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Current Trends

Arthritis Prevalence and Activity Limitations — United States, 1990

Arthritis is a leading cause of work-related disability and the leading cause of disability among persons aged ≥65 years in the United States (*1*). However, there are few national or state-specific estimates and no projections of arthritis prevalence or its impact (*2*). To develop national and state estimates of arthritis prevalence and physical activity limitation for 1990 and to project these measures through 2020, rates derived from household interview data from the 1989–1991 National Health Interview Survey (NHIS) were applied to the 1990 census population and to census population projections. This report presents the results of that analysis.

The NHIS is a probability sample of the civilian, noninstitutionalized population of the United States (*3*). Estimates of arthritis prevalence were derived by using a random sample of one sixth (n=59,289) of survey respondents, who were asked about the presence of any of a variety of musculoskeletal conditions during the preceding 12 months and for details of these conditions. Each condition was assigned an *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM), code. Arthritis was classified as a condition that matched ICD-9-CM codes* selected by the National Arthritis Data Workgroup. A total of 8963 (15.1%) persons were classified as having arthritis. Estimates of activity limitation attributable to arthritis were derived by using all 356,592 NHIS respondents, who were asked whether they were limited in or prevented from working, housekeeping, or performing other activities as a result of a health condition(s) and, if so, what specific condition(s) caused the limitation; 10,084 (2.8%) persons reported arthritis as a major or contributing cause of activity limitation.

Synthetic state estimates† for 1990 were developed by applying respective regional arthritis rates, stratified by age, sex, race, and ethnicity, to the stratum-specific popu-

*ICD-9-CM codes 95.6, 95.7, 98.5, 99.3, 136.1, 274, 277.2, 287.0, 344.6, 353.0, 354.0, 355.5, 357.1, 390, 391, 437.4, 443.0, 446, 447.6, 696.0, 710–716, 719.0, 719.2–719.9, 720–721, 725–727, 728.0–728.3, 728.6–728.9, 729.0–729.1, and 729.4.

†Synthetic estimation obtains state estimates of characteristics by combining regional estimates of the characteristics specific to demographic subgroups with estimates of the proportional distribution of the local population in those subgroups.

TABLE 1. Estimated average annual prevalence of self-reported arthritis and activity limitation attributable to arthritis, by selected characteristics, derived from the National Health Interview Survey (NHIS) — United States, 1989–1991

	Self-reported arthritis					Self-reported activity limitation				
		Rate*					Rate*			
Characteristic	No.†	%	(95% CI§)	Age-adjusted	(95% CI)	No.†	%	(95% CI)	Age-adjusted	(95% CI)
Age group (yrs)										
≤24	1,128	1.3	(±0.2)	—	—	120	0.1	(±0.0)	—	—
25–34	2,862	6.6	(±0.6)	—	—	249	0.6	(±0.1)	—	—
35–44	4,778	12.7	(±0.8)	—	—	568	1.5	(±0.1)	—	—
45–54	5,757	22.6	(±1.1)	—	—	879	3.5	(±0.2)	—	—
55–64	7,699	36.5	(±1.5)	—	—	1,491	7.1	(±0.4)	—	—
65–74	8,273	45.4	(±1.7)	—	—	1,809	9.9	(±0.4)	—	—
75–84	5,501	55.2	(±2.3)	—	—	1,301	13.1	(±0.7)	—	—
≥85	1,714	57.1	(±4.5)	—	—	554	18.5	(±1.4)	—	—
Sex										
Female	22,992	18.0	(±0.5)	17.1	(±0.4)	4,635	3.6	(±0.1)	3.4	(±0.1)
Male	14,227	11.7	(±0.4)	12.5	(±0.4)	2,177	1.8	(±0.1)	2.0	(±0.1)
Race										
White	31,864	16.0	(±0.5)	15.2	(±0.3)	5,620	2.8	(±0.1)	2.6	(±0.1)
Black	3,672	12.3	(±0.7)	15.5	(±0.8)	899	3.0	(±0.2)	4.0	(±0.2)
American Indian/ Alaskan Native	270	13.4	(±3.5)	17.5	(±3.4)	61	3.0	(±0.8)	4.2	(±1.0)
Asian/Pacific Islander	401	5.6	(±1.4)	7.3	(±1.6)	52	0.7	(±0.2)	1.1	(±0.3)
Other	760	7.8	(±1.5)	12.7	(±2.3)	129	1.3	(±0.2)	2.3	(±0.4)
Ethnicity										
Hispanic	1,412	6.5	(±0.8)	11.3	(±1.1)	314	1.4	(±0.2)	2.7	(±0.3)
Non-Hispanic	36,000	15.9	(±0.4)	15.3	(±0.3)	6,524	2.9	(±0.1)	2.8	(±0.1)
Region¶										
Northeast	7,354	14.5	(±0.7)	13.0	(±0.5)	1,266	2.5	(±0.2)	2.3	(±0.1)
Midwest	9,506	15.9	(±0.7)	15.9	(±0.6)	1,730	2.9	(±0.2)	2.9	(±0.2)
South	13,491	15.8	(±0.6)	15.8	(±0.5)	2,616	3.1	(±0.2)	3.1	(±0.2)
West	6,901	13.1	(±0.9)	14.2	(±0.8)	1,214	2.3	(±0.1)	2.5	(±0.1)
Residence										
Metropolitan statistical area (MSA)**	27,060	14.1	(±0.4)	14.4	(±0.3)	4,820	2.5	(±0.1)	2.6	(±0.1)
Not MSA	9,805	18.1	(±0.8)	16.9	(±0.7)	1,930	3.6	(±0.2)	3.2	(±0.2)

Education (yrs)										
≤ 8	6,665	12.5	(±0.7)	16.4	(±1.0)	2,462	3.4	(±0.2)	4.2	(±0.2)
9–11	5,346	18.3	(±1.1)	17.1	(±0.8)	1,461	4.0	(±0.2)	3.6	(±0.2)
12	13,014	18.6	(±0.8)	15.3	(±0.6)	1,714	3.1	(±0.1)	2.5	(±0.1)
13–15	6,093	16.7	(±0.9)	16.3	(±0.8)	916	2.4	(±0.2)	2.5	(±0.2)
16	2,956	14.7	(±1.1)	13.6	(±1.1)	653	1.9	(±0.2)	1.9	(±0.2)
≥17	2,404	16.4	(±1.4)	14.3	(±2.3)	226	2.0	(±0.2)	1.8	(±0.3)
Income (annual)										
<$10,000	5,298	21.2	(±1.5)	20.3	(±1.2)	1,583	6.4	(±0.4)	6.0	(±0.3)
$10,000–$19,999	7,636	19.1	(±1.0)	17.5	(±0.8)	1,618	4.1	(±0.2)	3.5	(±0.2)
$20,000–$34,999	7,272	13.3	(±0.7)	14.5	(±0.7)	1,121	2.1	(±0.1)	2.3	(±0.1)
$35,000–$49,999	4,459	11.4	(±0.8)	14.1	(±0.8)	540	1.4	(±0.1)	1.9	(±0.2)
≥$50,000	5,228	11.4	(±0.7)	13.4	(±0.8)	561	1.2	(±0.1)	1.6	(±0.1)
Total	**37,943**	**15.0**	**(±0.4)**	**15.0**	**(±0.4)**	**6,964**	**2.8**	**(±0.1)**	**2.8**	**(±0.1)**

* Average annual rate in percentages in the 1989–1991 civilian, noninstitutionalized population. Age-adjusted rates use the eight listed age categories to adjust to the same population.

† In thousands. To generate national estimates, NHIS rates were applied to the total population for age, sex, race, ethnicity, region, and education and to the civilian, noninstitutionalized population for residence and income.

§ Confidence interval.

¶ Northeast=Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont. Midwest=Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. South=Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. West=Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

** A county or group of counties containing at least one city having a population of 50,000 or more and adjacent counties that are metropolitan in character and are economically and socially integrated with the central city.

Arthritis — Continued

lations of each state as reported by the 1990 census. National projections through 2020 were determined by applying national arthritis prevalence rates, stratified by age, sex, and race, to the total U.S. population projected by the U.S. Bureau of the Census (*4*).

In 1990, an estimated 15.0% (37.9 million persons) of the U.S. population had arthritis. Estimated prevalence rates were 49.4% for persons aged ≥65 years, 5.1% for persons aged ≤44 years, and 0.5% for children aged ≤16 years. Arthritis rates age-adjusted to the 1989–1991 population were higher for women (17.1%) than men (12.5%) and for non-Hispanics (15.3%) than Hispanics (11.3%) (Table 1). Rates were similar for blacks and whites. Of persons reporting arthritis, 83.6% had consulted a physician for the problem.

In 1990, an estimated 2.8% (7.0 million persons) of the U.S. population had arthritis as a major or contributing cause of activity limitation. Arthritis limited activities in 11.6% of persons aged ≥65 years, 0.5% of persons aged ≤44 years, and 0.1% of persons aged ≤16 years. Rates of activity limitation, adjusted for age, were higher for women (3.4%) than men (2.0%) and for blacks (4.0%) than whites (2.6%) (Table 1). Age-adjusted rates of activity limitation were twofold higher for persons with 8 or fewer years of education than for persons with a college degree and were threefold higher for persons earning $10,000 or less per year than for persons earning $35,000 or more.

Based on region-specific rates and state-specific age, sex, race, and ethnicity distributions, estimated synthetic prevalence rates for self-reported arthritis were lowest in Alaska (10.0%) and highest in Florida (19.1%) (Table 2). Similarly derived rates of arthritis-limited activity were lowest in Alaska (1.5%) and highest in Florida and the District of Columbia (3.8% each).

The prevalence rate of self-reported arthritis in the United States is projected to increase from 15.0% of the 1990 population to 18.2% (59.4 million) of the estimated population for 2020. Activity limitation associated with arthritis is projected to increase from 2.8% of the 1990 population to 3.6% (11.6 million) of the 2020 population.

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Editorial Note: The findings in this report indicate that both the estimated number of persons with arthritis and the prevalence rate of arthritis have increased since 1985, when 35 million (14.5%) persons had arthritis (*5*). By 2020, the estimated number of persons with arthritis is projected to increase by 57% and activity limitation associated with arthritis by 66%. These projected increases are largely attributable to the high prevalence of arthritis among older persons and the increasing average age of the U.S. population.

The reasons for higher rates of arthritis among women and higher rates of activity limitation among women and persons with low education and low income are not clear. Race and ethnicity are probably risk markers and not risk factors for arthritis. Risk markers may be useful for identifying groups at greatest risk for arthritis and targeting intervention efforts.

Although arthritis is more prevalent and a more frequent cause of activity limitation than heart disease, cancer, or diabetes (*6*), epidemiologic data about this condition are limited. To address this limitation, federal and private groups are collaborating to

Arthritis — Continued

TABLE 2. Synthetic estimates of state-specific prevalence of self-reported arthritis and activity limitation attributable to arthritis — United States, 1990*

Area	Self-reported arthritis			Self-reported activity limitation		
	No.†	%	(95% CI§)	No.†	%	(95% CI)
Alabama	679	16.7	(±2.5)	134	3.3	(±0.6)
Alaska	54	10.0	(±3.0)	8	1.5	(±0.5)
Arizona	536	14.6	(±4.0)	95	2.6	(±0.8)
Arkansas	417	17.5	(±2.5)	81	3.4	(±0.6)
California	4000	13.4	(±4.6)	697	2.3	(±0.8)
Colorado	452	13.6	(±3.5)	77	2.3	(±0.7)
Connecticut	476	14.2	(±2.9)	82	2.4	(±0.6)
Delaware	108	16.1	(±2.4)	21	3.0	(±0.6)
District of Columbia	99	16.1	(±2.6)	23	3.8	(±0.9)
Florida	2471	19.1	(±3.1)	491	3.8	(±0.8)
Georgia	965	14.8	(±2.4)	184	2.8	(±0.5)
Hawaii	131	12.0	(±6.1)	20	1.9	(±1.0)
Idaho	143	14.0	(±2.9)	25	2.4	(±0.6)
Illinois	1822	15.7	(±3.4)	347	2.9	(±0.7)
Indiana	897	15.9	(±2.7)	163	2.8	(±0.6)
Iowa	485	17.0	(±2.7)	89	3.0	(±0.5)
Kansas	406	16.2	(±2.9)	75	2.9	(±0.6)
Kentucky	617	16.6	(±2.2)	115	3.1	(±0.5)
Louisiana	638	15.0	(±2.5)	126	2.9	(±0.6)
Maine	178	14.3	(±2.5)	29	2.3	(±0.5)
Maryland	745	15.5	(±2.6)	141	2.9	(±0.6)
Massachusetts	863	14.0	(±2.8)	148	2.4	(±0.6)
Michigan	1469	15.6	(±2.9)	273	2.9	(±0.6)
Minnesota	695	15.5	(±2.6)	123	2.7	(±0.5)
Mississippi	410	15.8	(±2.6)	84	3.2	(±0.6)
Missouri	870	16.7	(±2.9)	164	3.1	(±0.6)
Montana	121	14.9	(±3.0)	21	2.6	(±0.6)
Nebraska	263	16.3	(±2.7)	48	2.9	(±0.5)
Nevada	173	14.4	(±3.7)	29	2.5	(±0.7)
New Hampshire	148	13.1	(±2.4)	24	2.1	(±0.4)
New Jersey	1093	14.0	(±3.3)	194	2.5	(±0.7)
New Mexico	198	13.0	(±4.7)	35	2.3	(±0.9)
New York	2488	13.6	(±3.5)	458	2.5	(±0.8)
North Carolina	1087	16.4	(±2.5)	210	3.1	(±0.6)
North Dakota	105	16.1	(±2.7)	19	2.8	(±0.5)
Ohio	1793	16.2	(±2.8)	333	3.0	(±0.6)
Oklahoma	520	16.3	(±2.6)	98	3.1	(±0.6)
Oregon	441	15.4	(±3.2)	78	2.7	(±0.6)
Pennsylvania	1839	15.2	(±3.0)	319	2.6	(±0.6)
Rhode Island	150	14.7	(±2.8)	26	2.5	(±0.6)
South Carolina	547	15.7	(±2.5)	107	3.1	(±0.6)
South Dakota	116	16.2	(±2.8)	21	2.9	(±0.6)
Tennessee	823	16.7	(±2.4)	157	3.2	(±0.5)
Texas	2273	13.2	(±2.8)	441	2.5	(±0.7)
Utah	201	11.6	(±2.6)	33	1.9	(±0.5)
Vermont	76	13.3	(±2.4)	12	2.1	(±0.4)
Virginia	956	15.5	(±2.5)	181	2.9	(±0.6)
Washington	704	14.4	(±3.3)	121	2.5	(±0.6)
West Virginia	331	18.2	(±2.3)	62	3.4	(±0.5)
Wisconsin	799	16.0	(±2.7)	143	2.8	(±0.5)
Wyoming	62	13.5	(±2.9)	11	2.3	(±0.6)

* Numbers and percentages were estimated by applying the average annual 1989–1991 National Health Interview Survey arthritis rates for the civilian, noninstitutionalized population by age group (≤24, 25–34, 35–44, 45–54, 55–64, 65–74, 75–84, and ≥85 years), sex, race (white, black, and other), ethnicity, and region (Northeast, Midwest, South, and West) to the area's total 1990 census population.

† In thousands.

§ Confidence interval.

Arthritis — Continued

provide better information about the frequency and impact of arthritis. In addition, some states are gathering data through the Behavioral Risk Factor Surveillance System (*7*) and making diagnostic, treatment, educational, and rehabilitative services more accessible to all persons with arthritis (*8*).

The findings in this report are subject to at least three limitations. First, the estimates are based on self-reported data that were not validated by a health-care provider. However, because many persons with arthritis do not seek medical care, self-reported data may provide a better indicator of symptomatic arthritis (*9*). Second, synthetic estimates are not based on direct measurements of state data. Third, synthetic state estimates were not adjusted for income, education, and metropolitan statistical area. In addition, the definition for arthritis used in this report was more comprehensive than that used in the 1985 study and includes additional conditions (e.g., lupus, infectious arthritis, and carpal tunnel syndrome) that persons would identify as arthritis.

Further studies are needed to define the frequency of the specific types of arthritis, determine the characteristics of persons who do not seek medical care, and better assess the financial and societal impact of arthritis. In addition, data are needed to better characterize differences in the prevalence and impact of arthritis in demographic subgroups and to provide more direct measures of arthritis for individual states. These data will assist in efforts to reduce the projected impact of arthritis and to direct interventions and services to groups disproportionately affected by arthritis.

States can use these synthetic estimates to set priorities and target resources until more direct measures of arthritis prevalence and impact are available. To lessen the projected impact of arthritis, health-care providers should 1) promote primary prevention of arthritis through prevention of obesity and sports-associated or occupational-associated joint injury, and 2) encourage early detection and appropriate management of persons with arthritis, including exercise and educational programs (e.g., the Arthritis Self-Help Course, which has been shown to reduce pain and physician visits [*10*]).

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Current Trends

Knowledge and Practices Among Injecting-Drug Users of Bleach Use for Equipment Disinfection — New York City, 1993

Sharing (i.e., multiperson use) of drug-injection equipment among injecting-drug users (IDUs) is a major risk factor in the transmission of human immunodeficiency virus (HIV) and other bloodborne pathogens. Abstaining from injection of drugs eliminates this risk; disinfection of needles and syringes with household bleach can reduce this risk. Because studies suggest the effectiveness of bleach disinfection may be limited, the March 1993 National Institute on Drug Abuse (NIDA) Community Alert Bulletin included recommendations that IDUs who do not stop injecting and sharing injection equipment use full-strength household bleach and keep the bleach in contact with the equipment for at least 30 seconds (*1*). To determine whether these new recommendations had been disseminated effectively to IDUs, the knowledge of bleach use for disinfection of drug-injection equipment among IDUs participating in a NIDA-sponsored New York City cohort study was assessed during August–December 1993. This report presents data about knowledge of bleach use for disinfection among persons who reported injecting drugs at least once during the 3–6 months preceding the interview.

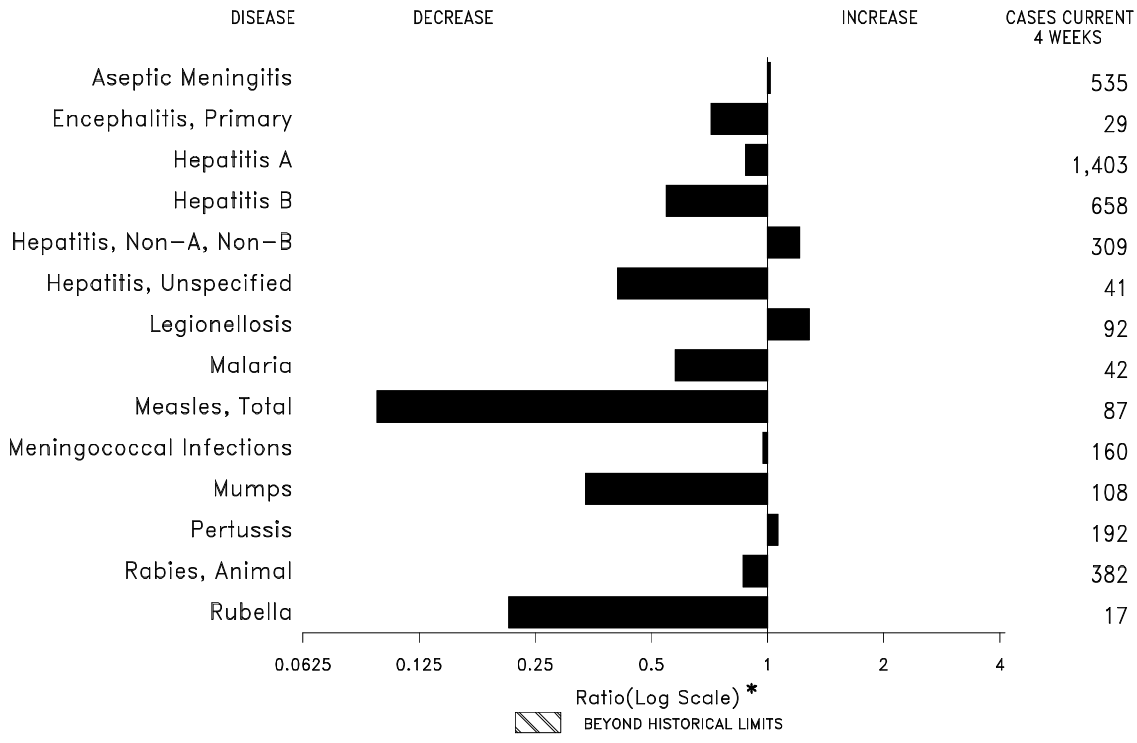
During September 1991–December 1993, cohort members were recruited originally from methadone-maintenance treatment programs (MMTPs) in Manhattan and through flyers and word-of-mouth in Manhattan communities with large numbers of out-of-treatment IDUs. During August–December 1993, 696 cohort members were interviewed during scheduled study visits; 367 (53%) who stated they had not injected drugs during that period and 39 (6%) who were not asked about bleach were excluded from this analysis. At the time of the interview, 304 (83%) of those excluded because they had not injected drugs were enrolled in MMTPs, and eight (2%) were in other types of drug treatment. Respondents were asked, "Should bleach be mixed with water to clean works?" "If yes, how much water are you supposed to mix in with the bleach?"; and "How long do you need to leave the bleach in the syringe in order to kill the AIDS virus?" Respondents also were asked whether they had "injected [drugs] with used needles or shared needles with anyone."

Of the 290 active IDU respondents, 232 (80%) were male; the mean age of all persons interviewed was 40 years (range: 22–66 years). Most (230 [79%]) respondents were enrolled in MMTPs at the time of interview; five (2%) were in other types of drug treatment; and 55 (19%) were not in treatment. Overall, 150 (52%) reported average injection frequency of at least once per week during the 3–6 months preceding the interview. The primary drugs injected were heroin, cocaine, or a combination of heroin and cocaine. Needle-exchange programs were reported as the primary source of injection equipment for 118 (41%) during the 3–6 months preceding the interview.

Of the 290 respondents, 173 (60%) knew that full-strength bleach should be used to clean used needles, compared with 90 (31%) who thought bleach should be mixed with water; 27 (9%) did not know what strength bleach should be used. One hundred seventy-one (59%) respondents knew that needles and syringes must be in contact

(Continued on page 445)

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending June 18, 1994, 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 — cases of specified notifiable diseases, United States, cumulative, week ending June 18, 1994 (24th Week)

	Cum. 1994		Cum. 1994
AIDS*	32,466	Measles: imported	131
Anthrax	-	indigenous	501
Botulism: Foodborne	31	Plague	3
Infant	33	Poliomyelitis, Paralytic[§]	-
Other	7	Psittacosis	17
Brucellosis	33	Rabies, human	-
Cholera	9	Syphilis, primary & secondary	9,741
Congenital rubella syndrome	3	Syphilis, congenital, age < 1 year	-
Diphtheria	-	Tetanus	16
Encephalitis, post-infectious	50	Toxic shock syndrome	101
Gonorrhea	166,189	Trichinosis	25
Haemophilus influenzae (invasive disease)[†]	571	Tuberculosis	9,315
Hansen Disease	52	Tularemia	16
Leptospirosis	12	Typhoid fever	161
Lyme Disease	1,675	Typhus fever, tickborne (RMSF)	97

*Updated monthly; last update May 24, 1994.
[†]Of 529 cases of known age, 153 (29%) were reported among children less than 5 years of age.
[§]No cases of suspected poliomyelitis have been reported in 1994; 3 cases of suspected poliomyelitis have been reported in 1993; 4 of the 5 suspected cases with onset in 1992 were confirmed; the confirmed cases were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending June 18, 1994, and June 19, 1993 (24th 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. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994
UNITED STATES	32,466	2,478	244	50	166,189	175,845	9,202	5,113	1,986	200	660	1,675
NEW ENGLAND	1,245	80	7	3	3,771	3,187	150	185	67	15	19	258
Maine	46	7	1	-	48	37	12	9	-	-	-	2
N.H.	28	7	-	2	36	26	6	16	6	-	-	9
Vt.	19	7	-	-	10	14	2	-	-	-	-	1
Mass.	638	28	4	-	1,326	1,309	66	136	49	14	13	73
R.I.	104	31	2	1	207	168	13	3	12	1	6	32
Conn.	410	-	-	-	2,144	1,633	51	21	-	-	-	141
MID. ATLANTIC	9,386	179	20	8	18,274	20,117	514	493	244	3	83	1,052
Upstate N.Y.	856	96	11	1	4,281	3,849	250	192	114	1	22	771
N.Y. City	5,924	9	1	-	6,289	6,392	56	39	-	-	-	2
N.J.	1,728	-	-	-	2,189	2,368	144	168	110	-	13	120
Pa.	878	74	8	7	5,515	7,508	64	94	20	2	48	159
E.N. CENTRAL	2,663	378	65	10	32,858	34,092	828	522	148	2	192	28
Ohio	479	92	18	1	10,761	8,850	300	89	12	-	87	19
Ind.	333	68	2	-	3,668	3,664	154	97	4	-	57	6
Ill.	1,310	64	24	3	7,972	11,913	187	87	25	1	5	2
Mich.	409	148	20	6	7,656	6,829	120	162	107	1	35	1
Wis.	132	6	1	-	2,801	2,836	67	87	-	-	8	-
W.N. CENTRAL	736	144	9	1	8,864	9,858	460	293	85	5	69	36
Minn.	198	13	1	-	1,520	1,118	102	36	7	1	-	7
Iowa	30	43	-	-	650	818	27	16	7	3	21	1
Mo.	315	47	-	-	4,979	5,521	186	209	57	1	33	17
N. Dak.	18	1	2	-	14	23	1	-	-	-	3	-
S. Dak.	9	-	2	-	88	126	17	-	-	-	-	-
Nebr.	41	5	3	1	-	476	67	14	4	-	10	8
Kans.	125	35	1	-	1,613	1,776	60	18	10	-	2	3
S. ATLANTIC	7,007	593	45	20	46,541	47,973	601	1,204	353	15	170	205
Del.	97	11	-	-	784	612	11	4	1	-	-	6
Md.	541	74	8	2	8,944	7,487	81	157	18	5	43	72
D.C.	595	16	-	1	2,983	2,368	10	16	-	-	5	2
Va.	517	73	12	5	5,940	5,490	59	54	17	2	4	22
W. Va.	10	8	-	-	328	265	4	10	17	-	1	7
N.C.	556	93	24	-	11,187	11,260	55	129	29	-	12	34
S.C.	554	16	-	-	5,654	4,710	15	19	3	-	9	3
Ga.	872	24	1	-	-	4,660	23	468	154	-	69	53
Fla.	3,265	278	-	12	10,721	11,121	343	347	114	8	27	6
E.S. CENTRAL	834	169	21	1	20,031	18,952	210	523	384	2	33	17
Ky.	147	56	8	1	2,082	2,098	85	46	13	-	4	10
Tenn.	235	29	9	-	5,956	5,079	71	441	363	1	19	6
Ala.	245	65	4	-	7,286	7,124	36	36	8	1	7	1
Miss.	207	19	-	-	4,707	4,651	18	-	-	-	3	-
W.S. CENTRAL	3,242	261	17	1	19,063	19,329	1,361	585	203	46	15	38
Ark.	97	15	-	-	3,029	2,753	27	11	4	1	4	2
La.	474	11	2	-	5,535	5,161	66	80	54	1	-	-
Okla.	111	-	-	-	625	1,719	117	147	117	1	8	19
Tex.	2,560	235	15	1	9,874	9,696	1,151	347	28	43	3	17
MOUNTAIN	1,052	72	4	-	3,864	5,073	1,835	247	198	21	41	4
Mont.	13	-	-	-	38	22	13	12	4	-	14	-
Idaho	24	3	-	-	37	89	157	44	47	1	1	1
Wyo.	11	-	-	-	36	41	11	9	64	-	2	-
Colo.	420	19	1	-	1,240	1,679	164	17	19	5	7	-
N. Mex.	69	6	-	-	477	444	542	99	33	6	1	3
Ariz.	284	28	-	-	1,282	1,842	632	20	7	7	1	-
Utah	60	4	-	-	142	159	201	21	15	-	3	-
Nev.	171	12	3	-	612	797	115	25	9	2	12	-
PACIFIC	6,301	602	56	6	12,923	17,264	3,243	1,061	304	91	38	37
Wash.	401	-	-	-	1,201	1,791	170	34	33	1	5	-
Oreg.	269	-	-	-	414	625	175	24	5	1	-	-
Calif.	5,519	519	55	5	10,601	14,388	2,767	975	261	87	30	37
Alaska	19	12	1	-	385	216	101	7	-	-	-	-
Hawaii	93	71	-	1	322	244	30	21	5	2	3	-
Guam	1	6	-	-	65	51	10	-	-	4	2	-
P.R.	903	16	-	1	205	236	35	135	57	3	-	-
V.I.	12	-	-	-	11	55	-	1	-	-	-	-
Amer. Samoa	-	-	-	-	15	12	4	-	-	-	-	-
C.N.M.I.	-	-	-	-	23	41	3	-	-	-	-	-

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

*Updated monthly; last update May 24, 1994.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending June 18, 1994, and June 19, 1993 (24th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1994	1994	Cum. 1994	1994	Cum. 1994	Cum. 1993	Cum. 1994	1994	Cum. 1994	1994	Cum. 1994	Cum. 1993	1994	Cum. 1994	Cum. 1993
UNITED STATES	388	10	501	-	131	189	1,450	17	667	83	1,417	1,532	9	172	109
NEW ENGLAND	28	-	10	-	10	56	71	-	11	5	147	309	5	114	1
Maine	1	-	1	-	3	-	12	-	3	-	2	6	-	-	1
N.H.	3	-	1	-	-	-	6	-	4	-	38	88	-	-	-
Vt.	1	-	-	-	1	31	2	-	-	-	27	44	-	-	-
Mass.	11	-	1	-	4	15	28	-	-	1	62	135	5	113	-
R.I.	4	-	4	-	2	1	-	-	1	-	3	3	-	1	-
Conn.	8	-	3	-	-	9	23	-	3	4	15	33	-	-	-
MID. ATLANTIC	48	2	116	-	13	12	131	3	57	14	294	290	-	8	33
Upstate N.Y.	17	-	14	-	-	1	46	3	17	11	114	71	-	8	5
N.Y. City	6	2	10	-	2	3	8	-	-	3	61	7	-	-	15
N.J.	16	-	88	-	9	8	36	-	4	-	6	36	-	-	7
Pa.	9	-	4	-	2	-	41	-	36	-	113	176	-	-	6
E.N. CENTRAL	42	-	45	-	40	12	216	2	112	1	219	304	-	8	2
Ohio	7	-	10	-	-	4	59	-	31	-	71	95	-	-	1
Ind.	11	-	-	-	1	-	37	-	6	1	36	24	-	-	-
Ill.	12	-	15	-	38	8	75	-	42	-	45	64	-	3	-
Mich.	11	-	17	-	1	-	27	2	29	-	22	16	-	5	-
Wis.	1	-	3	-	-	-	18	-	4	-	45	105	-	-	1
W.N. CENTRAL	21	-	109	-	41	3	104	1	33	13	72	89	-	-	1
Minn.	5	-	-	-	-	-	8	-	4	12	39	43	-	-	-
Iowa	4	-	-	-	-	-	13	1	10	-	6	1	-	-	-
Mo.	10	-	108	-	40	1	50	-	15	-	15	25	-	-	1
N. Dak.	-	-	-	-	-	-	-	-	2	-	2	3	-	-	-
S. Dak.	-	-	-	-	-	-	6	-	-	-	-	1	-	-	-
Nebr.	1	-	-	-	1	-	8	-	2	1	4	5	-	-	-
Kans.	1	-	1	-	-	2	19	-	-	-	6	11	-	-	-
S. ATLANTIC	86	-	7	-	2	22	257	-	100	2	158	127	-	7	5
Del.	3	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Md.	38	-	1	-	1	4	19	-	23	-	51	42	-	-	1
D.C.	8	-	-	-	-	-	2	-	-	-	3	2	-	-	-
Va.	9	-	1	-	1	1	38	-	24	-	15	12	-	-	-
W. Va.	-	-	-	-	-	-	9	-	3	-	2	3	-	-	-
N.C.	2	-	-	-	-	-	39	-	26	-	44	21	-	-	-
S.C.	2	-	-	-	-	-	11	-	6	-	10	5	-	-	-
Ga.	11	-	2	-	-	-	55	-	7	-	11	11	-	-	-
Fla.	13	-	3	-	-	17	82	-	11	2	22	31	-	7	4
E.S. CENTRAL	12	-	28	-	-	1	98	-	13	-	82	63	-	-	-
Ky.	3	-	-	-	-	-	25	-	-	-	52	11	-	-	-
Tenn.	6	-	28	-	-	-	24	-	6	-	16	31	-	-	-
Ala.	2	-	-	-	-	1	43	-	1	-	13	16	-	-	-
Miss.	1	-	-	-	-	-	6	-	6	-	1	5	-	-	-
W.S. CENTRAL	14	-	7	-	5	1	188	5	156	11	51	32	-	7	12
Ark.	-	-	-	-	1	-	29	-	-	2	10	2	-	-	-
La.	2	-	-	-	1	1	23	-	15	-	5	5	-	-	1
Okla.	2	-	-	-	-	-	18	1	22	-	20	12	-	4	1
Tex.	10	-	7	-	3	-	118	4	119	9	16	13	-	3	10
MOUNTAIN	16	8	138	-	12	2	98	1	45	20	105	100	-	4	5
Mont.	-	-	-	-	-	-	2	-	-	-	3	-	-	-	-
Idaho	2	-	-	-	-	-	14	-	5	-	24	12	-	1	1
Wyo.	-	-	-	-	-	-	5	-	1	-	-	1	-	-	-
Colo.	5	-	13	-	1	2	12	1	2	12	30	45	-	-	-
N. Mex.	3	-	-	-	-	-	11	N	N	-	9	19	-	-	-
Ariz.	1	-	-	-	-	-	38	-	24	8	28	16	-	-	1
Utah	4	8	125	-	-	-	12	-	6	-	9	7	-	2	2
Nev.	1	-	-	-	11	-	4	-	6	-	2	-	-	1	1
PACIFIC	121	-	41	-	8	80	287	5	140	17	289	218	4	24	50
Wash.	4	-	-	-	-	-	21	-	4	1	14	20	-	-	-
Oreg.	7	-	-	-	-	-	47	N	N	-	22	3	-	-	1
Calif.	100	-	41	-	6	65	212	5	126	16	247	185	4	21	28
Alaska	-	-	-	-	-	-	2	-	2	-	-	3	-	1	1
Hawaii	10	-	-	-	2	15	5	-	8	-	6	7	-	2	20
Guam	-	U	211	U	-	2	-	U	3	U	-	-	U	1	-
P.R.	2	-	13	-	-	266	6	-	2	-	1	1	-	-	-
V.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	1	-	U	1	U	1	2	U	-	-
C.N.M.I.	1	U	26	U	-	1	-	U	2	U	-	-	U	-	-

*For measles only, imported cases include 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 June 18, 1994, and June 19, 1993 (24th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-Shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994
UNITED STATES	9,741	12,519	101	9,315	9,544	16	161	97	2,740
NEW ENGLAND	103	180	1	186	197	-	13	5	853
Maine	4	2	-	-	5	-	-	-	-
N.H.	1	18	-	7	7	-	-	-	94
Vt.	-	1	-	3	3	-	-	-	75
Mass.	42	83	1	90	117	-	9	5	324
R.I.	9	6	-	18	30	-	1	-	5
Conn.	47	70	-	68	35	-	3	-	355
MID. ATLANTIC	597	1,277	17	1,652	2,001	-	43	-	298
Upstate N.Y.	79	104	8	112	287	-	6	-	79
N.Y. City	288	644	-	1,064	1,226	-	23	-	-
N.J.	86	202	-	325	187	-	14	-	142
Pa.	144	327	9	151	301	-	-	-	77
E.N. CENTRAL	1,231	2,076	21	929	1,001	1	29	16	18
Ohio	491	554	8	133	140	-	2	10	-
Ind.	112	186	2	81	104	-	2	2	3
Ill.	352	820	4	468	519	-	16	2	3
Mich.	144	297	7	218	199	1	3	2	6
Wis.	132	219	-	29	39	-	6	-	6
W.N. CENTRAL	554	818	16	244	210	7	-	6	87
Minn.	23	39	1	46	30	-	-	-	8
Iowa	23	40	6	17	19	-	-	1	39
Mo.	478	652	5	116	113	5	-	-	9
N. Dak.	-	2	-	3	4	-	-	-	3
S. Dak.	-	1	-	14	9	-	-	4	11
Nebr.	-	10	2	10	8	-	-	1	-
Kans.	30	74	2	38	27	2	-	-	17
S. ATLANTIC	2,797	3,285	6	1,818	2,009	-	24	44	880
Del.	13	63	-	-	18	-	1	-	21
Md.	104	177	-	141	167	-	4	3	286
D.C.	120	177	-	51	80	-	1	-	2
Va.	350	303	1	165	217	-	3	2	180
W. Va.	8	2	-	39	40	-	-	-	36
N.C.	820	913	1	216	223	-	-	14	87
S.C.	325	516	-	193	190	-	-	1	82
Ga.	645	569	-	406	352	-	1	22	177
Fla.	412	565	4	607	722	-	14	2	9
E.S. CENTRAL	1,739	1,628	2	572	652	-	1	8	88
Ky.	106	143	1	151	172	-	1	-	3
Tenn.	460	409	1	157	149	-	-	6	34
Ala.	330	392	-	196	219	-	-	1	51
Miss.	843	684	-	68	112	-	-	1	-
W.S. CENTRAL	2,244	2,440	-	1,133	869	4	8	14	360
Ark.	238	297	-	123	79	3	-	2	14
La.	848	1,105	-	14	-	-	3	-	41
Okla.	20	177	-	111	80	1	1	9	19
Tex.	1,138	861	-	885	710	-	4	3	286
MOUNTAIN	139	110	4	206	221	3	6	4	36
Mont.	1	1	-	9	5	1	-	2	-
Idaho	5	-	1	6	6	-	-	-	-
Wyo.	-	4	-	3	1	-	-	1	9
Colo.	71	32	1	1	29	-	2	1	-
N. Mex.	6	17	-	28	18	1	-	-	2
Ariz.	28	44	-	103	108	-	1	-	23
Utah	5	2	2	16	11	1	1	-	-
Nev.	23	10	-	40	43	-	2	-	2
PACIFIC	337	705	34	2,575	2,384	1	37	-	120
Wash.	31	25	-	117	118	-	3	-	-
Oreg.	17	29	-	63	50	1	-	-	-
Calif.	285	647	31	2,236	2,060	-	33	-	91
Alaska	3	2	-	32	27	-	-	-	29
Hawaii	1	2	3	127	129	-	1	-	-
Guam	3	1	-	18	30	-	1	-	-
P.R.	140	266	-	33	82	-	-	-	42
V.I.	22	26	-	-	2	-	-	-	-
Amer. Samoa	1	-	-	3	1	-	1	-	-
C.N.M.I.	1	2	-	16	16	-	1	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending June 18, 1994 (24th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	534	360	93	45	16	20	47
Boston, Mass.	165	99	40	10	6	10	25
Bridgeport, Conn.	40	32	4	2	1	1	1
Cambridge, Mass.	22	15	3	4	-	-	2
Fall River, Mass.	10	8	1	1	-	-	-
Hartford, Conn.	43	22	12	5	2	2	2
Lowell, Mass.	15	10	2	1	2	-	1
Lynn, Mass.	17	12	2	3	-	-	2
New Bedford, Mass.	19	14	3	2	-	-	-
New Haven, Conn.	37	30	3	1	-	3	3
Providence, R.I.	40	35	3	-	2	-	3
Somerville, Mass.	6	5	-	1	-	-	-
Springfield, Mass.	50	38	6	4	1	1	3
Waterbury, Conn.	24	12	6	5	-	1	-
Worcester, Mass.	46	28	8	6	2	2	5
MID. ATLANTIC	2,723	1,676	590	315	86	54	123
Albany, N.Y.	U	U	U	U	U	U	U
Allentown, Pa.	23	19	4	-	-	-	-
Buffalo, N.Y.	99	69	18	4	5	3	1
Camden, N.J.	45	19	9	8	3	6	2
Elizabeth, N.J.	25	20	4	1	-	-	1
Erie, Pa.§	36	23	12	1	-	-	1
Jersey City, N.J.	U	U	U	U	U	U	U
New York City, N.Y.	1,309	785	285	182	36	21	54
Newark, N.J.	96	27	32	29	5	2	8
Paterson, N.J.	26	12	6	5	1	2	1
Philadelphia, Pa.	601	362	135	63	25	15	31
Pittsburgh, Pa.§	94	70	21	3	-	-	4
Reading, Pa.	21	16	3	-	2	-	-
Rochester, N.Y.	119	89	23	1	4	2	13
Schenectady, N.Y.	14	8	5	1	-	-	-
Scranton, Pa.§	29	23	5	-	-	1	-
Syracuse, N.Y.	100	74	16	6	2	2	3
Trenton, N.J.	30	22	3	3	2	-	1
Utica, N.Y.	25	17	5	2	1	-	1
Yonkers, N.Y.	31	21	4	6	-	-	2
E.N. CENTRAL	1,986	1,228	367	213	104	74	116
Akron, Ohio	73	56	11	2	2	2	-
Canton, Ohio	45	34	7	2	1	1	2
Chicago, Ill.	454	200	87	87	60	20	40
Cincinnati, Ohio	161	104	30	14	6	7	17
Cleveland, Ohio	159	96	34	17	3	9	8
Columbus, Ohio	U	U	U	U	U	U	U
Dayton, Ohio	113	73	26	8	6	-	5
Detroit, Mich.	218	128	44	28	6	12	5
Evansville, Ind.	57	44	11	2	-	-	1
Fort Wayne, Ind.	56	35	9	4	5	3	4
Gary, Ind.	20	10	3	3	2	2	-
Grand Rapids, Mich.	40	26	9	1	3	1	10
Indianapolis, Ind.	157	104	31	12	4	6	7
Madison, Wis.	49	39	7	2	1	-	2
Milwaukee, Wis.	101	69	21	8	1	2	5
Peoria, Ill.	33	25	5	2	-	1	3
Rockford, Ill.	48	33	8	3	3	1	3
South Bend, Ind.	48	34	8	4	-	2	-
Toledo, Ohio	97	71	14	8	1	3	2
Youngstown, Ohio	57	47	2	6	-	2	2
W.N. CENTRAL	878	603	148	77	25	25	42
Des Moines, Iowa	74	50	11	8	5	-	-
Duluth, Minn.	34	22	8	3	1	-	2
Kansas City, Kans.	26	18	6	-	1	1	1
Kansas City, Mo.	121	75	28	10	6	2	6
Lincoln, Nebr.	37	28	7	2	-	-	3
Minneapolis, Minn.	253	178	36	28	6	5	15
Omaha, Nebr.	84	56	14	7	1	6	3
St. Louis, Mo.	123	78	22	13	2	8	4
St. Paul, Minn.	70	54	10	4	-	2	6
Wichita, Kans.	56	44	6	2	3	1	2

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,250	713	274	176	38	49	74
Atlanta, Ga.	198	103	48	33	5	9	6
Baltimore, Md.	246	134	51	48	4	9	27
Charlotte, N.C.	71	40	17	8	1	5	6
Jacksonville, Fla.	102	62	27	7	3	3	3
Miami, Fla.	93	37	25	23	7	1	3
Norfolk, Va.	59	34	11	5	4	5	4
Richmond, Va.	82	54	16	7	3	2	5
Savannah, Ga.	43	26	8	3	3	3	4
St. Petersburg, Fla.	56	46	6	2	-	2	2
Tampa, Fla.	156	105	30	11	4	6	12
Washington, D.C.	138	69	34	28	4	3	2
Wilmington, Del.	6	3	1	1	-	1	-
E.S. CENTRAL	791	506	163	62	34	25	45
Birmingham, Ala.	135	84	31	6	7	6	4
Chattanooga, Tenn.	62	48	9	1	3	1	7
Knoxville, Tenn.	76	55	16	3	1	1	5
Lexington, Ky.	84	52	16	3	3	10	7
Memphis, Tenn.	171	101	35	25	8	2	14
Mobile, Ala.	58	39	12	4	-	3	3
Montgomery, Ala.	54	37	10	3	4	-	1
Nashville, Tenn.	151	90	34	17	8	2	4
W.S. CENTRAL	1,451	923	278	166	53	30	81
Austin, Tex.	63	37	8	11	5	2	4
Baton Rouge, La.	48	27	11	7	-	3	2
Corpus Christi, Tex.	49	28	12	3	5	1	2
Dallas, Tex.	220	120	47	33	13	7	4
El Paso, Tex.	52	33	13	4	2	-	3
Ft. Worth, Tex.	112	73	19	13	5	1	8
Houston, Tex.	375	235	70	56	10	4	30
Little Rock, Ark.	27	21	2	1	2	1	3
New Orleans, La.	142	91	30	16	3	2	-
San Antonio, Tex.	185	133	30	12	5	5	8
Shreveport, La.	55	37	10	4	2	2	3
Tulsa, Okla.	123	88	26	6	1	2	14
MOUNTAIN	798	507	165	78	30	18	40
Albuquerque, N.M.	80	57	13	4	4	2	1
Colo. Springs, Colo.	44	31	12	-	1	-	6
Denver, Colo.	96	62	22	7	1	4	2
Las Vegas, Nev.	169	104	35	21	8	1	10
Ogden, Utah	21	9	8	2	2	-	2
Phoenix, Ariz.	167	98	30	25	7	7	4
Pueblo, Colo.	18	15	2	-	1	-	1
Salt Lake City, Utah	100	59	21	12	5	3	7
Tucson, Ariz.	103	72	22	7	1	1	7
PACIFIC	2,254	1,471	421	238	75	37	136
Berkeley, Calif.	23	15	3	3	1	1	2
Fresno, Calif.	118	76	24	10	2	5	9
Glendale, Calif.	25	13	9	3	-	-	-
Honolulu, Hawaii	87	63	15	5	3	1	5
Long Beach, Calif.	69	41	16	6	3	2	7
Los Angeles, Calif.	734	461	136	97	29	2	22
Pasadena, Calif.	34	23	5	1	1	4	5
Portland, Oreg.	158	102	34	16	5	1	6
Sacramento, Calif.	163	106	38	11	5	3	14
San Diego, Calif.	187	118	31	18	10	9	18
San Francisco, Calif.	140	78	22	34	1	5	11
San Jose, Calif.	181	125	33	13	8	2	21
Santa Cruz, Calif.	26	22	2	2	-	-	2
Seattle, Wash.	150	106	21	17	5	1	4
Spokane, Wash.	67	49	15	1	1	1	4
Tacoma, Wash.	92	73	17	1	1	-	6
TOTAL	12,665¶	7,987	2,499	1,370	461	332	704

*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.

Injecting-Drug Users — Continued

with bleach for at least 30 seconds. Approximately one third (102 [35%]) responded correctly to both of these questions.

Of 60 persons who reported sharing injection equipment during the preceding 3–6 months, 38 (63%) did not answer both questions correctly. Forty-five (75%) reported either not using bleach or using bleach inconsistently. Four (7%) of those who reported sharing injection equipment responded correctly to both questions and reported always using full-strength bleach.

Correct bleach use knowledge did not differ substantially for sex; age; methadone-treatment status; educational level; and recent needle exchange, needle sharing, and bleach use.

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Editorial Note: The findings in this report indicate that only one fifth of the active IDUs reported sharing injection equipment. However, of those who did share, only one fourth used bleach consistently and, of all the active IDUs, only one third knew both recommendations for correct bleach use, regardless of whether they shared injection equipment or used bleach. Because of inconsistent use and incomplete knowledge, active IDUs who reuse syringes that have been used by other IDUs are at high risk for HIV infection.

The findings of this study are subject to at least three limitations. First, these findings may not be generalizable to other IDUs in New York City or in other U.S. cities. Second, because the data were gathered 5–9 months after the NIDA bulletin was issued in March 1993, knowledge levels of IDUs since then may have increased. Finally, the sample size was adequate to detect only large effects of many characteristics on knowledge of correct bleach use for disinfection.

Because IDUs do not always use sterile equipment, since the mid-1980s HIV-prevention programs for IDUs in the United States have recommended using bleach for disinfection of drug-injection equipment previously used by another person to reduce the possibility of HIV transmission. Bleach was recommended based on its widespread availability, low cost, and ability to inactivate HIV (*2*).

Recent findings have indicated three limitations in the effectiveness of using bleach: 1) the presence of blood or other organic material in the equipment can reduce the effectiveness of bleach (*3*); 2) there appears to be a minimum contact time needed for bleach to inactivate HIV (*4*); and 3) many IDUs do not follow recommendations for bleach use for disinfection (*5*). As a result of these limitations, two national bulletins were issued in early 1993 (*1,6*) describing disinfection procedures that would increase the likelihood of disinfection. The provisional recommendations included prebleach washing of the syringe to remove organic material, use of full-strength bleach, and presence of bleach in the syringe for at least 30 seconds.

HIV-prevention programs that target drug users should inform IDUs 1) not to inject drugs; 2) if they do inject, to use new, sterile needles and syringes for every injection; and 3) if they cannot use sterile equipment, to disinfect the equipment following the recommendations for bleach disinfection. The availability of effective drug-treatment

Injecting-Drug Users — Continued

programs and sterile injection equipment are HIV-prevention priorities to assist IDUs who will not or cannot stop injecting drugs (*7*).

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Epidemiologic Notes and Reports

Viral Gastroenteritis Associated with Consumption of Raw Oysters — Florida, 1993

During November 20–30, 1993, four county public health units (CPHUs) of the Florida Department of Health and Rehabilitative Services (HRS) in northwestern Florida conducted preliminary investigations of seven separate outbreaks of foodborne illness following consumption of raw oysters. On December 1, the HRS State Health Office initiated an investigation to characterize the illness, examine risk factors for oyster-associated gastroenteritis, and quantify the dose-response relation. This report presents the findings of these two investigations.

Preliminary Investigations by the HRS CPHUs

In November 1993, private physicians notified the CPHUs of 20 persons with possible foodborne illness. These 20 ill persons identified seven well meal companions. Raw oysters were the only common food item eaten by all ill persons; no well meal companions had eaten oysters. At the request of the HRS State Health Office, CPHUs initiated active surveillance for cases of raw oyster-associated gastroenteritis among patients of hospital emergency departments, urgent-care centers, and private physicians in northwestern Florida. A case was defined as sudden onset of nausea, vomiting, diarrhea, or abdominal cramps within 72 hours of eating raw oysters. Twenty-five additional cases of gastroenteritis associated with eating raw oysters were detected.

Gastroenteritis — Continued

Traceback of implicated oysters by the CPHUs and the Florida Department of Environmental Quality indicated the oysters had been harvested from Apalachicola Bay in northwestern Florida during November 15–23.

Epidemiologic Investigation by the HRS State Health Office

The 45 persons with raw oyster-associated gastroenteritis reported by the CPHUs identified 26 well meal companions who had eaten oysters during the same meal as ill persons, but did not become ill. Of 44 ill persons for whom data were available, 36 (82%) had developed diarrhea; 34 (77%), nausea; 33 (75%), abdominal cramps; 25 (57%), vomiting; 17 (39%), fever; 15 (34%), headache; and 14 (32%), myalgia. The attack rate was 63%. Of the 45 ill persons, 10 were hospitalized for 24 hours or longer. For 30 persons for whom data were available, the median incubation period was 31 hours (range: 2–69 hours). For 26 persons for whom data were available, the median duration of illness was 48 hours (range: 10 hours–7 days); for 13 persons, duration of illness was more than 3 days. No household contacts of ill persons developed gastroenteritis.

No differences were identified between persons who became ill and well meal companions in preexisting medical conditions or medications. Consumption of alcohol or food (e.g., crackers and hot sauce) with the oysters was not associated with risk for illness. Based on the 33 cases for which data were available, a dose-response relation was observed between illness and number of raw oysters eaten (chi square for trend=3.98; p=0.05). The attack rate was highest among raw-oyster eaters who had consumed more than 5 dozen oysters (91%) and lowest among those who had consumed less than 1 dozen oysters (46%).

Paired serum specimens from 10 patients were tested for antibody to Norwalk-like virus by enzyme immunoassay (*1*); three pairs demonstrated a fourfold or greater rise in titer. Seven stool specimens were examined by electron microscopy (EM) and reverse transcription-polymerase chain reaction (RT-PCR). In four specimens, small round-structured viruses were detected by EM; in one specimen, a Norwalk-like genome was confirmed by RT-PCR (*2,3*). This Norwalk-like virus strain had a nucleotide sequence distinct from similar viruses in nearly simultaneous outbreaks associated with consumption of oysters harvested along the Louisiana coast (*4*).

No confirmed evidence of improper handling (e.g., inadequate refrigeration time or temperature) of the implicated oysters was detected. However, three ill persons had purchased oysters from retail establishments that were not licensed seafood dealers.

The National Shellfish Sanitation Program (NSSP) requires fecal coliform testing at least once each month. Fecal coliform testing of water drawn from 39 monitoring sites in Apalachicola Bay on October 3, November 21, and November 24 indicated that water quality in the bay met the criteria of the NSSP (*5*). No environmental source of pollution was identified. Sanitation procedures at the oyster-processing facilities where seafood dealers purchased oysters met standards set by the Florida Department of Environmental Protection (FDEP). However, based on the epidemiologic evidence of illness associated with oysters harvested from those waters, FDEP temporarily closed the shellfish-harvesting area of Apalachicola Bay during December 1–7. No cases of gastroenteritis related to consumption of oysters harvested after December 7 have been reported.

Gastroenteritis — Continued

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Editorial Note: This report documents outbreaks of viral gastroenteritis in Florida linked to consumption of raw oysters from waters that apparently met the standards for shellfish sanitation. Clinical and epidemiologic features of the outbreaks are similar to recently reported multistate outbreaks of viral gastroenteritis associated with eating oysters harvested in Louisiana (*4*). RT-PCR with sequencing identified different strains of the virus in the multistate outbreak and the Florida outbreak, suggesting independent sources of oyster contamination.

Although infection with the oysterborne Norwalk-like virus caused no fatalities in this outbreak, raw oyster consumption has been linked in Florida to 30 fatal cases of infection with *Vibrio vulnificus* during 1981–1992 among persons with preexisting liver disease (*6*). *V. vulnificus* is a ubiquitous organism found in seawater. In Florida, consumer information statements (required as labels on bags of oysters and in restaurants) emphasize the risk for *Vibrio* infection among persons with underlying liver disease and other preexisting illnesses (*6*). In addition, these statements suggest that such persons eat oysters fully cooked and consult with their physician if uncertain about whether they are at risk.

States conduct monitoring programs to assure clean oyster beds, legal harvesting, and proper handling of oysters. However, at both the Louisiana and Florida oyster harvest sites, routine fecal coliform water-quality monitoring conducted once each month did not detect oyster-bed contamination. Furthermore, the outbreak reported in Florida was identified in part because of publicity about the larger outbreaks associated with oysters harvested in Louisiana. These findings suggest that monitoring waters for fecal coliforms may be insufficient to indicate the presence of viruses (e.g., Norwalk-like virus). Continued surveillance for outbreaks of gastroenteritis associated with consumption of raw oysters is needed to assess efficacy of the NSSP in preventing human illness. Public health officials should consider raw oyster consumption as a possible source of infection during the evaluation of gastroenteritis outbreaks.

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Notice to Readers

Publication of Draft Guideline for Prevention of the Spread of Vancomycin Resistance

The Hospital Infection Control Practices Advisory Committee and CDC published the draft document *Preventing the Spread of Vancomycin Resistance—A Report from the Hospital Infection Control Practices Advisory Committee Prepared by the Subcommittee on Prevention and Control of Antimicrobial-Resistant Microorganisms in Hospitals* in the May 17, 1994, *Federal Register* * for public comment. The *Federal Register* can be viewed and photocopied at most libraries designated as U.S. Government Depository libraries and at other public or academic libraries receiving the *Federal Register*. Copies of the document are available from CDC's Hospital Infections Program, National Center for Infectious Diseases, telephone (404) 332-2569. Comments must be received in writing by July 18, 1994, at CDC, Attention: VRE Report, Mailstop A-07, 1600 Clifton Road, NE, Atlanta, GA 30333; fax (404) 639-3770.

*59 FR 25758–63.

Notice to Readers

NIOSH Alert: Request for Assistance in Preventing Drownings of Commercial Fishermen

CDC's National Institute for Occupational Safety and Health (NIOSH) periodically issues alerts on workplace hazards that have caused death, serious injury, or illness to workers. One such alert, *Request for Assistance in Preventing Drownings of Commercial Fishermen* (*1*), was recently published and is available to the public.*

This alert warns fishermen of the high risk of drowning if they work on commercial fishing vessel decks without wearing personal flotation devices (PFDs). The U.S. Coast Guard (USCG) estimated that during 1982–1987, the annual occupational fatality rate for U.S. commercial fishermen was 47 deaths per 100,000 workers; the major cause of these deaths was drowning. According to information gathered by NIOSH's Alaska Activity, the occupational fatality rate for commercial fishermen in Alaska during 1991–1993 was 195 deaths per 100,000 workers—nearly 30 times the average annual rate for all U.S. workers; 91% were drownings (*1*). Wearing PFDs greatly increased the

*Single copies of this document are available without charge from the Publications Office, Division of Standards Development and Technology Transfer, NIOSH, CDC, Mailstop C-13, 4676 Columbia Parkway, Cincinnati, OH 45226-1998; telephone (800) 356-4674 ([513] 533-8328 for persons outside the United States); fax (513) 533-8573.

Notices to Readers — Continued

survival chances of fishermen who jumped or fell into the water. The alert describes five representative incidents; none involved vessel loss or damage. If the fishermen who fell overboard had been wearing PFDs, they could have stayed afloat long enough to increase the chances of successful rescue.

Recommendations are given to prevent falls overboard, to increase the chances for successful rescues, and to promote PFD use. Various types of USCG-approved and nonapproved PFDs are described and illustrated in the alert.

Reference

1. NIOSH. Request for assistance in preventing drownings of commercial fishermen. Cincinnati: US Department of Health and Human Services, Public Health Service, CDC, 1994; DHHS publication no. (NIOSH)94-107.

Addendum: Vol. 43, No. 22

In the article "Birth Outcomes Following Zidovudine Therapy in Pregnant Women," on page 415 the second sentence of the first full paragraph should read "In January 1993, the Zidovudine in Pregnancy Registry was expanded to include zalcitabine and became the Antiretroviral Pregnancy Registry *jointly managed by Burroughs Wellcome Co. and Hoffmann-LaRoche Inc.*"

Any pregnancies exposed to either zidovudine or zalcitabine should be reported to the registry, telephone (800) 722-9292, extension 8465, within the United States and (919) 315-8465 for registrations from outside the United States.

Erratum: Vol. 42, No. 50

In the article "Status of Public Health—Bosnia and Herzegovina, August–September 1993," the percentage change figures presented in Table 1 (page 980) are incorrect. The corrected table appears below.

TABLE 1. Incidence* of selected enteric diseases, by region and period — central Bosnia, 1990–1993

Region	Hepatitis A	Diarrhea	Dysentery†
Sarajevo City§			
January–June 1992	0.9	13.2	0.3
January–June 1993	5.1	94.9	4.0
% Change	*+467%*	*+619%*	*+1233%*
Zenica City¶			
May–July 1990 and May–July 1991	0.4	10.3	0.3
May–July 1993	4.6	83.9	4.4
% Change	*+1050%*	*+715%*	*+1367%*
Tuzla Region**			
1992	0.5	6.5	0.5
January–June 1993	1.9	9.3	0.4
% Change	*+280%*	*+43%*	*–20%*

*Per 100,000 population per month.
†An unspecified proportion of cases were confirmed as caused by either *Shigella sonnei* or *S. flexneri*.
§Regional Institute of Public Health, Sarajevo. Assumes a prewar population of 361,000 and a current population of 300,000.
¶Regional Institute of Public Health, Zenica. Assumes a prewar population of 130,000 and a current population of 195,000.
**Regional Institute of Public Health, Tuzla. Assumes a prewar and current population of 700,000.

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