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Epidemiologic Notes and Reports

Measles at an International Gymnastics Competition – Indiana, 1991

On September 7, 1991, the Indiana State Department of Health (ISDH) was notified of three suspected measles cases among athletes from New Zealand (NZ) participating in an international gymnastics competition September 6–15 in Indianapolis (Marion County). Among those potentially at risk for measles were approximately 700 athletes and 1200 coaches, trainers, and managers from 51 countries; an estimated 2500 volunteers and staff; international media, families, and employees; and approximately 60,000 spectators attending the competition. This report summarizes the epidemiologic investigation of these cases.

Sixteen NZ delegation members arrived August 29 and stayed on one floor of a hotel. Throughout the following week, they practiced in a curtain-divided area shared with three other teams and visited nearby shopping and eating establishments. On August 30, two 15-year-old female athletes (patients 1 and 2) developed cough, coryza, and conjunctivitis, followed by onset of rash on September 4. Patient 2's symptoms were mild and improved within 24 hours of onset of rash. A third athlete (patient 3), a 16-year-old female, developed symptoms on September 5 and rash on September 7. All three patients had measles IgM antibody in their acute serum specimens ($\geq$1:40 by indirect fluorescent antibody [IFA] test). Complement-fixation testing of both the acute and convalescent specimens collected 7 weeks later demonstrated fourfold or greater rise in IgG measles antibody for patients 1 and 3 and a fourfold decline in measles IgG antibody for patient 2. The three patients had documented histories of live-virus measles vaccination in NZ at 11, 13, and 14 months of age and reported exposure to a person with physician-diagnosed measles at their NZ practice gymnasium approximately 2 weeks before onset of rash.

Following onset of rash, patients 1 and 3 were isolated in their hotel rooms for at least 4 days. Remaining NZ delegation members born after 1956 were isolated until serologic evidence of measles immunity could be determined; within 12 hours, all were demonstrated to be seropositive (measles IgG $\geq$1:40 by IFA).

Measles — Continued

An investigation by the ISDH identified numerous groups with probable measles exposure. Because of the large-scale exposure, the seriousness of measles illness (*1*), the extreme infectiousness of the measles virus (*1*), and the difficulty in obtaining timely evidence of measles immunity from throughout the world, the ISDH recommended that all participants, volunteers, staff, and hotel employees born after 1956 receive live-virus measles vaccine (*2*).

During September 8–12, six vaccination clinics were held. The vaccine was administered using an automatic hypodermic injection apparatus. Among the 1300 persons vaccinated were 608 international delegates, 264 Indianapolis and 139 other Indiana residents, 152 out-of-state volunteers, and 137 hotel employees. More than 1100 (85%) persons were vaccinated within 72 hours after the opening ceremonies on September 6 when most widespread exposure occurred.

Three persons experienced adverse events following vaccination; all were local reactions at the injection site and resolved without serious consequences. Two of these three patients were treated with antibiotics and improved promptly; the third was thought to have had an allergic reaction and was treated with corticosteroids.

Surveillance for secondary cases included 1) twice-daily reports from delegations on whether any member had prodromal measles symptoms; 2) daily review of visits to the competition's medical station and observation of the venue for persons with measles symptoms; 3) letters to participants, volunteers, and staff advising them of the outbreak and control measures, signs and symptoms of measles, the need to seek health care, and the importance of notifying local public health officials if symptoms occurred; 4) daily telephone calls to all emergency rooms and urgent-care centers in Marion County during September 16–23; and 5) notification of states whose residents attended the competition. No additional cases associated with the outbreak have been reported.

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Editorial Note: Measles outbreaks at sporting events are potentially serious because of the danger of transmission to susceptible persons in large groups gathered in a confined environment (*3,4*). The potential for measles spread at the gymnastics competition in Indiana was great because of extensive mingling of NZ athletes in the prodromal stage—the most infectious stage of measles—not only with international delegations but also with the local community and visitors from throughout the United States. During the last 6 months of 1991, 9239 measles cases were reported in NZ, although the actual number may have been three to four times higher (*5*). The outbreak in Indiana demonstrates the ease with which measles infection can be transmitted throughout the world.

The absence of secondary cases may have been due to 1) a relatively large number of immune contacts among attendees from other countries (from natural infection or previous vaccination), 2) self-selection for vaccination by those less likely to be immune, and 3) prompt case confirmation and aggressive vaccination of many contacts within 72 hours of most intense exposure (*2*). Quarantine or closing of events would not have been feasible and, because exposure had already occurred, may not have limited secondary spread. A major factor in the prompt response was the cooperation and coordination among the competition's officials, the Marion

Measles — Continued

County Health Department, and the ISDH laboratory and immunization personnel. The availability of jet injectors and multidose vaccine vials also facilitated the timely response.

To assist in preventing outbreaks of vaccine-preventable diseases (VPDs) and facilitating control if an outbreak occurs, the following measures should be implemented by athletic governing bodies and local organizing officials of national and international athletic events: 1) all delegation members, staff, volunteers, and accompanying visitors should be appropriately vaccinated according to the recommendations of their respective nations before arrival; 2) delegation members, staff, and volunteers born after 1956 should be required to provide vaccination records or other documentation of immunity (such as serology or physician diagnosis) for measles and other VPDs; 3) vaccination records should be maintained in data bases that include birth date, home address (including country), and telephone number, and similar data collected on vaccination consent forms must be legible; 4) participants aged <18 years should have authority to designate an accompanying adult to authorize medical intervention; and 5) in the event of a VPD outbreak, local and state health departments should work quickly with organizing committees and governing bodies to establish plans for evaluation, treatment, exclusion, and prophylaxis and to ensure vaccination clinics are held promptly and conveniently.

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Health Objectives for the Nation

Safety-Belt and Helmet Use Among High School Students — United States, 1990

During 1988, injuries were the leading cause of death among persons aged 15–19 years in the United States. More than half (53%) of these deaths were motor-vehicle related, including crashes involving bicycles and motorcycles with motor vehicles (CDC, unpublished data, 1988). Among persons aged 15–19 years, motor-vehicle–related injuries are the leading contributor to hospital and emergency department medical costs associated with injuries (*1*). This article presents 1990 self-reported data from U.S. students in grades 9–12 regarding the prevalence of three behaviors that reduce the risk for injuries from motor-vehicle crashes—safety-belt use, motorcycle-helmet use, and bicycle-helmet use.

The national school-based Youth Risk Behavior Survey (YRBS) is a component of CDC's Youth Risk Behavior Surveillance System, which periodically measures the prevalence of priority health-risk behaviors among youth through representative national, state, and local surveys (*2*). The 1990 YRBS used a three-stage sample

Safety-Belt and Helmet Use — Continued

design to obtain a representative sample of 11,631 students in grades 9–12 in the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Students were asked how often they wore safety belts when riding in a car or truck driven by someone else and how often they wore a helmet when riding a motorcycle or a bicycle.

Less than one fourth (24.3%) of all students in grades 9–12 "always" used safety belts when riding in a car or truck driven by someone else (Table 1). An additional 23.0% of students used safety belts "most of the time," and 13.4% reported "never" using safety belts. Use of safety belts did not vary significantly by sex, race/ethnicity, or grade.

Male students (44.8%) were significantly more likely than female students (23.6%) to ride motorcycles, and white students (37.3%) were significantly more likely than Hispanic (24.8%) or black students (18.9%) to ride motorcycles. Among students who rode motorcycles, 57.9% wore motorcycle helmets "always" or "most of the time" (Figure 1). White students (59.8%) were significantly more likely than Hispanic students (39.3%) to wear motorcycle helmets. Helmet use by black students (55.9%) was not significantly different from helmet use by either white or Hispanic students. Use of motorcycle helmets did not vary significantly by sex or grade.

Male students (67.3%) were significantly more likely than female students (53.4%) to ride bicycles; 2.3% of students wore bicycle helmets "always" or "most of the time" (Figure 1). Use of bicycle helmets did not vary significantly by sex, race/ethnicity, or grade.

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Editorial Note: Not using a safety belt is one of the major risk factors for fatalities and injuries to motor-vehicle occupants (*3*). The National Highway Traffic Safety Administration (NHTSA) estimated that, among front-seat motor-vehicle occupants, safety-belt use reduces the risk for fatal injury by 40%–50% and the risk for moderate to critical injury by 45%–55% (*4*). Accordingly, national health objectives for the year 2000 include increasing the use of occupant protection systems (e.g., safety belts,

TABLE 1. Percentage of high school students who reported "always" using safety belts when riding in a car or truck driven by someone else, by sex, race/ethnicity, and grade — United States, Youth Risk Behavior Survey, 1990*

	Female		Male		Total	
Category	%	(95% CI†)	%	(95% CI)	%	(95% CI)
Race/Ethnicity						
White	27.1	(±5.5)	22.5	(±5.1)	**24.8**	**(±4.9)**
Black	23.3	(±5.1)	20.7	(±9.4)	**22.4**	**(±6.5)**
Hispanic	25.4	(±5.5)	17.8	(±4.9)	**21.8**	**(±4.1)**
Grade						
9th	21.1	(±3.9)	19.7	(±5.1)	**20.7**	**(±3.9)**
10th	25.7	(±6.7)	22.5	(±4.9)	**24.1**	**(±5.1)**
11th	27.5	(±4.9)	22.5	(±5.3)	**25.1**	**(±4.3)**
12th	32.3	(±5.3)	23.1	(±6.3)	**27.3**	**(±5.1)**
Total	**26.4**	**(±4.3)**	**22.1**	**(±4.3)**	**24.3**	**(±3.9)**

*Unweighted sample size = 11,631 students.
†Confidence interval.

Safety-Belt and Helmet Use — Continued

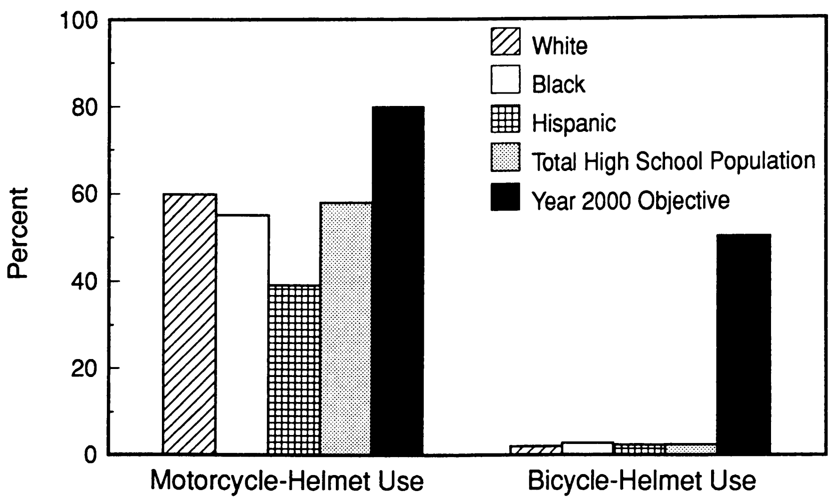
inflatable safety restraints, and child-safety seats) to at least 85% of motor-vehicle occupants (objective 9.12) (*3*). However, to reach this objective among high school students, the percentage who report they "always" wear safety belts will have to increase to 3.5 times the level indicated in the 1990 YRBS.

Comparisons between self-reports and observations of safety-belt use indicate that the "always use" category of self-reported rates is the response category that corresponds most closely to the observed rates (*5*). Observational surveys of safety-belt use in 19 cities (*6*) indicate that adolescents have the lowest safety-belt use of any age group—28.9% in 1989; the observational surveys support the findings in this report and suggest that high school students should be targeted for efforts to increase safety-belt use.

From 1979 through 1986, 12% of the 46,500 average annual motor-vehicle fatalities were associated with riding motorcycles, and 53% of these deaths involved head injuries (*7*). From 1984 through 1988, bicyclists involved in motor-vehicle crashes accounted annually for an average of 597 deaths associated with head injuries and an average of 180,000 head injuries treated at emergency departments in the United States (*8*). Helmets reduce the risk for death from motorcycle crashes 28%–73% (*9*) and reduce the risk for head injuries from bicycle crashes 85% (*10*). One national health objective for the year 2000 is to increase use of helmets to at least 80% of motorcyclists and at least 50% of bicyclists (objective 9.13) (*3*). To reach this objective, the percentage of students who wear helmets when they ride motorcycles will have to increase 38% and the percentage of students who wear helmets when they ride bicycles will have to increase to 22 times the level indicated in the 1990 YRBS (Figure 1).

National health objectives call for enactment and enforcement of laws requiring safety-belt and motorcycle-helmet use for persons of all ages (objective 9.14) (*3*).

FIGURE 1. Percentage of high school students reporting use of motorcycle or bicycle helmets,* by race/ethnicity — United States, Youth Risk Behavior Survey, 1990†



*Helmet use "most of the time" or "always" among students who rode motorcycles or bicycles.
†Unweighted sample size = 11,631 students.

Safety-Belt and Helmet Use — Continued

State laws mandating safety-belt use have increased use from 10%–20% to 40%–60% in those states (*11*), and state laws mandating universal motorcycle-helmet use have increased helmet use from 40%–60% to nearly 100% in those states (*9*). However, laws mandating motorcycle-helmet use that apply only to persons in certain age groups appear to be ineffective (*9*). A law that went into effect in mid-1990 requiring the use of bicycle helmets in Victoria, Australia, immediately increased helmet use among secondary school students from 25% to 87% (J. Ozanne-Smith, Victorian Injury Surveillance System, personal communication, 1990).

By December 31, 1991, 41 states and the District of Columbia had laws governing safety-belt use in automobiles, and 23 states and the District of Columbia had laws in effect requiring helmet use by riders of motorcycles (NHTSA, unpublished data, 1991). However, legislation and enforcement must be accompanied by education. Programs on injury prevention should be provided in all elementary, middle, and secondary schools—ideally as a part of quality school health education efforts (objective 9.18) (*3*). Education can be reinforced by increasing the percentage of primary-care providers who routinely provide age-appropriate counseling on safety precautions to prevent unintentional injuries (objective 9.21) (*3*). Increasing the use of safety belts, the use of motorcycle and bicycle helmets, and the practice of other safety precautions among adolescents will require cooperative efforts by local and state health, traffic-safety, and education officials; families; medical practitioners; retailers; community agencies serving youth; and legislators.

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Epidemiologic Notes and Reports

Eastern Equine Encephalitis Virus Associated with *Aedes albopictus* – Florida, 1991

During June 6–10, 1991, as part of an ongoing study to identify the sources of *Aedes albopictus* bloodmeals, researchers from the University of Notre Dame collected mosquitoes in and around a tire dump in Polk County, Florida. The collections were made with a Nasci aspirator and yielded 9393 *Ae. albopictus* mosquitoes that were sent to CDC in December 1991; 9350 were tested, in 96 pools, for virus isolation by plaque assay in Vero cell culture. Forty-three blood-fed specimens were tested separately for bloodmeal identification. The specimens tested for virus yielded 14 virus strains identified as eastern equine encephalitis (EEE) virus by indirect fluorescent antibody test using a panel of alphavirus monoclonal antibodies including EEE virus complex-specific (1B1C-4) and North American EEE virus-specific (1B5C-3) monoclonal antibodies (*1*). The virus strains were reisolated from the original mosquito pools by intracranial inoculation into 1- to 3-day-old suckling mice. Two representative isolates were confirmed as EEE virus by plaque-reduction neutralization test. Results of the bloodmeal identification were 31% bovine, 24% unidentified mammal, 19% deer, 14% human, 7% raccoon, 5% rabbit and 2% passeriform birds.

During June 1991, *Ae. albopictus* mosquitoes were collected in two other Florida counties and tested for virus: 100 specimens, in two pools, from Gilchrist County and 430 specimens, in six pools, from Marion County were negative for EEE.

The tire dump, which has been closed since 1988, contains approximately 8 million tires. Scientists from the University of Notre Dame and the Florida Medical Entomology Laboratory in Vero Beach have been sampling *Ae. albopictus* populations at the dump since 1989.

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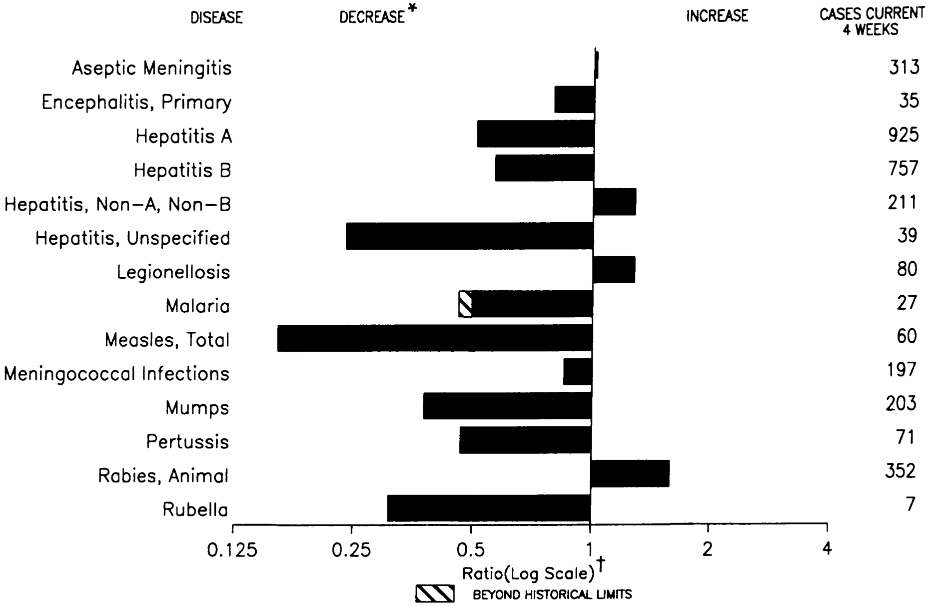
Editorial Note: This is the first documented isolation of EEE virus from *Ae. albopictus* collected in the United States. In the United States, EEE is the rarest of the mosquitoborne arboviral encephalitides but has a human case-fatality rate of approximately 30% (*2*). The virus is maintained in fresh-water–swamp habitats in an enzootic cycle involving mosquitoes, principally *Culiseta melanura*, and a variety of bird species. During 1991, heavy spring rains in northern Florida led to exceptionally large populations of *Cs. melanura* as well as mosquito species that serve as epizootic vectors (*3,4*). Consequently, Florida experienced early, widespread EEE virus activity with 70 equine cases reported by the beginning of July, the highest reported in a season by that time (*3*). Polk County reported four confirmed EEE cases in equines, three of them with onset in May and June; date of onset for the other case is unknown (CDC, unpublished data). Therefore, epizootic transmission of EEE virus was occurring in Polk County during the same period that infected *Ae. albopictus* mosquitoes were collected at the tire dump. In addition, the Florida Department of Health and Rehabilitative Services (HRS) confirmed five human cases of EEE among elderly residents during this period (*3*), but all were from an area approximately 125 miles north of Polk County.

(Continued on page 121)

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending February 15, 1992, with historical data — United States



*The decreases beyond historical limits in disease reports for the past 4 weeks reflect a backlog of data transmission for 1991 cases in many reporting areas and delayed transmission of cases due to a change to a new system in some states beginning in 1992.

†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 — cases of specified notifiable diseases, United States, cumulative, week ending February 15, 1992 (7th Week)

	Cum. 1992		Cum. 1992
AIDS	6,465	Measles: imported	7
Anthrax	-	indigenous	67
Botulism: Foodborne	2	Plague	-
Infant	2	Poliomyelitis, Paralytic*	-
Other	-	Psittacosis	10
Brucellosis	2	Rabies, human	-
Cholera	2	Syphilis, primary & secondary	4,054
Congenital rubella syndrome	-	Syphilis, congenital, age < 1 year	-
Diphtheria	-	Tetanus	3
Encephalitis, post-infectious	9	Toxic shock syndrome	28
Gonorrhea	62,936	Trichinosis	2
Haemophilus influenzae (invasive disease)	216	Tuberculosis	1,946
Hansen Disease	9	Tularemia	10
Leptospirosis	3	Typhoid fever	21
Lyme Disease	370	Typhus fever, tickborne (RMSF)	13

*Nine suspected cases of poliomyelitis were reported in 1991; 4 of the 8 suspected cases in 1990 were confirmed, and all were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending February 15, 1992, and February 16, 1991 (7th Week)

Reporting Area	AIDS	Aseptic Menin-gitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionel-losis	Lyme Disease
			Primary	Post-in-fectious			A	B	NA,NB	Unspeci-fied		
	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	6,465	601	58	9	62,936	77,130	1,779	1,354	330	54	132	370
NEW ENGLAND	245	71	3	-	1,379	2,632	71	100	9	7	12	29
Maine	7	6	-	-	12	12	10	3	-	-	2	-
N.H.	6	3	-	-	-	36	4	5	-	-	1	4
Vt.	-	3	1	-	1	11	-	1	1	-	2	1
Mass.	172	18	2	-	559	858	42	72	5	7	5	2
R.I.	10	41	-	-	95	134	8	6	3	-	2	18
Conn.	50	-	-	-	712	1,581	7	13	-	-	-	4
MID. ATLANTIC	1,490	71	5	-	2,951	9,607	174	202	39	2	34	270
Upstate N.Y.	184	19	-	-	11	1,465	39	37	30	1	18	164
N.Y. City	885	12	-	-	333	3,197	45	12	1	-	4	-
N.J.	294	4	-	-	572	1,646	31	76	2	-	-	21
Pa.	127	36	5	-	2,035	3,299	59	77	6	1	12	85
E.N. CENTRAL	548	107	14	2	10,897	13,644	260	232	24	2	31	25
Ohio	161	42	8	-	4,021	3,515	73	47	19	-	22	15
Ind.	63	14	-	-	1,248	1,620	95	73	-	1	2	5
Ill.	256	3	1	-	4,056	4,197	16	2	-	-	-	-
Mich.	43	48	5	2	1,310	3,337	18	78	2	1	7	5
Wis.	25	-	-	-	262	975	58	32	3	-	-	-
W.N. CENTRAL	193	30	3	2	3,604	4,115	143	15	-	-	6	2
Minn.	34	1	-	-	399	402	23	3	-	-	-	-
Iowa	13	13	-	1	258	286	4	6	-	-	2	2
Mo.	81	-	-	-	2,166	2,518	-	-	-	-	-	-
N. Dak.	-	1	-	-	-	12	5	-	-	-	-	-
S. Dak.	2	2	-	1	32	54	83	-	-	-	-	-
Nebr.	10	2	-	-	33	283	11	1	-	-	4	-
Kans.	53	11	3	-	716	560	17	5	-	-	-	-
S. ATLANTIC	1,497	106	15	3	24,806	23,487	102	239	32	4	21	18
Del.	12	6	2	-	246	267	1	6	-	-	-	3
Md.	191	17	2	-	2,293	2,434	24	51	4	3	3	1
D.C.	96	1	-	-	1,096	1,591	3	13	-	-	5	-
Va.	41	30	2	1	2,984	1,988	10	27	4	1	1	10
W. Va.	14	-	1	-	128	159	1	6	-	-	-	1
N.C.	69	15	7	-	2,977	4,672	12	54	15	-	3	1
S.C.	77	2	-	-	1,500	1,984	5	6	-	-	8	-
Ga.	174	13	-	-	9,819	5,846	10	25	5	-	-	-
Fla.	823	22	1	2	3,763	4,546	36	51	4	-	1	2
E.S. CENTRAL	237	50	-	-	5,959	6,641	33	123	154	-	10	4
Ky.	24	32	-	-	585	736	16	17	-	-	5	3
Tenn.	59	9	-	-	1,550	2,375	8	84	150	-	4	1
Ala.	124	9	-	-	2,211	1,919	5	22	4	-	1	-
Miss.	30	-	-	-	1,613	1,611	4	-	-	-	-	-
W.S. CENTRAL	510	6	-	1	6,222	7,818	70	54	7	2	-	3
Ark.	30	6	-	-	922	850	16	14	-	-	-	1
La.	101	-	-	-	1,119	1,649	13	6	-	1	-	-
Okla.	41	-	-	1	658	877	41	34	7	1	-	2
Tex.	338	-	-	-	3,523	4,442	-	-	-	-	-	-
MOUNTAIN	112	14	3	-	1,090	1,570	266	73	13	10	8	-
Mont.	1	-	1	-	9	9	19	8	-	-	1	-
Idaho	2	-	-	-	16	22	9	10	-	-	-	-
Wyo.	1	-	-	-	6	17	-	1	3	-	-	-
Colo.	38	2	1	-	306	456	76	17	8	8	-	-
N. Mex.	10	4	1	-	114	146	10	6	-	-	-	-
Ariz.	20	7	-	-	480	589	129	10	2	-	3	-
Utah	11	-	-	-	22	52	7	-	-	2	-	-
Nev.	29	1	-	-	137	279	16	21	-	-	4	-
PACIFIC	1,633	146	15	1	6,028	7,616	660	316	52	27	10	19
Wash.	31	-	-	-	542	688	33	25	5	-	3	-
Oreg.	47	-	-	-	196	270	40	31	8	-	-	-
Calif.	1,523	119	13	1	5,118	6,460	571	258	39	27	7	19
Alaska	4	1	2	-	123	109	1	1	-	-	-	-
Hawaii	28	26	-	-	49	89	15	1	-	-	-	-
Guam	-	-	-	-	12	-	1	-	-	2	-	-
P.R.	107	16	-	-	1	55	2	18	-	-	-	-
V.I.	1	-	-	-	15	50	-	1	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	13	2	-	-	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending February 15, 1992, and February 16, 1991 (7th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	1992	Cum. 1992	Cum. 1991
UNITED STATES	58	11	67	1	7	683	360	34	291	26	104	298	2	23	66
NEW ENGLAND	1	-	1	-	1	2	21	-	-	5	6	20	-	4	-
Maine	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-
N.H.	-	-	-	-	-	-	-	-	-	3	3	8	-	-	-
Vt.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Mass.	1	-	1	-	1	-	12	-	-	2	3	11	-	-	-
R.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
Conn.	-	-	-	-	-	2	6	-	-	-	-	-	-	-	-
MID. ATLANTIC	6	-	2	-	2	374	22	8	23	5	17	38	-	1	23
Upstate N.Y.	1	-	-	-	1	7	11	8	10	5	9	18	-	1	21
N.Y. City	2	-	1	-	1	30	4	-	4	-	-	-	-	-	-
N.J.	1	-	-	-	-	125	-	-	-	-	-	3	-	-	-
Pa.	2	-	1	-	-	212	7	-	9	-	8	17	-	-	2
E.N. CENTRAL	2	-	2	1	1	11	71	5	37	-	12	67	-	3	1
Ohio	-	-	2	1†	1	-	11	-	12	-	-	16	-	-	-
Ind.	-	-	-	-	-	-	13	-	3	-	9	15	-	-	1
Ill.	-	-	-	-	-	9	29	-	8	-	-	18	-	3	-
Mich.	1	-	-	-	-	1	17	5	13	-	2	10	-	-	-
Wis.	1	-	-	-	-	1	1	-	1	-	1	8	-	-	-
W.N. CENTRAL	4	-	-	-	-	-	18	-	2	1	4	30	-	1	2
Minn.	1	-	-	-	-	-	3	-	-	1	1	11	-	-	1
Iowa	2	-	-	-	-	-	3	-	2	-	1	4	-	-	-
Mo.	-	-	-	-	-	-	-	-	-	-	-	11	-	-	1
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-
Nebr.	-	-	-	-	-	-	2	-	-	-	1	2	-	-	-
Kans.	1	-	-	-	-	-	10	-	-	-	-	-	-	1	-
S. ATLANTIC	15	2	16	-	1	17	63	13	150	-	14	14	1	2	-
Del.	1	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Md.	7	-	1	-	-	-	3	-	14	-	7	-	-	-	-
D.C.	2	-	-	-	-	-	-	-	2	-	-	-	1	1	-
Va.	2	-	3	-	1	-	7	-	10	-	2	2	-	-	-
W. Va.	-	-	-	-	-	-	4	-	6	-	-	4	-	-	-
N.C.	1	-	-	-	-	-	14	-	26	-	4	6	-	-	-
S.C.	-	-	-	-	-	12	7	-	36	-	-	-	-	-	-
Ga.	-	-	-	-	-	-	11	-	-	-	-	1	-	-	-
Fla.	2	2	12	-	-	5	15	13	56	-	1	1	-	1	-
E.S. CENTRAL	2	7	32	-	-	-	40	-	6	-	5	6	-	-	-
Ky.	-	7	32	-	-	-	19	-	-	-	-	-	-	-	-
Tenn.	1	-	-	-	-	-	11	-	3	-	-	5	-	-	-
Ala.	1	-	-	-	-	-	10	-	3	-	5	1	-	-	-
Miss.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	1	-	-	-	-	5	12	3	9	1	6	9	-	-	-
Ark.	-	-	-	-	-	5	5	-	4	-	3	-	-	-	-
La.	-	-	-	-	-	-	-	3	4	-	-	6	-	-	-
Okla.	1	-	-	-	-	-	7	-	1	1	3	3	-	-	-
Tex.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOUNTAIN	6	-	-	-	-	64	13	-	15	2	9	41	-	-	1
Mont.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	1	2	-	1	-	4	7	-	-	-
Wyo.	-	-	-	-	-	-	1	-	-	-	-	3	-	-	-
Colo.	3	-	-	-	-	1	3	-	2	1	2	10	-	-	-
N. Mex.	2	-	-	-	-	53	-	N	N	1	3	8	-	-	-
Ariz.	1	-	-	-	-	2	1	-	9	-	-	7	-	-	-
Utah	-	-	-	-	-	-	-	-	1	-	-	6	-	-	-
Nev.	-	-	-	-	-	7	4	-	2	-	-	-	-	-	1
PACIFIC	21	2	14	-	2	210	100	5	49	12	31	73	1	12	39
Wash.	2	-	-	-	-	-	18	-	2	-	1	2	-	-	-
Oreg.	1	-	1	-	-	-	17	N	N	1	4	5	1	1	-
Calif.	16	2	9	-	1	210	59	4	45	11	23	47	-	9	38
Alaska	-	-	4	-	1	-	3	-	-	-	-	5	-	-	-
Hawaii	2	-	-	-	-	-	3	1	2	-	3	14	-	2	1
Guam	-	U	-	U	-	-	-	U	1	U	-	-	U	-	-
P.R.	-	-	-	-	-	1	2	-	-	-	1	5	-	-	-
V.I.	-	-	-	-	-	-	-	2	5	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-
C.N.M.I.	-	U	-	U	-	-	-	U	-	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending February 15, 1992, and February 16, 1991 (7th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	4,054	5,541	28	1,946	2,214	10	21	13	760
NEW ENGLAND	82	147	3	106	67	-	4	1	74
Maine	-	-	-	16	16	-	-	-	-
N.H.	-	1	2	-	-	-	-	-	-
Vt.	-	1	-	-	-	-	-	-	-
Mass.	33	78	1	90	15	-	3	1	-
R.I.	4	6	-	-	15	-	-	-	-
Conn.	45	61	-	-	21	-	1	-	74
MID. ATLANTIC	423	1,033	4	374	514	-	1	2	261
Upstate N.Y.	-	72	1	-	31	-	-	-	168
N.Y. City	186	462	-	284	366	-	-	2	-
N.J.	36	170	-	29	95	-	1	-	55
Pa.	201	329	3	61	22	-	-	-	38
E.N. CENTRAL	573	555	7	189	235	-	1	3	14
Ohio	80	57	3	33	63	-	1	2	1
Ind.	36	13	2	20	8	-	-	1	-
Ill.	282	294	-	101	147	-	-	-	1
Mich.	124	120	2	25	-	-	-	-	1
Wis.	51	71	-	10	17	-	-	-	11
W.N. CENTRAL	172	87	3	38	66	-	-	-	118
Minn.	8	9	2	8	6	-	-	-	41
Iowa	2	9	1	4	13	-	-	-	23
Mo.	131	61	-	20	26	-	-	-	-
N. Dak.	-	-	-	-	3	-	-	-	5
S. Dak.	-	1	-	4	3	-	-	-	11
Nebr.	1	-	-	-	2	-	-	-	-
Kans.	30	7	-	2	13	-	-	-	38
S. ATLANTIC	1,321	1,676	2	336	282	2	3	3	183
Del.	32	16	-	3	5	-	-	-	31
Md.	100	175	-	47	24	2	-	-	73
D.C.	80	91	-	18	22	-	1	-	4
Va.	93	114	-	19	23	-	1	-	22
W. Va.	3	4	-	10	14	-	1	-	3
N.C.	302	232	1	46	53	-	-	3	1
S.C.	189	239	1	34	41	-	-	-	12
Ga.	272	375	-	54	46	-	-	-	37
Fla.	250	430	-	105	54	-	-	-	-
E.S. CENTRAL	582	584	-	99	140	3	-	-	14
Ky.	13	9	-	37	42	2	-	-	8
Tenn.	118	265	-	-	-	1	-	-	-
Ala.	274	153	-	50	56	-	-	-	6
Miss.	177	157	-	12	42	-	-	-	-
W.S. CENTRAL	681	875	-	13	192	5	-	3	38
Ark.	109	53	-	3	24	2	-	2	4
La.	242	308	-	-	-	-	-	-	-
Okla.	30	24	-	10	3	3	-	1	34
Tex.	300	490	-	-	165	-	-	-	-
MOUNTAIN	78	85	3	48	62	-	-	1	14
Mont.	2	1	-	-	-	-	-	-	1
Idaho	1	3	-	4	-	-	-	-	-
Wyo.	-	1	-	-	-	-	-	-	8
Colo.	10	14	1	-	6	-	-	-	-
N. Mex.	7	3	-	6	-	-	-	-	-
Ariz.	36	63	1	28	39	-	-	-	5
Utah	1	-	1	-	13	-	-	1	-
Nev.	21	-	-	10	4	-	-	-	-
PACIFIC	142	499	6	743	656	-	12	-	44
Wash.	-	28	-	29	27	-	-	-	-
Oreg.	7	15	-	10	7	-	-	-	-
Calif.	124	455	6	679	589	-	11	-	41
Alaska	-	1	-	7	6	-	-	-	3
Hawaii	11	-	-	18	27	-	1	-	-
Guam	1	-	-	-	-	-	-	-	-
P.R.	7	40	-	12	15	-	-	-	7
V.I.	9	9	-	1	1	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	3	4	-	-	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending February 15, 1992 (7th Week)

Reporting Area	All Causes, By Age (Years)						P&I[†]
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	609	425	102	58	13	11	52
Boston, Mass.	185	109	43	23	5	5	18
Bridgeport, Conn.	34	26	2	5	1	-	4
Cambridge, Mass.	21	16	4	1	-	-	-
Fall River, Mass.	28	23	4	1	-	-	1
Hartford, Conn.	39	24	7	5	2	1	-
Lowell, Mass.	25	20	3	2	-	-	3
Lynn, Mass.	22	15	5	1	1	-	2
New Bedford, Mass.	30	23	3	1	1	2	-
New Haven, Conn.	54	37	10	5	2	-	6
Providence, R.I.	35	27	6	2	-	-	3
Somerville, Mass.	3	3	-	-	-	-	-
Springfield, Mass.	45	37	1	6	-	1	7
Waterbury, Conn.	25	20	4	1	-	-	3
Worcester, Mass.	63	45	10	5	1	2	5
MID. ATLANTIC	2,623	1,731	492	269	67	64	173
Albany, N.Y.	70	59	4	4	2	1	3
Allentown, Pa.	23	19	3	1	-	-	2
Buffalo, N.Y.	105	65	21	9	7	3	5
Camden, N.J.	34	18	6	5	2	3	2
Elizabeth, N.J.	19	14	4	-	1	-	1
Erie, Pa.§	31	27	3	1	-	-	1
Jersey City, N.J.	55	32	9	9	1	4	3
New York City, N.Y.	1,315	826	259	172	32	26	68
Newark, N.J.	63	35	9	12	2	5	8
Paterson, N.J.	24	13	5	4	1	1	-
Philadelphia, Pa.	392	261	79	30	13	9	32
Pittsburgh, Pa.§	78	56	17	3	1	1	5
Reading, Pa.	41	31	8	2	-	-	9
Rochester, N.Y.	132	99	25	2	1	5	10
Schenectady, N.Y.	30	25	4	1	-	-	2
Scranton, Pa.§	35	24	10	-	1	-	5
Syracuse, N.Y.	84	59	13	4	2	6	8
Trenton, N.J.	38	24	7	6	1	-	6
Utica, N.Y.	18	13	3	2	-	-	-
Yonkers, N.Y.	36	31	3	2	-	-	3
E.N. CENTRAL	2,064	1,308	387	185	110	73	125
Akron, Ohio	55	37	11	1	1	5	6
Canton, Ohio	42	37	3	1	-	1	4
Chicago, Ill.	449	202	83	76	71	17	20
Cincinnati, Ohio	148	98	34	7	3	6	16
Cleveland, Ohio	142	99	26	6	2	9	3
Columbus, Ohio	111	78	17	9	3	4	5
Dayton, Ohio	119	88	23	6	2	-	8
Detroit, Mich.	225	121	59	25	10	9	3
Evansville, Ind.	61	40	8	10	1	2	-
Fort Wayne, Ind.	54	42	4	2	3	3	2
Gary, Ind.	23	13	7	3	-	-	-
Grand Rapids, Mich.	61	44	12	5	-	-	8
Indianapolis, Ind.	195	133	30	17	8	7	21
Madison, Wis.	45	29	9	5	2	-	7
Milwaukee, Wis.	124	88	25	5	1	5	7
Peoria, Ill.	57	37	14	2	1	3	4
Rockford, Ill.	52	43	6	2	1	-	6
South Bend, Ind.	49	41	7	1	-	-	4
Toledo, Ohio	U	U	U	U	U	U	U
Youngstown, Ohio	52	38	9	2	1	2	1
W.N. CENTRAL	707	537	92	42	14	22	37
Des Moines, Iowa	10	6	2	-	1	1	-
Duluth, Minn.	22	21	1	-	-	-	1
Kansas City, Kans.	42	25	7	7	2	1	1
Kansas City, Mo.	144	107	21	8	1	7	6
Lincoln, Nebr.	37	33	3	-	1	-	3
Minneapolis, Minn.	116	83	20	6	5	2	16
Omaha, Nebr.	89	66	15	2	1	5	5
St. Louis, Mo.	126	101	12	8	2	3	1
St. Paul, Minn.	62	45	9	5	-	3	3
Wichita, Kans.	59	50	2	6	1	-	1

Reporting Area	All Causes, By Age (Years)						P&I[†]
	All Ages	≥65	45-64	25-44	1-24	<1	Total
S. ATLANTIC	1,138	754	227	92	33	32	59
Atlanta, Ga.	138	70	43	17	3	5	3
Baltimore, Md.	208	138	41	19	3	7	19
Charlotte, N.C.	81	60	14	2	4	1	-
Jacksonville, Fla.	111	63	26	15	4	3	7
Miami, Fla.	114	72	25	11	4	2	2
Norfolk, Va.	64	42	6	2	9	5	2
Richmond, Va.	103	71	20	9	1	2	8
Savannah, Ga.	55	44	8	1	1	1	5
St. Petersburg, Fla.	86	68	10	5	1	2	-
Tampa, Fla.	148	101	29	11	3	4	12
Washington, D.C.	U	U	U	U	U	U	U
Wilmington, Del.	30	25	5	-	-	-	1
E.S. CENTRAL	856	564	175	58	32	27	72
Birmingham, Ala.	143	87	35	14	6	1	8
Chattanooga, Tenn.	96	67	19	6	3	1	6
Knoxville, Tenn.	74	56	14	-	2	2	12
Louisville, Ky.	92	65	13	8	2	4	8
Memphis, Tenn.	188	119	37	12	8	12	14
Mobile, Ala.	51	32	11	5	2	1	11
Montgomery, Ala.	50	32	15	1	1	1	3
Nashville, Tenn.	162	106	31	12	8	5	10
W.S. CENTRAL	1,451	923	302	132	54	40	101
Austin, Tex.	60	42	11	5	-	2	2
Baton Rouge, La.	35	26	3	5	-	1	1
Corpus Christi, Tex.	50	27	13	4	3	3	7
Dallas, Tex.	190	118	44	17	7	4	7
El Paso, Tex.	85	60	12	4	6	3	3
Ft. Worth, Tex.	109	68	17	13	4	7	5
Houston, Tex.	342	201	85	39	14	3	42
Little Rock, Ark.	69	45	13	7	2	2	6
New Orleans, La.	153	93	37	13	8	2	-
San Antonio, Tex.	214	139	40	19	7	9	11
Shreveport, La.	42	28	9	3	1	1	8
Tulsa, Okla.	102	76	18	3	2	3	9
MOUNTAIN	766	510	144	65	22	24	54
Albuquerque, N.M.	98	62	16	10	2	7	3
Colo. Springs, Colo.	28	22	4	1	-	1	5
Denver, Colo.	100	63	24	7	2	4	17
Las Vegas, Nev.	136	93	30	8	3	2	6
Ogden, Utah	U	U	U	U	U	U	U
Phoenix, Ariz.	150	94	32	13	5	6	9
Pueblo, Colo.	25	18	1	5	1	-	1
Salt Lake City, Utah	95	63	14	12	4	2	4
Tucson, Ariz.	134	95	23	9	5	2	9
PACIFIC	1,494	1,039	241	144	31	38	128
Berkeley, Calif.	20	14	5	1	-	-	-
Fresno, Calif.	61	41	7	7	3	3	4
Glendale, Calif.	U	U	U	U	U	U	U
Honolulu, Hawaii	78	59	12	5	1	1	8
Long Beach, Calif.	99	72	10	12	3	2	17
Los Angeles, Calif.	U	U	U	U	U	U	U
Pasadena, Calif.	46	37	3	1	1	4	4
Portland, Oreg.	141	107	19	11	1	3	10
Sacramento, Calif.	183	131	32	15	3	2	16
San Diego, Calif.	174	114	33	20	5	2	21
San Francisco, Calif.	186	116	33	31	-	6	6
San Jose, Calif.	189	124	36	15	6	7	19
Santa Cruz, Calif.	40	28	7	3	2	-	7
Seattle, Wash.	136	93	20	13	2	8	1
Spokane, Wash.	53	42	7	3	1	-	8
Tacoma, Wash.	88	61	17	7	3	-	7
TOTAL	11,708¶	7,791	2,162	1,045	376	331	801

*Mortality data in this table are voluntarily reported from 121 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 these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

U: Unavailable

Eastern Equine Encephalitis Virus — Continued

From 1986 through 1991, *Ae. albopictus* extended its range from one to 61 of Florida's 67 counties (*5*) and is widely distributed in Polk County; it has been collected from 47 of 148 CDC light-trap locations (M. Mahler, Polk County Environmental Services, personal communication, 1991). In addition, results from vector-competence studies showed that a strain of *Ae. albopictus* mosquitoes from Houston became infected with EEE virus after feeding on viremic chicks, and 57% of those mosquitoes refeeding transmitted the virus 15 days postinfection (*6*). This information, along with findings reported here regarding virus isolations from field-collected specimens and with the opportunistic feeding habits of *Ae. albopictus*, suggest that *Ae. albopictus* may become an epizootic and epidemic vector of EEE virus. Plans are under way by the Florida HRS and CDC to improve surveillance for EEE in Polk County and to initiate collaborative studies during the summer of 1992 to more clearly define the role of *Ae. albopictus* in the EEE transmission cycle. States with *Ae. albopictus* infestations and a history of EEE should increase surveillance for both human and equine cases, as well as for EEE virus activity among mosquitoes and birds.

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Current Trends

Mortality Patterns — United States, 1989

During 1989, 2,150,466 deaths were registered in the United States—17,533 fewer deaths than the record-high number recorded in 1988. In 1989, as for at least the past 20 years, nearly three fourths of deaths were attributable to the first four leading causes of death—heart disease, cancer, stroke, and unintentional injury. This report summarizes mortality data compiled by CDC's National Center for Health Statistics (NCHS) for 1989 (*1*) and compares patterns with 1988.

National death statistics are based on information contained on death certificates that have been filed in state vital statistics offices as required by state law and compiled by NCHS into a national data base for monitoring the nation's health and for research. In this report, cause-of-death statistics are based on the underlying cause of death*. The causes of death are reported on death certificates by the attending physician, medical examiner, or coroner in a manner specified by the World Health Organization (WHO) and endorsed by CDC.

*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 – Continued

For 1989, the age-adjusted death rate† reached a record low of 523.0 per 100,000 population in the United States, 2.3% lower than in 1988. For 10 of the 15 leading causes of death, rates decreased from 1988 to 1989 (Table 1). The rate for heart disease (*International Classification of Diseases, Ninth Revision* [ICD-9] codes 390–398, 402, and 404–429), the leading cause of death in the United States, and the rate for stroke (ICD-9 codes 430–438), the third leading cause of death, both declined, by 6.3% and 5.7%, respectively. Mortality from the second leading cause of death, cancer (ICD-9 codes 140–208), increased 0.2% from 1988 to 1989. Mortality from atherosclerosis (ICD-9 code 440) decreased by 14.7%, the largest decline among the 15 leading causes of death.

†Age-adjusted to the 1940 U.S. population. Age-adjusted death rates indicate changes in the risk for death more effectively than crude death rates and are better indicators for comparisons of mortality by race or sex.

TABLE 1. Age-adjusted death rates* for 1989 and percent changes in age-adjusted death rates for the 15 leading causes of death from 1988 to 1989 and 1979 to 1989 — United States

			% Change	
Rank†	Cause of death (ICD-9§)	1989 Age-adjusted death rate	1988 to 1989	1979 to 1989
1	Diseases of heart (390–398, 402, 404–429)	155.9	–6.3	–21.9
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140–208)	133.0	0.2	1.7
3	Cerebrovascular diseases (430–438)	28.0	–5.7	–32.7
4	Accidents¶ and adverse effects (E800–E949)	33.8	–3.4	–21.2
	Motor vehicle accidents (E810–E825)	18.9	–4.1	–18.5
	All other accidents and adverse effects (E800–E807, E826–E949)	14.9	–2.6	–24.0
5	Chronic obstructive pulmonary diseases and allied conditions (490–496)	19.4	0	32.9
6	Pneumonia and influenza (480–487)	13.7	–3.5	22.3
7	Diabetes mellitus (250)	11.5	13.9	17.3
8	Suicide (E950–E959)	11.3	–0.9	–3.4
9	Chronic liver disease and cirrhosis (571)	8.9	–1.1	–25.8
10	Homicide and legal intervention (E960–E978)	9.4	4.4	–7.8
11	Human immunodeficiency virus infection (042–044)**	8.7	31.8	–
12	Nephritis, nephrotic syndrome, and nephrosis (580–589)	4.4	–8.3	2.3
13	Atherosclerosis (440)	2.9	–14.7	–49.1
14	Septicemia (038)	4.1	–10.9	78.3
15	Certain conditions originating in the perinatal period†† (760–779)	–	–0.4	–31.2
	All causes	**523.0**	**–2.3**	**–9.4**

*Per 100,000 population, age-adjusted to the 1940 U.S. population.
†Based on number of deaths.
§*International Classification of Diseases, Ninth Revision.*
¶When a death occurs under "accidental" circumstances, the preferred term within the public health community is "unintentional injury."
**These codes are from addenda to the ICD-9 (*2*).
††Based on infant mortality rates.

Mortality — Continued

During 1989, as in previous years, age-adjusted death rates for the black[§] population exceeded those for the white population by approximately 60% (Table 2). From 1988 to 1989, age-adjusted death rates declined from 509.8 to 496.1 per 100,000 for whites and from 788.8 to 783.1 per 100,000 for blacks. The largest difference between rates was for homicide (ICD-9 codes E960–E978), with the rate for blacks 6.6 times that for whites. Of the 15 leading causes of death, only two—chronic obstructive pulmonary diseases and allied conditions (ICD-9 codes 490–496) and suicide (ICD-9 codes E950–E959)—had lower death rates for blacks than for whites. Major causes of death contributing to the widening differential in mortality between blacks and whites from 1988 to 1989 were human immunodeficiency virus (HIV) infection (ICD-9 codes 042–044),[¶] homicide, diabetes mellitus (ICD-9 code 250), and cancer.

For 1989, the age-adjusted death rate for males was approximately 70% higher than for females (Table 2). The greatest sex differential in mortality was for HIV infection, for which the rate for males was 8.7 times that for females. Rates for suicide and homicide were 4.1 and 3.6 times as high for males as for females, respectively, and

[§]Hispanics and non-Hispanics are included in totals for both white persons and black persons.
[¶]These codes are from addenda to the ICD-9 (*2*).

TABLE 2. Ratio of age-adjusted death rates* for the 15 leading causes of death, by sex and race of decedent — United States, 1989

Rank[†]	Cause of death (ICD-9[§])	Male-to-female	Black-to-white[¶]
1	Diseases of heart (390–398, 402, 404–429)	1.9	1.4
2	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140–208)	1.5	1.3
3	Cerebrovascular diseases (430–438)	1.2	1.9
4	Accidents** and adverse effects (E800–E949)	2.6	1.3
	Motor vehicle accidents (E810–E825)	2.4	1.0
	All other accidents and adverse effects (E800–E807, E826–E949)	3.0	1.8
5	Chronic obstructive pulmonary diseases and allied conditions (490–496)	1.8	0.8
6	Pneumonia and influenza (480–487)	1.7	1.5
7	Diabetes mellitus (250)	1.1	2.3
8	Suicide (E950–E959)	4.1	0.6
9	Chronic liver disease and cirrhosis (571)	2.3	1.7
10	Homicide and legal intervention (E960–E978)	3.6	6.6
11	Human immunodeficiency virus infection (042–044)[††]	8.7	3.3
12	Nephritis, nephrotic syndrome, and nephrosis (580–589)	1.6	3.1
13	Atherosclerosis (440)	1.3	1.0
14	Septicemia (038)	1.3	2.7
15	Certain conditions originating in the perinatal period[§§] (760–779)	1.2	2.9
	All causes	**1.7**	**1.6**

*Per 100,000 population, age-adjusted to the 1940 U.S. population.
[†]Based on number of deaths.
[§]*International Classification of Diseases, Ninth Revision.*
[¶]Both groups include Hispanics.
**When a death occurs under "accidental" circumstances, the preferred term within the public health community is "unintentional injury."
[††]These codes are from addenda to the ICD-9 (*2*).
[§§]Based on infant mortality rates.

Mortality — Continued

the rate for unintentional injuries** (ICD-9 codes E800–E949) was 2.6 times as high for males as for females. The smallest sex-specific difference was for diabetes mellitus (male-to-female ratio=1.1:1). When compared with 1988, age-adjusted death rates for 1989 declined for males from 696.7 to 678.7 per 100,000 population and for females from 404.4 to 395.3 per 100,000 population.

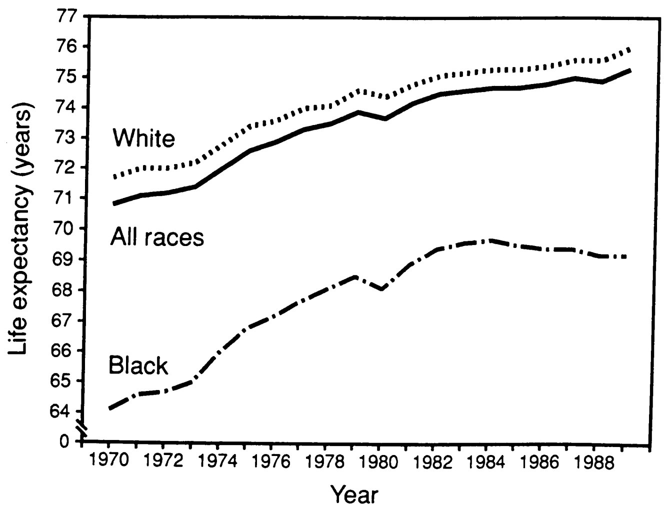
In 1989, 320 women were reported to have died of maternal causes. This number does not include all deaths occurring to pregnant women but only deaths assigned to complications of pregnancy, childbirth, and the puerperium (ICD-9 codes 630–676). The maternal mortality rate for 1989 was 7.9 deaths per 100,000 live births, compared to 8.4 in the previous year.

From 1988 through 1989, HIV infection increased from the 15th to the 11th leading cause of death. In 1989, 22,082 deaths occurred as a result of HIV infection, 33.0% more than the 16,602 deaths recorded in 1988. Of HIV-associated deaths, 14,114 (63.9%) were among white males; 5475 (24.8%), black males; 1320 (6.0%), black females; and 981 (4.4%), white females. Most (73.9%) HIV-associated deaths occurred among persons aged 25–44 years; for this age group, HIV infection was the second leading cause of death for men and the sixth leading cause of death for women. Age-adjusted HIV-associated death rates were highest for black males (40.3 per 100,000 population), followed by white males (13.1), black females (8.1), and white females (0.9).

In 1989, overall life expectancy at birth reached a record high of 75.3 years (Figure 1). Life expectancy for females was 78.6 years compared with 71.8 years for males; both figures represent increases from 1988. The difference in life expectancy between males and females has narrowed since the late 1970s; however, women are still expected to outlive men by an average of 6.8 years. From 1988 through 1989, life

**Although the official ICD-9 title for this category is "Accidents and adverse effects," the preferred term within the public health community is "unintentional injury."

FIGURE 1. Life expectancy at birth, by year of birth and by race — United States, 1970–1989



Mortality — Continued

expectancy increased for whites (76.0 years) but remained unchanged for blacks (69.2), resulting in a widening gap in life expectancy between whites and blacks. Life expectancy for whites has continued to increase during the 1980s, while life expectancy for blacks has declined by 0.5 years since 1984. The difference in life expectancy between whites and blacks narrowed from 7.6 years in 1970 to 5.6 in 1984 but has widened steadily since then to 6.8 in 1989.

Reported by: Div of Vital Statistics, National Center for Health Statistics, CDC.

Editorial Note: The mortality data in this report can be used to monitor the health of the nation and to identify groups at greatest risk for specific diseases, injuries, and death, thereby improving the efficiency of health education and prevention efforts. The most substantial change in the number of deaths attributable to the 15 leading causes was for deaths due to HIV infection, which increased 33%. The recognition of a disease and its emergence as a leading cause of death within the same decade is without precedent.

One indicator of the nation's health is expectation of life at birth. Life expectancy has generally been increasing; however, in 1989, the gap in life expectancy between blacks and whites continued to widen, reversing a previous trend (Figure 1). Although mortality from some major chronic diseases (e.g., heart disease and stroke) has declined for both whites and blacks, these gains are offset in part by increases in mortality for young adults from HIV infection.

References

1. NCHS. Advance report of final mortality statistics, 1989. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1992. (Monthly vital statistics report; vol 40, no. 8, suppl 2).
2. NCHS. Vital statistics of the United States, 1987. Vol 2, mortality, part A. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1990; DHHS publication no. (PHS)90-1011.

Notices to Readers

Seventh National Conference on Chronic Disease Prevention and Control

CDC, the Association of State and Territorial Health Officials, and the Association of State and Territorial Chronic Disease Program Directors will cosponsor the Seventh National Conference on Chronic Disease Prevention and Control on October 21–23, 1992, in Salt Lake City, Utah. The Utah Department of Health will host the conference, which is open to the public. The conference will emphasize interactions among federal, state, and local health departments; voluntary health agencies; and professional organizations.

CDC is issuing a call for abstracts. Topic areas include assessment and evaluation, chronic disease epidemiology, and program application. The deadline for submissions is May 1, 1992. Additional information is available from the National Center for Chronic Disease Prevention and Health Promotion, Mailstop K-43, CDC, 1600 Clifton Road, NE, Atlanta, GA 30333; telephone (404) 488-5390 or FTS 236-5390; fax (404) 488-5962.

Notices to Readers — Continued

Epidemiology in Action Course

CDC and Emory University will cosponsor a course designed for practicing state and local health department professionals. This course, "Epidemiology in Action," will be held at CDC May 18–29, 1992. It emphasizes the practical application of epidemiology to the solution of public health problems and will consist of lectures, workshops, classroom exercises (including actual epidemiologic problems), round-table discussions, computer training, and an on-site community survey. There is a tuition charge.

Applications must be received by March 16, 1992. Additional information and applications are available from Department PSB, Emory University, School of Public Health, 1599 Clifton Road, NE, Atlanta, GA 30329; telephone (404) 727-3485 or (404) 727-0199.

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