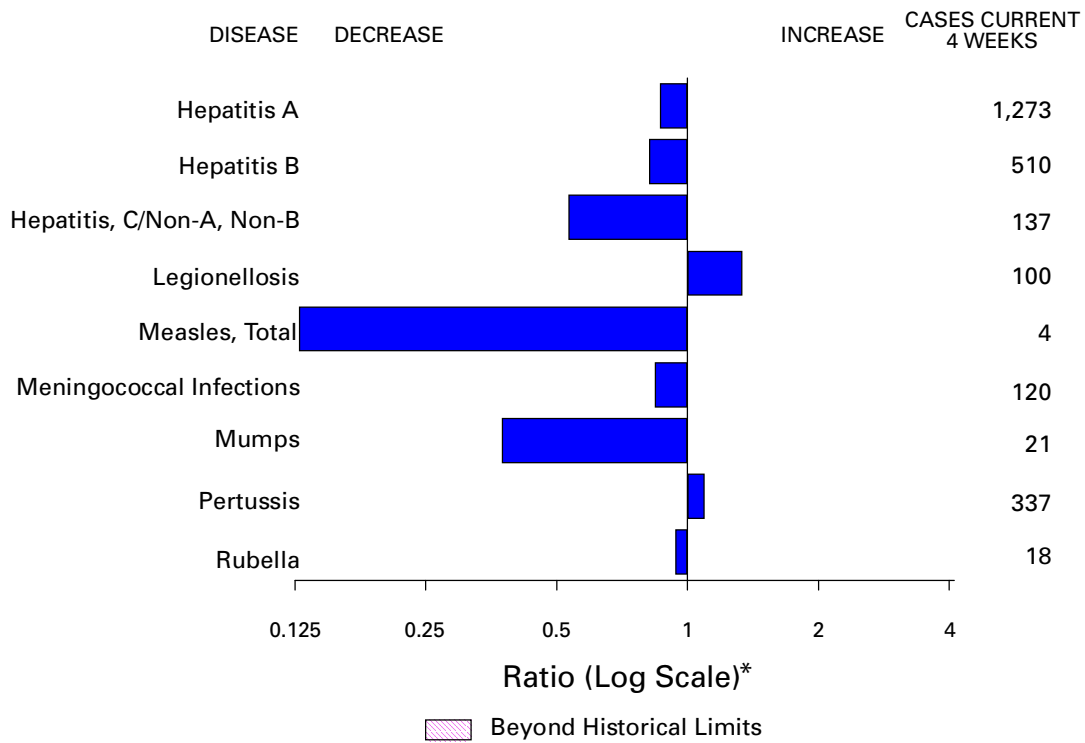
*Caring for Women: Management and Prevention of Cervicitis and Pelvic Inflammatory Disease*, a live interactive satellite broadcast, will be presented to sites nationwide Wednesday, October 7, 1998, from 12:30 p.m. to 3 p.m. eastern standard time. Cosponsors are CDC and the New England and Seattle Sexually Transmitted Disease/Human Immunodeficiency Virus Prevention and Training Centers. This program is designed for physicians, nurse practitioners, nurse midwives, physician assistants, and registered nurses who provide care for women.

The program will address the etiology, diagnosis, and management of cervicitis; choice of appropriate laboratory work up, treatment, and follow-up of pelvic inflammatory disease (PID); role of new diagnostic technologies in detecting *Chlamydia trachomatis* in the management of cervicitis and PID; and identification of screening strategies in preventing cervicitis and PID.

Information about registration, satellite coordinates, and Continuing Medical Education and Continuing Education Units is available from the Prevention Training Center in each public health region: Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont), telephone (617) 983-6945; Region II (New Jersey, New York, Puerto Rico, and Virgin Islands), telephone (518) 474-1692; Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia), telephone (410) 396-4448; Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee), telephone (205) 930-1196; Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin), telephone (513) 558-3197; Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, and Texas), telephone (214) 819-1947; Region VII (Iowa, Kansas, Missouri, and Nebraska), telephone (314) 747-0294; Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming), telephone (303) 436-7226; Region IX (Arizona, California, Hawaii, and Nevada), telephone (415) 554-9630; and Region X (Alaska, Idaho, Oregon, and Washington), telephone (206) 685-9850.



**FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending August 1, 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 August 1, 1998 (30th Week)**

	Cum. 1998		Cum. 1998
Anthrax	-	Plague	4
Brucellosis	43	Poliomyelitis, paralytic	1
Cholera	6	Psittacosis	30
Congenital rubella syndrome	3	Rabies, human	-
Cryptosporidiosis*	1,097	Rocky Mountain spotted fever (RMSF)	136
Diphtheria	2	Streptococcal disease, invasive Group A	1,409
Encephalitis: California*	13	Streptococcal toxic-shock syndrome*	37
eastern equine*	-	Syphilis, congenital**	178
St. Louis*	-	Tetanus	20
western equine*	-	Toxic-shock syndrome	74
Hansen Disease	68	Trichinosis	6
Hantavirus pulmonary syndrome*†	7	Typhoid fever	172
Hemolytic uremic syndrome, post-diarrheal*	30	Yellow fever	-
HIV infection, pediatric*§	127		

-: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 June 28, 1998.

¶ Updated from reports to the Division of STD Prevention, NCHSTP.

**TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending August 1, 1998, and July 26, 1997 (30th Week)**

Reporting Area	AIDS		Chlamydia		Escherichia coli O157:H7		Gonorrhea		Hepatitis C/NA,NB	
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	NETSS†	PHLIS‡	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997
					Cum. 1998	Cum. 1998				
UNITED STATES	23,929	33,453	304,939	258,173	1,239	677	178,219	161,549	2,192	1,981
NEW ENGLAND	830	1,454	11,492	9,800	165	122	3,208	3,325	31	41
Maine	18	36	582	567	21	-	39	33	-	-
N.H.	22	19	543	444	23	25	52	62	-	-
Vt.	10	24	234	223	8	6	20	31	-	2
Mass.	386	526	4,830	4,077	87	75	1,182	1,272	28	32
R.I.	67	83	1,380	1,103	5	1	205	260	3	7
Conn.	327	766	3,923	3,386	21	15	1,710	1,667	-	-
MID. ATLANTIC	6,951	10,621	37,961	31,581	125	27	21,130	20,213	229	189
Upstate N.Y.	849	1,726	N	N	92	-	3,378	3,479	177	140
N.Y. City	3,910	5,486	20,945	15,186	4	6	8,916	7,551	-	-
N.J.	1,232	2,098	6,152	5,581	29	20	3,724	4,132	-	-
Pa.	960	1,311	10,864	10,814	N	1	5,112	5,051	52	49
E.N. CENTRAL	1,768	2,318	48,771	34,452	203	119	33,313	21,715	294	352
Ohio	331	465	13,605	12,576	49	22	8,344	8,033	7	11
Ind.	326	390	3,326	5,046	57	27	2,120	3,371	4	10
Ill.	706	768	13,951	U	46	-	11,264	U	16	60
Mich.	305	544	12,282	10,649	51	27	9,302	7,734	267	251
Wis.	100	151	5,607	6,181	N	43	2,283	2,577	-	20
W.N. CENTRAL	444	656	17,883	18,006	169	121	8,963	8,077	120	40
Minn.	65	99	3,487	3,747	59	51	1,240	1,313	7	3
Iowa	49	69	2,063	2,650	51	25	660	720	12	20
Mo.	209	332	6,787	6,693	15	21	5,127	4,358	96	5
N. Dak.	4	6	290	483	2	9	29	32	-	2
S. Dak.	9	3	925	707	8	10	146	77	-	-
Nebr.	39	59	1,288	1,115	19	-	453	431	2	2
Kans.	69	88	3,043	2,611	15	5	1,308	1,146	3	8
S. ATLANTIC	5,900	8,325	62,770	53,914	108	70	50,677	52,500	110	134
Del.	75	145	1,438	-	-	1	782	669	-	-
Md.	718	1,071	4,908	4,004	16	9	5,671	6,604	5	4
D.C.	481	614	N	N	2	-	1,997	2,527	-	-
Va.	425	715	6,688	6,782	N	25	3,797	4,648	7	18
W. Va.	57	62	1,561	1,653	6	3	446	530	4	12
N.C.	390	503	12,003	9,744	18	23	10,095	9,416	14	33
S.C.	386	422	10,784	7,120	5	1	6,991	6,391	3	27
Ga.	616	973	13,737	9,985	40	-	11,508	11,439	9	-
Fla.	2,752	3,820	11,651	14,626	21	8	9,390	10,276	68	40
E.S. CENTRAL	936	1,074	22,691	19,733	64	25	21,799	19,582	102	215
Ky.	127	177	3,601	3,760	17	-	2,053	2,383	16	10
Tenn.	333	469	7,450	7,383	31	22	6,362	6,117	83	145
Ala.	274	239	5,907	4,659	16	2	7,448	6,633	3	6
Miss.	202	189	5,733	3,931	U	1	5,936	4,449	U	54
W.S. CENTRAL	2,899	3,546	43,327	34,824	75	12	24,774	22,541	540	259
Ark.	104	130	1,939	1,691	6	6	1,190	2,761	3	9
La.	512	610	8,260	5,106	3	2	6,840	4,782	19	118
Okla.	170	165	5,753	4,253	10	4	3,148	2,664	7	5
Tex.	2,113	2,641	27,375	23,774	56	-	13,596	12,334	511	127
MOUNTAIN	831	941	12,296	16,416	161	77	4,606	4,476	249	177
Mont.	15	26	720	619	8	-	26	27	5	12
Idaho	15	34	946	831	14	7	91	63	86	34
Wyo.	2	13	367	315	48	-	17	29	45	42
Colo.	147	224	3	3,617	34	30	1,305	1,235	16	19
N. Mex.	130	80	2,083	2,199	15	11	500	503	60	32
Ariz.	329	227	6,354	6,134	13	13	2,300	1,951	3	23
Utah	65	80	1,323	971	23	10	139	142	21	3
Nev.	128	257	500	1,730	6	6	228	526	13	12
PACIFIC	3,370	4,518	47,748	39,447	169	104	9,749	9,120	517	574
Wash.	236	377	6,435	5,153	29	22	1,097	1,093	11	17
Oreg.	93	162	3,303	2,795	43	41	464	429	2	2
Calif.	2,962	3,914	35,628	29,711	95	35	7,748	7,093	449	458
Alaska	12	28	1,107	809	2	-	182	224	1	-
Hawaii	67	37	1,275	979	N	6	258	281	54	97
Guam	-	2	8	193	N	-	2	27	-	-
P.R.	1,001	1,019	U	U	-	U	230	369	-	-
V.I.	17	57	N	U	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	14	17	-	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 June 28, 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 August 1, 1998, and July 26, 1997 (30th 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	636	493	5,109	4,058	671	945	4,118	4,784	7,488	9,180	3,996
NEW ENGLAND	36	35	1,701	855	41	45	41	97	249	250	769
Maine	1	1	6	7	4	1	1	-	4	16	121
N.H.	3	4	27	7	3	2	1	-	6	9	37
Vt.	3	6	6	3	-	2	4	-	1	3	33
Mass.	13	10	332	183	14	21	24	46	135	138	254
R.I.	8	5	165	123	2	5	1	2	34	17	44
Conn.	8	9	1,165	532	18	14	10	49	69	67	280
MID. ATLANTIC	142	84	2,771	2,429	159	292	146	238	1,474	1,750	914
Upstate N.Y.	43	23	1,712	921	48	43	18	24	177	225	638
N.Y. City	19	7	10	111	71	182	32	50	846	907	U
N.J.	7	14	497	759	22	50	53	99	331	353	112
Pa.	73	40	552	638	18	17	43	65	120	265	164
E.N. CENTRAL	200	170	50	198	56	96	534	363	605	1,011	76
Ohio	82	72	40	16	3	12	76	122	U	173	40
Ind.	38	29	8	15	6	9	124	94	76	85	5
Ill.	14	11	1	7	18	39	195	U	357	519	5
Mich.	44	37	1	15	27	24	104	72	172	168	19
Wis.	22	21	U	145	2	12	35	75	-	66	7
W.N. CENTRAL	42	34	66	46	50	30	85	101	219	304	444
Minn.	3	1	47	23	26	10	6	14	81	79	78
Iowa	4	9	13	3	5	7	-	6	9	34	97
Mo.	14	5	1	15	10	7	66	57	86	121	19
N. Dak.	-	2	-	-	2	2	-	-	3	6	89
S. Dak.	2	2	-	-	-	-	1	-	14	7	90
Nebr.	15	12	3	2	1	1	4	1	8	12	3
Kans.	4	3	2	3	6	3	8	23	18	45	68
S. ATLANTIC	77	64	373	367	154	148	1,784	1,910	1,138	1,861	1,199
Del.	8	7	8	77	1	2	16	15	U	19	17
Md.	19	14	267	231	50	49	407	532	166	172	296
D.C.	5	3	4	7	12	10	46	71	62	58	-
Va.	8	13	31	16	26	40	96	150	144	194	364
W. Va.	N	N	6	1	1	-	2	3	25	30	51
N.C.	6	8	25	20	12	8	436	420	237	227	136
S.C.	6	3	3	1	4	10	179	222	181	204	92
Ga.	3	-	2	1	17	16	471	319	253	338	120
Fla.	21	16	27	13	31	13	131	178	70	619	123
E.S. CENTRAL	31	34	45	48	15	19	688	1,052	370	741	159
Ky.	16	7	10	9	2	5	67	87	-	106	23
Tenn.	11	20	24	21	9	4	331	449	208	277	90
Ala.	4	2	11	4	4	7	158	267	162	229	46
Miss.	U	5	U	14	U	3	132	249	U	129	U
W.S. CENTRAL	20	12	14	36	19	10	521	730	159	1,441	111
Ark.	-	1	5	11	1	2	67	107	64	118	21
La.	2	2	1	2	5	5	201	219	U	107	-
Okla.	8	1	2	5	2	3	32	69	95	126	90
Tex.	10	8	6	18	11	-	221	335	-	1,090	-
MOUNTAIN	40	30	7	6	31	47	129	92	244	333	95
Mont.	2	1	-	-	-	2	-	-	12	6	32
Idaho	-	2	1	2	4	-	-	-	8	7	-
Wyo.	1	1	-	1	-	2	1	2	2	2	44
Colo.	7	9	3	-	10	23	8	5	U	57	1
N. Mex.	2	1	2	-	11	6	12	4	33	30	3
Ariz.	10	7	-	1	5	7	102	72	124	153	9
Utah	16	6	-	-	1	3	3	3	36	14	6
Nev.	2	3	1	2	-	4	3	8	29	64	-
PACIFIC	48	30	82	73	146	258	190	201	3,030	1,489	229
Wash.	8	6	4	2	14	9	23	7	144	174	-
Oreg.	-	-	9	11	12	13	3	5	71	95	1
Calif.	39	23	68	60	118	228	164	187	2,694	1,061	207
Alaska	-	-	1	-	1	3	-	1	31	49	21
Hawaii	1	1	-	-	1	5	-	1	90	110	-
Guam	-	-	-	-	-	-	-	3	-	13	-
P.R.	-	-	-	-	-	4	120	145	46	129	31
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.	-	-	-	-	-	-	98	9	54	2	-

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

\*Additional information about areas displaying "U" for cumulative 1998 Tuberculosis cases can be found in Notice to Readers, MMWR Vol. 47, No. 2, p. 39.

**TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending August 1, 1998, and July 26, 1997 (30th Week)**

Reporting Area	<i>H. influenzae</i> , invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
	Cum. 1998*	Cum. 1997	A		B		Indigenous		Imported†		Total	
			Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	1998	Cum. 1998	1998	Cum. 1998	Cum. 1998	Cum. 1997
UNITED STATES	648	679	12,591	15,949	4,614	5,339	1	27	2	19	46	95
NEW ENGLAND	35	37	150	410	76	99	-	1	-	2	3	16
Maine	2	3	13	45	2	6	-	-	-	-	-	-
N.H.	7	5	8	21	10	6	-	-	-	-	-	1
Vt.	2	3	13	7	3	5	-	-	-	1	1	-
Mass.	22	23	46	172	18	43	-	1	-	1	2	14
R.I.	2	2	10	88	43	10	-	-	-	-	-	-
Conn.	-	1	60	77	-	29	-	-	-	-	-	1
MID. ATLANTIC	90	96	823	1,278	646	780	-	9	2	4	13	21
Upstate N.Y.	36	25	195	181	179	161	-	2	-	-	2	5
N.Y. City	18	26	210	580	173	292	-	-	-	-	-	7
N.J.	31	31	196	187	105	152	-	7	-	1	8	3
Pa.	5	14	222	330	189	175	-	-	2	3	3	6
E.N. CENTRAL	99	114	1,667	1,644	469	888	-	11	-	3	14	9
Ohio	35	62	194	210	43	50	U	-	U	1	1	-
Ind.	27	11	98	182	61	69	-	2	-	1	3	-
Ill.	30	27	273	423	90	171	-	-	-	-	-	7
Mich.	3	14	989	707	253	258	-	9	-	1	10	2
Wis.	4	-	113	122	22	340	-	-	-	-	-	-
W.N. CENTRAL	63	34	964	1,203	245	294	-	-	-	-	-	12
Minn.	49	25	79	110	23	23	-	-	-	-	-	3
Iowa	1	3	382	207	37	21	U	-	U	-	-	-
Mo.	8	3	391	631	151	218	U	-	U	-	-	1
N. Dak.	-	-	3	10	4	3	U	-	U	-	-	-
S. Dak.	-	2	17	14	1	-	-	-	-	-	-	8
Nebr.	-	1	24	49	9	8	-	-	-	-	-	-
Kans.	5	-	68	182	20	21	-	-	-	-	-	-
S. ATLANTIC	134	106	1,061	905	661	653	1	3	-	5	8	8
Del.	-	-	3	18	-	4	-	-	-	1	1	-
Md.	41	44	193	124	96	100	-	-	-	1	1	2
D.C.	-	-	31	15	7	24	-	-	-	-	-	1
Va.	13	7	137	119	56	76	-	-	-	2	2	1
W. Va.	4	3	1	6	4	9	-	-	-	-	-	-
N.C.	19	17	60	116	119	134	-	-	-	-	-	1
S.C.	3	3	18	69	21	62	-	-	-	-	-	-
Ga.	28	21	303	195	112	64	1	1	-	1	2	1
Fla.	26	11	315	243	246	180	-	2	-	-	2	2
E.S. CENTRAL	38	39	210	382	225	388	-	-	-	2	2	1
Ky.	6	6	14	47	24	26	-	-	-	-	-	-
Tenn.	24	23	147	238	168	261	-	-	-	-	-	-
Ala.	8	8	49	58	33	42	-	-	-	2	2	1
Miss.	U	2	U	39	U	59	U	U	U	U	U	-
W.S. CENTRAL	38	33	2,406	3,294	773	677	-	-	-	-	-	5
Ark.	-	2	58	135	52	47	U	-	U	-	-	-
La.	18	7	50	117	58	82	-	-	-	-	-	-
Okla.	18	22	338	945	52	25	-	-	-	-	-	-
Tex.	2	2	1,960	2,097	611	523	-	-	-	-	-	5
MOUNTAIN	73	64	2,014	2,403	507	501	-	-	-	-	-	7
Mont.	-	-	66	53	3	6	-	-	-	-	-	-
Idaho	-	1	160	83	19	16	-	-	-	-	-	-
Wyo.	1	2	25	20	2	14	-	-	-	-	-	-
Colo.	15	10	157	258	65	96	-	-	-	-	-	-
N. Mex.	5	7	95	191	213	165	-	-	-	-	-	-
Ariz.	41	27	1,309	1,173	133	112	-	-	-	-	-	5
Utah	4	3	128	377	43	59	-	-	-	-	-	-
Nev.	7	14	74	248	29	33	-	-	-	-	-	2
PACIFIC	78	156	3,296	4,430	1,012	1,059	-	3	-	3	6	16
Wash.	7	2	648	305	69	47	-	-	-	1	1	-
Oreg.	32	25	229	226	69	65	-	-	-	-	-	-
Calif.	31	121	2,382	3,786	863	928	-	3	-	2	5	12
Alaska	1	2	14	24	6	11	-	-	-	-	-	-
Hawaii	7	6	23	89	5	8	-	-	-	-	-	4
Guam	-	-	-	-	-	3	U	-	U	-	-	-
P.R.	2	-	34	193	257	440	-	-	-	-	-	-
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	1	1	28	34	U	-	U	-	-	1

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

\*Of 148 cases among children aged <5 years, serotype was reported for 81 and of those, 33 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 August 1, 1998, and July 26, 1997 (30th 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	1,684	2,175	3	282	381	108	2,714	3,034	3	293	123
NEW ENGLAND	74	136	1	2	7	9	475	597	-	36	1
Maine	5	15	-	-	-	-	5	6	-	-	-
N.H.	4	12	-	-	-	1	40	70	-	-	-
Vt.	1	2	-	-	-	3	47	180	-	-	-
Mass.	36	70	-	1	2	5	353	318	-	6	1
R.I.	3	11	-	-	4	-	5	12	-	1	-
Conn.	25	26	1	1	1	-	25	11	-	29	-
MID. ATLANTIC	155	229	-	17	44	8	306	228	2	123	28
Upstate N.Y.	39	64	-	3	9	8	157	86	2	109	4
N.Y. City	18	40	-	4	3	-	9	53	-	9	24
N.J.	42	43	-	2	7	-	5	11	-	4	-
Pa.	56	82	-	8	25	-	135	78	-	1	-
E.N. CENTRAL	259	320	1	50	49	7	235	300	-	-	5
Ohio	92	117	U	20	18	U	79	88	U	-	-
Ind.	48	35	-	5	6	1	69	35	-	-	-
Ill.	64	92	-	6	8	5	32	42	-	-	1
Mich.	31	47	1	19	14	1	38	31	-	-	-
Wis.	24	29	-	-	3	-	17	104	-	-	4
W.N. CENTRAL	141	163	-	20	12	2	212	185	-	27	-
Minn.	25	29	-	10	5	2	132	119	-	-	-
Iowa	23	37	U	6	6	U	40	9	U	-	-
Mo.	53	71	U	3	-	U	16	33	U	2	-
N. Dak.	2	1	U	1	-	U	-	1	U	-	-
S. Dak.	6	4	-	-	-	-	6	3	-	-	-
Nebr.	7	6	-	-	1	-	8	4	-	-	-
Kans.	25	15	-	-	-	-	10	16	-	25	-
S. ATLANTIC	297	371	-	37	45	24	171	271	1	9	57
Del.	1	5	-	-	-	-	2	-	-	-	-
Md.	24	36	-	-	1	1	31	83	-	-	-
D.C.	-	5	-	-	-	-	1	3	-	-	-
Va.	24	36	-	5	7	-	7	32	-	-	1
W. Va.	10	14	-	-	-	-	1	5	-	-	-
N.C.	42	72	-	9	7	15	65	80	1	6	50
S.C.	42	40	-	4	10	3	20	11	-	-	6
Ga.	65	73	-	1	6	4	10	8	-	-	-
Fla.	89	90	-	18	14	1	34	49	-	3	-
E.S. CENTRAL	119	157	-	6	19	1	59	66	-	1	1
Ky.	19	38	-	-	3	-	22	20	-	-	-
Tenn.	46	55	-	1	3	1	20	25	-	-	-
Ala.	54	47	-	5	6	-	17	15	-	1	1
Miss.	U	17	U	U	7	U	U	6	U	U	-
W.S. CENTRAL	191	201	-	40	44	3	195	121	-	79	3
Ark.	23	25	U	-	1	U	26	9	U	-	-
La.	40	43	-	8	11	-	2	12	-	-	-
Okla.	29	24	-	-	-	-	18	17	-	-	-
Tex.	99	109	-	32	32	3	149	83	-	79	3
MOUNTAIN	97	126	-	24	48	15	577	758	-	5	5
Mont.	3	7	-	-	-	-	3	9	-	-	-
Idaho	6	8	-	3	2	-	193	458	-	-	1
Wyo.	4	1	-	1	1	-	7	5	-	-	-
Colo.	19	33	-	6	3	2	127	204	-	-	-
N. Mex.	17	21	N	N	N	1	70	39	-	1	-
Ariz.	33	32	-	5	31	7	129	23	-	1	4
Utah	11	11	-	3	6	5	35	10	-	2	-
Nev.	4	13	-	6	5	-	13	10	-	1	-
PACIFIC	351	472	1	86	113	39	484	508	-	13	23
Wash.	48	56	-	6	13	33	185	212	-	9	5
Oreg.	56	93	N	N	N	2	30	22	-	-	-
Calif.	242	319	1	63	82	3	261	256	-	2	10
Alaska	1	1	-	2	5	1	3	4	-	-	-
Hawaii	4	3	-	15	13	-	5	14	-	2	8
Guam	-	1	U	-	1	U	-	-	U	-	-
P.R.	6	8	-	1	5	-	2	-	-	-	-
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 August 1, 1998 (30th Week)**

Reporting Area	All Causes, By Age (Years)						P&J† Total	Reporting Area	All Causes, By Age (Years)						P&J† Total
	All Ages	>65	45-64	25-44	1-24	<1			All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	553	396	97	43	6	11	32	S. ATLANTIC	1,016	666	202	97	30	21	61
Boston, Mass.	160	108	32	13	3	4	10	Atlanta, Ga.	U	U	U	U	U	U	U
Bridgeport, Conn.	40	30	9	1	-	-	3	Baltimore, Md.	182	108	37	27	7	3	13
Cambridge, Mass.	16	10	5	1	-	-	1	Charlotte, N.C.	89	55	23	5	2	4	8
Fall River, Mass.	31	28	1	1	1	-	3	Jacksonville, Fla.	106	72	16	9	5	4	3
Hartford, Conn.	42	29	6	4	1	2	1	Miami, Fla.	94	67	16	9	2	-	1
Lowell, Mass.	17	12	4	1	-	-	2	Norfolk, Va.	51	34	7	6	1	3	3
Lynn, Mass.	5	4	1	-	-	-	-	Richmond, Va.	58	33	15	3	4	3	1
New Bedford, Mass.	26	19	4	3	-	-	-	Savannah, Ga.	59	42	13	2	2	-	3
New Haven, Conn.	38	18	10	7	1	2	1	St. Petersburg, Fla.	76	63	9	2	1	1	8
Providence, R.I.	58	47	3	7	-	1	-	Tampa, Fla.	153	109	28	11	3	2	13
Somerville, Mass.	4	3	1	-	-	-	-	Washington, D.C.	131	72	36	19	3	1	7
Springfield, Mass.	31	25	4	2	-	-	1	Wilmington, Del.	17	11	2	4	-	-	1
Waterbury, Conn.	28	22	6	-	-	-	1	E.S. CENTRAL	865	607	157	58	22	19	50
Worcester, Mass.	57	41	11	3	-	2	9	Birmingham, Ala.	184	130	35	13	3	1	11
MID. ATLANTIC	2,158	1,460	426	190	36	46	84	Chattanooga, Tenn.	65	47	11	3	2	2	4
Albany, N.Y.	43	29	8	4	-	2	-	Knoxville, Tenn.	91	64	16	6	2	3	5
Allentown, Pa.	19	17	2	-	-	-	-	Lexington, Ky.	87	65	16	3	2	1	7
Buffalo, N.Y.	92	65	19	4	2	2	-	Memphis, Tenn.	186	134	29	12	5	6	18
Camden, N.J.	26	15	4	4	-	3	2	Mobile, Ala.	57	39	13	3	2	-	-
Elizabeth, N.J.	12	9	1	2	-	-	-	Montgomery, Ala.	29	16	8	3	1	1	-
Erie, Pa.	39	32	5	1	-	1	1	Nashville, Tenn.	166	112	29	15	5	5	5
Jersey City, N.J.	23	14	5	3	1	-	-	W.S. CENTRAL	1,481	933	334	122	49	43	76
New York City, N.Y.	1,100	745	213	98	21	23	38	Austin, Tex.	69	42	19	6	1	1	5
Newark, N.J.	47	17	12	15	-	3	1	Baton Rouge, La.	20	13	4	2	1	-	-
Paterson, N.J.	14	7	5	2	-	-	-	Corpus Christi, Tex.	50	32	12	2	1	3	2
Philadelphia, Pa.	399	244	94	41	9	11	16	Dallas, Tex.	199	118	36	26	9	10	4
Pittsburgh, Pa.‡	53	39	10	2	2	-	1	El Paso, Tex.	62	45	9	4	2	2	3
Reading, Pa.	28	23	4	1	-	-	2	Ft. Worth, Tex.	138	79	37	10	6	6	7
Rochester, N.Y.	121	93	20	6	1	1	12	Houston, Tex.	380	232	97	32	14	5	21
Schenectady, N.Y.	18	15	3	-	-	-	2	Little Rock, Ark.	69	38	19	7	-	5	6
Scranton, Pa.	30	25	4	1	-	-	1	New Orleans, La.	94	60	17	14	3	-	-
Syracuse, N.Y.	55	42	9	4	-	-	7	San Antonio, Tex.	182	125	41	5	4	7	11
Trenton, N.J.	26	19	5	2	-	-	1	Shreveport, La.	99	67	19	7	5	1	10
Utica, N.Y.	13	10	3	-	-	-	-	Tulsa, Okla.	119	82	24	7	3	3	7
Yonkers, N.Y.	U	U	U	U	U	U	U	MOUNTAIN	1,417	945	244	137	49	39	88
E.N. CENTRAL	1,516	1,042	278	115	37	44	67	Albuquerque, N.M.	104	68	23	11	2	-	1
Akron, Ohio	51	39	11	-	1	-	-	Boise, Idaho	44	26	12	2	2	2	2
Canton, Ohio	23	17	6	-	-	-	-	Colo. Springs, Colo.	58	37	15	5	1	-	1
Chicago, Ill.	U	U	U	U	U	U	U	Denver, Colo.	99	64	12	9	6	8	6
Cincinnati, Ohio	78	51	14	6	3	4	8	Las Vegas, Nev.	189	119	43	16	9	2	12
Cleveland, Ohio	152	107	29	7	4	5	2	Ogden, Utah	41	32	7	2	-	-	-
Columbus, Ohio	219	148	40	19	6	6	18	Phoenix, Ariz.	632	416	97	70	21	25	45
Dayton, Ohio	124	89	20	10	4	1	11	Pueblo, Colo.	25	20	4	-	1	-	-
Detroit, Mich.	179	102	42	28	3	4	3	Salt Lake City, Utah	110	77	15	13	4	1	11
Evansville, Ind.	59	44	9	5	1	-	2	Tucson, Ariz.	115	86	16	9	3	1	9
Fort Wayne, Ind.	55	37	7	3	2	6	1	PACIFIC	1,564	1,094	297	93	45	33	135
Gary, Ind.	12	6	2	2	2	-	-	Berkeley, Calif.	20	13	5	-	-	2	4
Grand Rapids, Mich.	75	57	11	2	4	1	8	Fresno, Calif.	106	75	21	5	4	1	5
Indianapolis, Ind.	168	103	37	20	4	4	-	Glendale, Calif.	U	U	U	U	U	U	U
Lansing, Mich.	32	25	4	2	-	1	5	Honolulu, Hawaii	61	40	11	5	4	1	3
Milwaukee, Wis.	109	77	16	7	-	9	1	Long Beach, Calif.	63	39	13	3	1	7	9
Peoria, Ill.	38	33	2	-	1	2	6	Los Angeles, Calif.	U	U	U	U	U	U	U
Rockford, Ill.	43	28	12	3	-	-	2	Pasadena, Calif.	28	18	9	1	-	-	4
South Bend, Ind.	42	34	6	-	1	1	-	Portland, Oreg.	299	208	65	4	16	6	21
Toledo, Ohio	U	U	U	U	U	U	U	Sacramento, Calif.	212	160	28	16	5	3	28
Youngstown, Ohio	57	45	10	1	1	-	-	San Diego, Calif.	137	97	22	14	-	3	16
W.N. CENTRAL	722	516	136	36	16	12	39	San Francisco, Calif.	149	107	31	9	1	1	15
Des Moines, Iowa	U	U	U	U	U	U	U	San Jose, Calif.	191	132	38	16	2	3	16
Duluth, Minn.	18	12	4	-	2	-	1	Santa Cruz, Calif.	28	22	4	1	1	-	2
Kansas City, Kans.	25	13	8	-	3	1	-	Seattle, Wash.	138	84	30	14	8	2	5
Kansas City, Mo.	130	82	25	13	2	2	6	Spokane, Wash.	44	33	5	2	-	3	-
Lincoln, Nebr.	33	24	8	1	-	-	2	Tacoma, Wash.	88	66	15	3	3	1	7
Minneapolis, Minn.	170	129	32	5	2	2	8	TOTAL	11,292‡	7,659	2,171	891	290	268	632
Omaha, Nebr.	77	59	10	3	2	3	8								
St. Louis, Mo.	94	69	17	5	1	2	2								
St. Paul, Minn.	98	75	14	5	3	1	7								
Wichita, Kans.	77	53	18	4	1	1	5								

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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The *Morbidity and Mortality Weekly Report (MMWR)* Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available free of charge in electronic format and on a paid subscription basis for paper copy. To receive an electronic copy on Friday of each week, send an e-mail message to [listserv@listserv.cdc.gov](mailto:listserv@listserv.cdc.gov). The body content should read *SUBscribe mmwr-toc*. Electronic copy also is available from CDC's World-Wide Web server at <http://www.cdc.gov/> or from CDC's file transfer protocol server at <ftp.cdc.gov>. To subscribe for paper copy, contact Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 512-1800.

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