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Current Trends

Update: Influenza Activity — United States, 1992–93 Season

Influenza activity in the United States increased from December 1992 through mid-February 1993; during this period, influenza type B viruses circulated at high levels nationwide. However, since late February, high levels of influenza type A have been reported. This report updates surveillance for influenza during the 1992–93 season.

Of the 4252 influenza viruses reported from September 27, 1992, through May 15, 1993 (CDC surveillance week 19), 3086 (73%) were type B and 1166 (27%), type A. Of the 640 influenza type A viruses that were subtyped, 71 (11%) were A(H1N1) and 569 (89%), A(H3N2).

The total number of influenza isolates reported per week peaked at 443 during the week ending February 13 (week 6) then decreased steadily. Influenza type A virus circulation increased substantially after January 1993, and type A was the predominant isolate reported after March 20 (week 11) (Figure 1).

Throughout the season, virtually all influenza type B viruses isolated in the United States and characterized at CDC have been antigenically similar to the B/Panama/45/90-like virus included in the 1992–93 influenza vaccine. All characterized influenza A(H1N1) viruses have been related to the A/Texas/36/91-like virus included in the 1992–93 vaccine or the related A/Taiwan/1/86 strain (*1*). Of the 103 influenza A(H3N2) viruses isolated and characterized this season, 13 (13%) have been antigenically similar to A/Beijing/353/89, the strain included in the 1992–93 influenza vaccine, and 90 (87%) have been similar to the more recently detected antigenic variant A/Beijing/32/92 (*1*). Laboratory studies suggest that this variant is sufficiently different from the vaccine component to result in diminished effectiveness of the 1992–93 vaccine against infection with the A/Beijing/32/92 subtype virus (*1*).

Since February, outbreaks of influenza A(H3N2) have been reported in nursing homes and other institutions, particularly in areas where surveillance indicated the highest levels of influenza A(H3N2) activity (the New England, Mountain, Middle Atlantic, and South Atlantic regions). Subsequent increased influenza A(H3N2) activity was concurrent with an increase in the proportion of total deaths associated with pneumonia and influenza (P&I) reported through CDC's 121-city mortality reporting

Influenza Activity — Continued

system. This proportion exceeded the upper threshold* of expected levels for this time of year for 10 consecutive weeks beginning the week ending March 13 (week 10) (Figure 2).

The number of states and territories reporting outbreaks of widespread† or regional influenza-like illness (ILI) peaked at 26 during each of the 2 weeks ending February 13 and February 20 (weeks 6 and 7). By the weeks ending May 8 and May 15 (weeks 18 and 19) no widespread activity was reported, but regional activity was reported each week in one state. Nationwide, the average percentage of patients examined for ILI by sentinel physicians peaked at 5.8% during the week ending February 6 (week 5) and declined to levels of less than 2% by the week ending April 24 (week 16).

Reported by: Participating state and territorial epidemiologists and state public health laboratory directors. WHO collaborating laboratories. Sentinel Physicians Influenza Surveillance System of the American Academy of Family Physicians. WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza, Influenza Br, and Epidemiology Activity, Office of the Director, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

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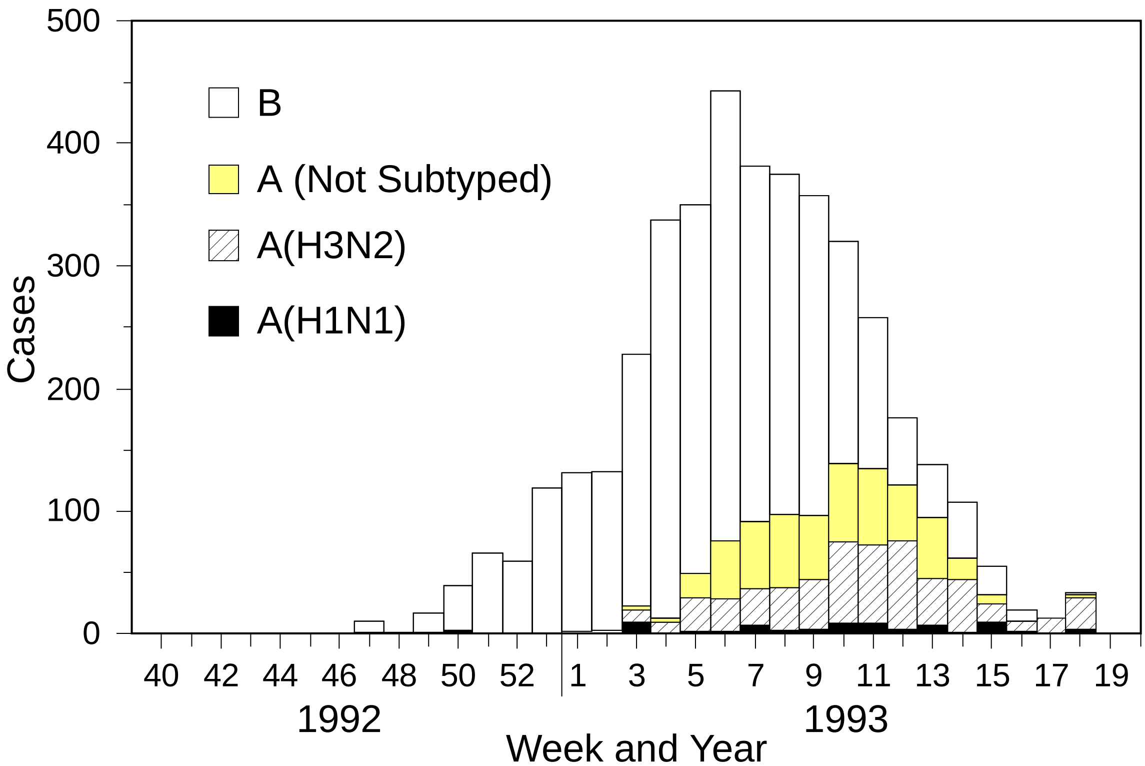
*The epidemic threshold is 1.645 standard deviations above the seasonal baseline calculated using a periodic regression model applied to observed percentages since 1983. This baseline was calculated using a robust regression procedure.

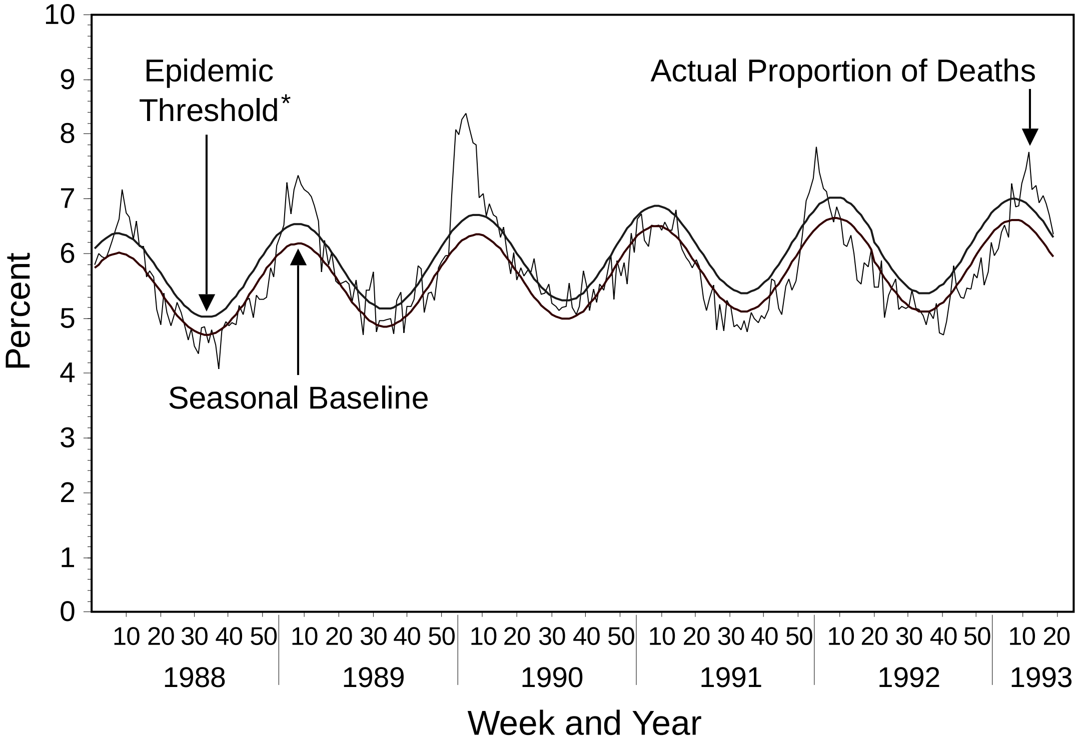
†Levels of activity are 1) *sporadic*—sporadically occurring ILI or culture-confirmed influenza, with no outbreaks detected; 2) *regional*—outbreaks of ILI or culture-confirmed influenza in counties having a combined population of less than 50% of the state's total population; and 3) *widespread*—outbreaks of ILI or culture-confirmed influenza in counties having a combined population of 50% or more of the state's total population.

FIGURE 1. Influenza virus isolates reported by World Health Organization collaborating laboratories, by surveillance week and year — United States, 1992–93 season



Influenza Activity — Continued

FIGURE 2. Weekly pneumonia and influenza mortality as a proportion of all deaths for 121 cities — United States, January 1, 1988–May 15, 1993



*The epidemic threshold is 1.645 standard deviations above the seasonal baseline calculated using a periodic regression model applied to observed percentages since 1983. This baseline was calculated using a robust regression procedure.

Editorial Note: The excess P&I mortality reported late in the 1992–93 influenza season reflects mortality among the elderly that has historically been attributable to circulation of influenza A(H3N2) viruses. This indicator of excess influenza-associated mortality tends to lag behind surveillance indicators of influenza-associated morbidity or strain circulation by several weeks.

Although influenza A(H3N2) viruses similar to the 1992–93 vaccine component A/Beijing/353/89 continue to be isolated, antigenic analysis indicates that the majority of recent isolates are similar to the antigenic variant A/Beijing/32/92—a component of the 1993–94 influenza vaccine. Although the relative predominance of influenza virus subtypes during future influenza epidemics cannot be reliably predicted, this late-season increase in isolation of a previously nondominant subtype suggests that influenza A(H3N2) viruses could predominate next season.

Reference

1. CDC. Update: influenza activity—United States and worldwide, and composition of the 1993–94 influenza vaccine. MMWR 1993;42:177–80.

Epidemiologic Notes and Reports

Lead Poisoning in Bridge Demolition Workers — Georgia, 1992

Bridge demolition and maintenance are leading causes of lead poisoning among workers in the United States (*1–5*). In June 1992, a local health department in Georgia detected elevated blood lead levels (BLLs) in four demolition workers. This report summarizes the investigation of these cases.

In February 1992, a temporary-service company was subcontracted by a steel corporation to cut apart steel beams that had been removed from a local bridge. Four men were hired; one worker, aged 54 years, began work in late February; two, aged 36 and 28 years, in March; and one, aged 24 years, in early April. All four were immigrants from Mexico; only two spoke English. The work was performed outdoors, without protective equipment or training, using oxy-acetylene flame-cutting torches.

In April, all four workers reported light-headedness and shortness of breath from the metal fumes, requiring frequent fresh-air breaks during the day. In early May, all four workers developed a variety of symptoms including headache, dizziness, fatigue, sleep disturbance, confusion, forgetfulness, arthralgia, and abdominal pain. Paper masks were provided to the workers in late May by the steel company; however, because these became blocked within hours by the accumulation of dust, the workers discarded them. The severity of symptoms intensified through June, with nausea, vomiting, constipation, weakness, shortness of breath, loss of balance, and nervousness. The 36-year-old worker left employment for 3 weeks (from mid-June through early July) because of his symptoms.

As part of an annual risk-management assessment by the steel company's insurance carrier, personal air sampling was conducted April 30 for one of the four workers; this specimen measured an airborne lead concentration of 525 $\mu g/m^3$, more than 10 times the Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) of 50 $\mu g/m^3$ for general industry*. In early June, the steel company suggested BLL examinations of the workers; their BLLs, measured at the local health department, were 93, 90, 59, and 66 µg/dL for the 54-, 28-, 24-, and 36-year-old men, respectively. The workers' employment was terminated in late June on receipt of the test results by the company.

In follow-up to the BLL results, in mid-June the health department investigated each worker's household, using a standard protocol of visual inspection and portable radiographic fluorescence readings of window sills, walls, and trim; no environmental sources of lead exposure were identified. BLLs were obtained from three children who resided in the homes; all had levels <10 µg/dL, which is below the CDC BLL of concern for children (*6*).

The health department recommended that the workers promptly seek medical evaluation and care; however, because they had no medical insurance and both the subcontractor and the steel company declined to assume the costs of treatment, the workers initially delayed seeking medical treatment. They subsequently contacted an attorney, who initiated worker's compensation proceedings and arranged for a local

*29 CFR §1910.1025.

Lead Poisoning — Continued

hospital to admit them for treatment. Each worker received three 5-day chelation treatments with intravenous calcium disodium ethylenediamine tetraacetic acid approximately 15 days apart. All four reported improvement but continued to experience memory deficits, arthralgias, headaches, dizziness, and/or sleep disturbances.

The health department also recommended that the workers request an OSHA inspection of the worksite. Findings from the inspection of the steel company on July 15 resulted in citations for violations of the medical removal protection and worker training provisions of OSHA's lead standard*. OSHA inspectors also investigated work conditions at the bridge from which the beams were removed; the demolition company was cited for excessive lead exposures (based on the construction industry PEL of 200 µg/m^3†), failure to provide personal protective equipment, and failure to monitor workplace conditions.

On December 14, 1992, the workers were evaluated at a university-based occupational medicine clinic. Physical examinations of three workers were normal; the 54-year-old worker was markedly depressed with evidence of neurologic abnormalities, including a strongly positive Romberg test and marked dysnomia. BLL measurements were 27, 25, 13, and 16 µg/dL for the 54-, 28-, 24-, and 36-year-old workers, respectively. No further treatment was recommended, but follow-up BLL monitoring was planned.

Reported by: H Frumkin, MD, F Gerr, MD, F Castañeda, MD, A Leal, MD, Environmental and Occupational Medicine Program and School of Public Health, Emory Univ, Atlanta. S Brown, Chatham County Health Dept, Savannah, Georgia. LR Santiago, Savannah Area Office, Occupational Safety and Health Administration, US Department of Labor. Div of Surveillance, Hazard Evaluations, and Field Studies, National Institute for Occupational Safety and Health, CDC.

Editorial Note: An estimated 90,000 bridges in the United States are coated with lead-containing paints (*7*). Because of maintenance and reconstruction requirements, lead exposure is a continuing occupational health hazard for construction and demolition workers. Previous cases of lead poisoning associated with similar work have been characterized by extremely high BLLs in affected workers, which developed after brief exposures and, in some instances, were unresponsive to chelation therapy.

The findings in this report are consistent with other studies that indicate that minority groups are disproportionately exposed to lead and other occupational hazards (*8,9*). In addition, the hazardous process described in this report (flame-cutting or burning of paint-coated steel beams) had been subcontracted to a smaller company by a larger, well-established firm. Such subcontracting is common in the construction industry but often concentrates hazards among workers with limited access to appropriate training, personal protective equipment, and other safety and health measures.

Construction workers are subject to highly variable exposures, and high worker-turnover rates in the construction workforce may pose special hazards for construction workers. Effective June 3, 1993, a new interim final OSHA standard on "Lead Exposure in Construction" extends to workers in the construction trades the basic health and safety provisions of the OSHA lead standard for general industry, such as requirements for medical monitoring and medical removal protection (*10*).

The response of the health department to the lead exposure in these workers was prompt and effective. However, the limitations of the interventions available and the

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*29 CFR §1910.1025.
†29 CFR §1926.

Lead Poisoning — Continued

persistence of the workers' symptoms underscore the need for primary prevention—including portable local ventilation, personal protective equipment, personal hygiene measures, and worker training—during bridge renovation and related demolition work.

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Current Trends

Sexual Behavior and Condom Use— District of Columbia, January–February, 1992

From 1980 through 1990, the cumulative incidence of acquired immunodeficiency syndrome (AIDS) in the District of Columbia (DC) (2713 cases per 100,000 persons) was approximately eight times that of the surrounding metropolitan area (340 per 100,000) (*1*). From 1980 through 1986, the AIDS epidemic primarily involved men who had sex with men; since 1986, the incidence of AIDS has been increasing among injecting-drug users (IDUs) and their sex partners (*1*). Although AIDS incidence in DC has been projected to increase by 34% from 1990 to 1994 (*1*), patterns of sexual behavior and condom use are unknown among homosexual/bisexual men, IDUs, and other heterosexuals in DC and other urban areas with a high incidence of AIDS. To obtain current data on human immunodeficiency virus (HIV)-related knowledge and behavior, the DC Commission of Public Health (CPH) conducted a telephone survey of DC residents regarding HIV-related knowledge, number of sex partners, and condom use during the 1-year period preceding the survey. This report summarizes results of the survey.

During January–February 1992, the DC CPH conducted a telephone survey of residents aged 18–45 years who were contacted through randomly selected telephone

Sexual Risk Factors — Continued

numbers. Excluded were government/business telephone numbers, numbers not answered after three attempts, and respondents aged >45 years. Of 1300 persons eligible for interview, 795 (61%) responded. The interviews included questions on number of sex partners, relationship to primary sex partner, sex of sex partner, and condom use (*2*). Results are reported for 578 non-Hispanic sexually active persons (defined as respondents who were married or who reported having a sex partner during the preceding 12 months); the sample size for Hispanics was too small to include in the analysis. To adjust for unequal sampling probabilities and nonresponse, estimates were weighted by race, sex, and age to the 1990 census population of DC. Statistical comparisons of proportions and logistic regression modeling were used to characterize these data.

Overall, 25% of respondents reported having had two or more sex partners during the previous 12 months. The mean number of partners among all respondents was 1.5 (Table 1, page 397); respondents with two or more partners had an average of 3.2 partners during the preceding year. Respondents who were not in a steady relationship (55%) and respondents who self-rated their HIV risk as "high" or "medium" (55%) were most likely to report multiple partners (Table 1). Men were more likely than women (35% versus 15% [$p<0.001$]), and blacks were more likely than whites (28% versus 20% [$p<0.001$]) to report having had two or more partners.

Overall, 40% of respondents reported always using condoms, and 34% reported never using condoms (Table 1). Among sexually active persons not in a steady relationship, 65% reported always using condoms, and 11% reported never using condoms. Of those who reported having had two or more sex partners, 59% reported always using condoms, and 9% reported never using condoms. Seventy percent of men who had two or more sex partners reported always using condoms, compared with 37% of women.

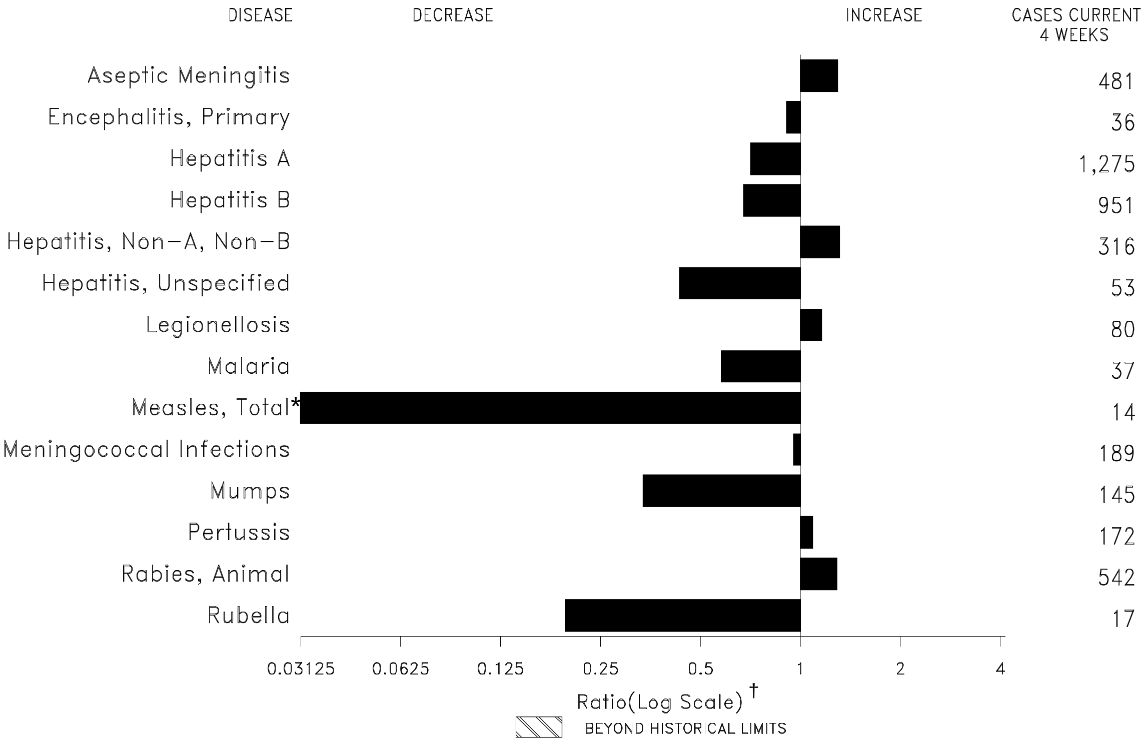
Based on stepwise multiple logistic regression, which removed variables that did not contribute substantially to the model, the number of sex partners was the strongest predictor of always using condoms (odds ratio [OR]=2.5 for two or more versus one sex partner; 95% confidence interval [CI]=1.7–3.0] (*3*). Men were almost twice as likely as women (OR=1.9; 95% CI=1.3–2.7) and blacks were almost twice as likely as whites (OR=1.9; 95% CI=1.2–2.8) to report always using condoms. Men who had reported two or more sex partners were substantially more likely to always use condoms than were men with one partner (OR=3.5; 95% CI=2.1–5.9), but women who reported two or more partners were not significantly more likely to use condoms than were women with one sex partner (OR=1.3; 95% CI=0.6–2.5). College graduates (OR=1.6 for college graduates versus all others; 95% CI=1.0–2.4) and 18–29-year-olds (OR=1.5 for 18–29-year-olds versus 30–45-year-olds; 95% CI=1.0–2.1) were also independent although marginal predictors of reporting always using condoms.

Reported by: V Kofie, MD, Preventive Health Svcs Administration, District of Columbia Commission of Public Health. A Peruga, MD, AIDS Program, Pan American Health Organization. Behavioral Surveillance Br, Office of Surveillance and Analysis, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: When compared with a 1988 nationwide sample of 18–45-year-old sexually active men (*4*), a higher percentage of DC men in 1992 reported having had two or more sex partners during the year (25% versus 35%, respectively). The same survey indicated that the percentage of women nationwide who reported having had

(Continued on page 397)

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending May 22, 1993, with historical data — United States



*The large apparent decrease in reported cases of measles(total) reflects dramatic fluctuations in the historical baseline. (Ratio [log scale] for week twenty is 0.01502).

† 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 thehatched 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 May 22, 1993 (20th Week)

	Cum. 1993		Cum. 1993
AIDS*	45,854	Measles: imported	18
Anthrax	-	indigenous	99
Botulism: Foodborne	6	Plague	1
Infant	9	Poliomyelitis, Paralytic§	-
Other	2	Psittacosis	20
Brucellosis	30	Rabies, human	-
Cholera	9	Syphilis, primary & secondary	10,445
Congenital rubella syndrome	5	Syphilis, congenital, age < 1 year	-
Diphtheria	-	Tetanus	9
Encephalitis, post-infectious	70	Toxic shock syndrome	99
Gonorrhea	146,749	Trichinosis	7
Haemophilus influenzae (invasive disease)†	689	Tuberculosis	7,442
Hansen Disease	71	Tularemia	25
Leptospirosis	15	Typhoid fever	135
Lyme Disease	1,152	Typhus fever, tickborne (RMSF)	39

*Updated monthly; last update May 15, 1993.
†Of 488 cases of known age, 176 (36%) were reported among children less than 5 years of age.
§No cases of suspected poliomyelitis have been reported in 1993; 4 cases of suspected poliomyelitis were reported in 1992; 6 of the 9 suspected cases with onset in 1991 were confirmed; the confirmed cases were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending May 22, 1993, and May 16, 1992 (20th 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. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1992	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993
UNITED STATES	45,854	2,552	206	70	146,749	184,467	8,220	4,436	1,649	238	429	1,152
NEW ENGLAND	2,171	49	5	4	2,956	3,945	212	141	10	5	15	116
Maine	59	6	1	-	34	35	8	8	-	-	3	-
N.H.	60	4	-	1	16	46	5	14	3	-	-	7
Vt.	13	6	1	-	11	11	3	2	1	-	-	-
Mass.	1,197	26	3	3	1,118	1,472	123	105	3	5	10	33
R.I.	104	7	-	-	144	310	44	12	3	-	2	28
Conn.	738	-	-	-	1,633	2,071	29	-	-	-	-	48
MID. ATLANTIC	9,139	274	7	6	16,618	18,890	495	575	125	4	87	815
Upstate N.Y.	1,466	98	-	3	3,159	3,716	133	149	69	1	22	598
N.Y. City	4,860	104	1	-	4,260	6,327	177	121	1	-	3	3
N.J.	1,897	-	-	-	2,685	2,894	118	146	37	-	11	64
Pa.	916	72	6	3	6,514	5,953	67	159	18	3	51	150
E.N. CENTRAL	3,881	344	65	14	28,818	33,926	816	434	317	5	109	12
Ohio	662	103	22	3	8,327	10,814	125	98	28	-	62	10
Ind.	505	46	4	6	3,013	3,244	369	71	4	1	14	1
Ill.	1,272	75	14	-	9,326	10,161	219	80	18	2	3	1
Mich.	985	112	22	5	6,177	8,156	98	181	249	2	22	-
Wis.	457	8	3	-	1,975	1,551	5	4	18	-	8	-
W.N. CENTRAL	2,028	147	7	-	6,525	9,949	1,086	291	81	3	24	23
Minn.	359	38	4	-	320	1,161	158	25	2	2	-	3
Iowa	126	36	-	-	602	691	15	11	3	1	3	1
Mo.	1,210	29	-	-	3,847	5,486	720	219	60	-	7	3
N. Dak.	-	3	2	-	10	35	36	-	-	-	1	1
S. Dak.	20	7	1	-	99	72	9	-	-	-	-	-
Nebr.	100	2	-	-	141	577	105	7	7	-	10	-
Kans.	213	32	-	-	1,506	1,927	43	29	9	-	3	15
S. ATLANTIC	9,481	620	38	28	40,683	60,098	485	796	222	25	78	121
Del.	192	4	2	-	519	658	3	57	59	-	6	62
Md.	843	52	10	-	6,500	5,938	70	107	5	3	22	18
D.C.	479	18	-	-	2,082	2,886	2	12	-	-	8	2
Va.	726	72	12	3	4,333	7,098	57	61	17	6	2	15
W. Va.	18	5	6	-	236	340	2	15	13	-	-	2
N.C.	453	52	7	-	9,157	8,972	20	130	26	-	8	10
S.C.	672	4	-	-	3,758	4,473	5	15	-	1	6	1
Ga.	1,450	40	1	-	4,660	19,578	39	33	20	-	12	-
Fla.	4,648	373	-	25	9,438	10,155	287	366	82	15	14	11
E.S. CENTRAL	1,245	115	7	3	16,516	18,162	105	428	357	1	18	5
Ky.	147	50	3	3	1,754	1,861	58	39	4	-	7	2
Tenn.	496	18	3	-	4,967	5,842	16	341	345	-	9	1
Ala.	401	31	1	-	6,060	6,089	21	45	3	1	-	2
Miss.	201	16	-	-	3,735	4,370	10	3	5	-	2	-
W.S. CENTRAL	4,802	186	16	-	17,928	16,980	669	566	76	63	12	11
Ark.	201	11	-	-	3,047	3,389	22	26	2	-	-	1
La.	687	10	-	-	4,422	2,139	31	76	26	-	2	-
Okla.	423	-	4	-	1,400	1,879	43	86	19	6	7	6
Tex.	3,491	165	12	-	9,059	9,573	573	378	29	57	3	4
MOUNTAIN	2,480	148	11	3	4,178	4,587	1,683	243	122	45	43	3
Mont.	13	-	-	1	20	36	48	4	-	-	5	-
Idaho	43	5	-	-	65	48	83	19	-	1	1	-
Wyo.	27	2	-	-	30	17	9	9	35	-	5	2
Colo.	806	36	3	-	1,285	1,802	405	28	16	26	3	-
N. Mex.	197	20	3	2	372	349	123	104	40	1	1	-
Ariz.	851	63	4	-	1,557	1,478	583	40	9	7	9	-
Utah	175	5	1	-	140	85	405	17	18	10	6	1
Nev.	368	17	-	-	709	772	27	22	4	-	13	-
PACIFIC	10,627	669	50	12	12,527	17,930	2,669	962	339	87	43	46
Wash.	214	-	-	-	1,471	1,634	270	79	74	7	4	-
Oreg.	485	-	-	-	825	567	47	18	5	-	-	-
Calif.	9,825	628	47	12	9,881	15,225	1,973	851	254	78	34	45
Alaska	9	4	2	-	181	284	340	6	4	-	-	-
Hawaii	94	37	1	-	169	220	39	8	2	2	5	1
Guam	-	1	-	-	29	31	1	1	-	1	-	-
P.R.	1,212	21	-	-	189	61	26	104	20	1	-	-
V.I.	33	-	-	-	43	41	-	2	-	-	-	-
Amer. Samoa	-	-	-	-	10	13	9	-	-	-	-	-
C.N.M.I.	-	2	-	-	28	15	-	-	-	1	-	-

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

*Updated monthly; last update May 15, 1993.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending May 22, 1993, and May 16, 1992 (20th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1993	1993	Cum. 1993	1993	Cum. 1993	Cum. 1992	Cum. 1993	1993	Cum. 1993	1993	Cum. 1993	Cum. 1992	1993	Cum. 1993	Cum. 1992
UNITED STATES	347	-	99	-	18	956	1,112	38	690	38	963	499	6	82	62
NEW ENGLAND	23	-	44	-	4	11	66	1	5	16	258	43	-	1	4
Maine	-	-	-	-	-	-	3	-	-	-	6	2	-	1	-
N.H.	2	-	-	-	-	1	7	-	-	1	141	15	-	-	-
Vt.	1	-	29	-	1	-	4	-	-	1	42	-	-	-	-
Mass.	10	-	7	-	2	8	37	1	2	13	51	22	-	-	-
R.I.	1	-	-	-	1	-	1	-	2	-	2	-	-	-	4
Conn.	9	-	8	-	-	2	14	-	1	1	16	4	-	-	-
MID. ATLANTIC	65	-	6	-	2	175	135	1	55	1	162	69	2	24	7
Upstate N.Y.	23	-	-	-	1	89	58	1	17	1	60	21	2	3	5
N.Y. City	24	-	2	-	-	33	19	-	-	-	10	9	-	14	-
N.J.	11	-	4	-	1	50	16	-	8	-	21	18	-	6	2
Pa.	7	-	-	-	-	3	42	-	30	-	71	21	-	1	-
E.N. CENTRAL	21	-	-	-	-	29	148	2	102	2	134	44	-	1	7
Ohio	5	-	-	-	-	5	48	-	44	-	85	12	-	1	-
Ind.	3	-	-	-	-	17	22	-	1	1	20	11	-	-	-
Ill.	11	-	-	-	-	5	45	-	23	-	12	7	-	-	7
Mich.	2	-	-	-	-	1	32	2	34	1	15	1	-	-	-
Wis.	-	-	-	-	-	1	1	-	-	-	2	13	-	-	-
W.N. CENTRAL	9	-	-	-	2	4	67	3	24	1	55	35	-	1	4
Minn.	2	-	-	-	-	3	2	-	-	-	22	14	-	-	-
Iowa	1	-	-	-	-	1	11	1	7	-	1	1	-	-	-
Mo.	2	-	-	-	-	-	28	2	12	-	15	11	-	1	1
N. Dak.	-	-	-	-	-	-	3	-	4	-	2	5	-	-	-
S. Dak.	2	-	-	-	-	-	2	-	-	-	1	2	-	-	-
Nebr.	1	-	-	-	-	-	3	-	1	-	4	2	-	-	-
Kans.	1	-	-	-	2	-	18	-	-	1	10	-	-	-	3
S. ATLANTIC	106	-	19	-	3	100	218	21	193	15	92	54	-	5	3
Del.	1	-	3	-	-	3	10	-	4	-	1	-	-	1	-
Md.	9	-	-	-	2	9	19	2	37	7	33	12	-	1	-
D.C.	5	-	-	-	-	-	4	-	-	-	1	-	-	-	-
Va.	8	-	-	-	1	6	19	-	13	-	7	4	-	-	-
W. Va.	2	-	-	-	-	-	9	-	6	-	6	2	-	-	-
N.C.	58	-	-	-	-	21	40	18	100	-	13	13	-	-	-
S.C.	-	-	-	-	-	29	18	-	13	-	5	7	-	-	-
Ga.	2	-	-	-	-	-	47	-	-	-	3	6	-	-	-
Fla.	21	-	16	-	-	32	52	1	20	8	23	10	-	3	3
E.S. CENTRAL	6	-	-	-	-	393	69	1	28	1	35	8	-	-	1
Ky.	-	-	-	-	-	376	14	-	-	-	3	-	-	-	-
Tenn.	2	-	-	-	-	-	13	-	9	1	21	5	-	-	1
Ala.	2	-	-	-	-	-	25	1	14	-	11	3	-	-	-
Miss.	2	-	-	-	-	17	17	-	5	-	-	-	-	-	-
W.S. CENTRAL	10	-	1	-	-	165	91	3	101	-	30	14	-	12	-
Ark.	2	-	-	-	-	-	9	-	3	-	2	5	-	-	-
La.	-	-	1	-	-	-	21	1	7	-	4	-	-	1	-
Okla.	3	-	-	-	-	4	9	-	2	-	11	9	-	1	-
Tex.	5	-	-	-	-	161	52	2	89	-	13	-	-	10	-
MOUNTAIN	9	-	2	-	-	6	103	-	32	-	61	90	-	4	2
Mont.	1	-	-	-	-	-	6	-	-	-	-	1	-	-	-
Idaho	-	-	-	-	-	-	6	-	5	-	10	13	-	1	1
Wyo.	-	-	-	-	-	1	2	-	2	-	1	-	-	-	-
Colo.	6	-	2	-	-	5	14	-	8	-	21	20	-	-	-
N. Mex.	2	-	-	-	-	-	3	N	N	-	15	15	-	-	-
Ariz.	-	-	-	-	-	-	61	-	6	-	7	35	-	1	1
Utah	-	-	-	-	-	-	4	-	3	-	7	5	-	1	-
Nev.	-	-	-	-	-	-	7	-	8	-	-	1	-	1	-
PACIFIC	98	-	27	-	7	73	215	6	150	2	136	142	4	34	34
Wash.	5	-	-	-	-	7	30	-	7	1	16	41	-	-	-
Oreg.	3	-	-	-	-	-	16	N	N	-	-	11	-	1	2
Calif.	88	-	17	-	2	39	153	2	126	1	112	87	1	18	31
Alaska	-	-	-	-	-	9	9	-	5	-	1	-	-	1	-
Hawaii	2	-	10	-	5	18	7	4	12	-	7	3	3	14	1
Guam	1	U	-	U	-	10	1	U	6	U	-	-	U	-	-
P.R.	-	-	122	-	-	162	5	-	1	-	-	9	-	-	-
V.I.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Amer. Samoa	-	-	1	-	-	-	-	-	-	-	2	6	-	-	-
C.N.M.I.	-	U	-	U	1	-	-	U	10	U	-	1	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 May 22, 1993, and May 16, 1992 (20th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-Shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1993	Cum. 1992	Cum. 1993	Cum. 1993	Cum. 1992	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993
UNITED STATES	10,445	13,216	99	7,442	7,614	25	135	39	2,898
NEW ENGLAND	159	254	7	131	112	-	10	2	507
Maine	2	-	1	7	9	-	-	-	-
N.H.	5	20	2	1	-	-	-	-	24
Vt.	-	1	-	3	2	-	-	-	13
Mass.	75	118	3	61	58	-	8	2	174
R.I.	7	14	1	24	-	-	-	-	-
Conn.	70	101	-	35	43	-	2	-	296
MID. ATLANTIC	1,051	1,846	18	1,613	1,857	-	39	3	1,023
Upstate N.Y.	89	146	10	154	243	-	7	1	756
N.Y. City	541	980	1	967	1,067	-	26	-	-
N.J.	142	269	-	235	302	-	3	2	149
Pa.	279	451	7	257	245	-	3	-	118
E.N. CENTRAL	1,650	1,796	33	771	760	3	14	1	22
Ohio	484	270	15	112	124	1	6	-	3
Ind.	153	86	1	77	68	1	1	-	-
Ill.	597	747	3	380	372	-	4	1	2
Mich.	259	385	14	172	165	1	3	-	-
Wis.	157	308	-	30	31	-	-	-	17
W.N. CENTRAL	627	510	8	157	168	6	2	4	132
Minn.	14	34	2	26	41	-	-	-	21
Iowa	32	14	4	13	15	-	-	-	23
Mo.	509	381	-	79	69	2	2	4	2
N. Dak.	-	1	-	2	3	-	-	-	30
S. Dak.	-	-	-	6	10	2	-	-	10
Nebr.	7	15	-	8	9	-	-	-	1
Kans.	65	65	2	23	21	2	-	-	45
S. ATLANTIC	2,773	3,770	10	1,319	1,473	1	14	7	753
Del.	58	90	-	16	19	-	1	-	60
Md.	152	292	-	158	109	-	4	-	229
D.C.	157	172	-	66	51	-	-	-	6
Va.	248	309	2	176	116	-	1	1	149
W. Va.	1	6	-	33	25	-	-	-	33
N.C.	759	891	3	168	198	-	-	4	27
S.C.	440	500	-	146	152	-	-	-	64
Ga.	469	802	-	278	322	-	1	1	165
Fla.	489	708	5	278	481	1	7	1	20
E.S. CENTRAL	1,391	1,789	4	518	416	3	2	4	37
Ky.	114	61	2	140	144	-	-	2	5
Tenn.	385	467	1	110	-	2	-	-	-
Ala.	333	759	1	182	152	1	2	-	32
Miss.	559	502	-	86	120	-	-	2	-
W.S. CENTRAL	2,320	2,245	1	695	682	9	2	18	246
Ark.	419	358	-	62	38	4	-	-	14
La.	962	953	-	-	55	-	1	-	-
Okla.	136	99	1	66	48	3	-	18	47
Tex.	803	835	-	567	541	2	1	-	185
MOUNTAIN	85	165	4	174	207	1	4	-	39
Mont.	1	2	-	5	-	-	-	-	8
Idaho	-	1	1	5	11	-	-	-	-
Wyo.	2	1	-	1	-	1	-	-	5
Colo.	28	23	1	8	17	-	3	-	1
N. Mex.	14	17	-	18	31	-	-	-	2
Ariz.	38	75	-	90	99	-	1	-	23
Utah	2	5	2	9	24	-	-	-	-
Nev.	-	41	-	38	25	-	-	-	-
PACIFIC	389	841	14	2,064	1,939	2	48	-	139
Wash.	23	46	1	105	119	1	2	-	-
Oreg.	45	22	-	35	39	-	-	-	-
Calif.	317	767	13	1,803	1,655	1	44	-	123
Alaska	2	2	-	16	34	-	-	-	16
Hawaii	2	4	-	105	92	-	2	-	-
Guam	-	2	-	27	34	-	-	-	-
P.R.	222	111	-	64	55	-	-	-	20
V.I.	20	23	-	2	3	-	-	-	-
Amer. Samoa	-	-	-	1	-	-	-	-	-
C.N.M.I.	1	4	-	13	12	-	-	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending May 22, 1993 (20th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	626	422	110	66	14	14	52
Boston, Mass.	167	103	37	18	3	6	19
Bridgeport, Conn.	43	31	5	7	-	-	4
Cambridge, Mass.	20	15	4	-	1	-	2
Fall River, Mass.	27	22	1	2	-	2	-
Hartford, Conn.	63	43	11	7	1	1	2
Lowell, Mass.	33	26	5	2	-	-	5
Lynn, Mass.	15	13	1	1	-	-	1
New Bedford, Mass.	24	18	4	2	-	-	1
New Haven, Conn.	48	33	7	6	1	1	3
Providence, R.I.	46	31	10	4	1	-	3
Somerville, Mass.	4	4	-	-	-	-	-
Springfield, Mass.	38	25	7	4	2	-	4
Waterbury, Conn.	24	12	4	8	-	-	1
Worcester, Mass.	74	46	14	5	5	4	7
MID. ATLANTIC	2,581	1,683	482	297	49	69	119
Albany, N.Y.	51	36	9	3	-	3	5
Allentown, Pa.	24	20	4	-	-	-	-
Buffalo, N.Y.	100	70	22	5	-	3	1
Camden, N.J.	39	20	8	6	1	4	3
Elizabeth, N.J.	29	20	4	1	2	2	-
Erie, Pa.§	55	46	7	-	1	1	4
Jersey City, N.J.	33	19	8	4	1	1	-
New York City, N.Y.	1,326	807	257	209	24	29	45
Newark, N.J.	66	31	11	15	5	4	4
Paterson, N.J.	25	15	6	-	3	1	1
Philadelphia, Pa.	409	280	81	28	8	11	35
Pittsburgh, Pa.§	77	59	9	7	-	2	8
Reading, Pa.	12	8	3	1	-	-	-
Rochester, N.Y.	118	95	16	5	-	2	4
Schenectady, N.Y.	28	22	6	-	-	-	1
Scranton, Pa.§	34	31	3	-	-	-	1
Syracuse, N.Y.	80	60	13	5	1	1	5
Trenton, N.J.	45	22	10	6	2	5	1
Utica, N.Y.	30	22	5	2	1	-	1
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,170	1,326	421	227	133	63	115
Akron, Ohio	81	68	6	3	1	3	-
Canton, Ohio	35	31	3	1	-	-	7
Chicago, Ill.	540	229	98	108	88	17	28
Cincinnati, Ohio	U	U	U	U	U	U	U
Cleveland, Ohio	136	77	30	12	10	7	-
Columbus, Ohio	166	107	46	8	4	1	9
Dayton, Ohio	136	92	28	8	4	4	8
Detroit, Mich.	244	134	55	40	8	7	6
Evansville, Ind.	49	34	9	4	-	2	1
Fort Wayne, Ind.	54	41	9	2	2	-	-
Gary, Ind.	23	10	9	1	2	1	-
Grand Rapids, Mich.	46	31	9	3	-	3	7
Indianapolis, Ind.	180	122	40	8	3	7	22
Madison, Wis.	54	33	13	2	4	2	1
Milwaukee, Wis.	118	88	15	8	1	6	7
Peoria, Ill.	51	38	8	1	3	1	-
Rockford, Ill.	51	35	7	7	2	-	2
South Bend, Ind.	50	37	7	3	1	2	8
Toledo, Ohio	97	66	23	8	-	-	8
Youngstown, Ohio	59	53	6	-	-	-	1
W.N. CENTRAL	759	539	104	80	16	20	56
Des Moines, Iowa	53	39	3	9	1	1	3
Duluth, Minn.	26	21	4	-	1	-	-
Kansas City, Kans.	17	12	1	3	1	-	2
Kansas City, Mo.	132	86	20	21	1	4	7
Lincoln, Nebr.	18	16	2	-	-	-	2
Minneapolis, Minn.	240	171	26	31	5	7	23
Omaha, Nebr.	70	43	17	6	1	3	1
St. Louis, Mo.	100	70	18	4	4	4	12
St. Paul, Minn.	47	34	8	4	1	-	5
Wichita, Kans.	56	47	5	2	1	1	1
S. ATLANTIC	1,007	631	218	99	34	24	48
Atlanta, Ga.	153	92	34	19	4	4	3
Baltimore, Md.	150	98	26	18	5	3	15
Charlotte, N.C.	94	63	18	6	4	3	3
Jacksonville, Fla.	95	54	28	8	5	-	1
Miami, Fla.	90	54	21	11	1	3	-
Norfolk, Va.	57	26	18	6	5	2	1
Richmond, Va.	76	53	13	6	1	3	5
Savannah, Ga.	56	30	16	5	3	2	2
St. Petersburg, Fla.	53	43	4	3	2	1	3
Tampa, Fla.	161	103	34	16	4	3	15
Washington, D.C.	U	U	U	U	U	U	U
Wilmington, Del.	22	15	6	1	-	-	-
E.S. CENTRAL	792	507	180	62	24	19	59
Birmingham, Ala.	95	52	25	8	6	4	3
Chattanooga, Tenn.	91	66	18	5	1	1	5
Knoxville, Tenn.	102	66	22	9	3	2	9
Lexington, Ky.	91	54	21	11	4	1	7
Memphis, Tenn.	192	122	40	18	6	6	19
Mobile, Ala.	32	17	10	1	2	2	6
Montgomery, Ala.	48	31	14	2	1	-	2
Nashville, Tenn.	141	99	30	8	1	3	8
W.S. CENTRAL	1,557	967	303	182	71	32	95
Austin, Tex.	65	42	11	9	1	2	4
Baton Rouge, La.	67	49	5	9	2	2	-
Corpus Christi, Tex.	73	50	13	4	4	2	7
Dallas, Tex.	179	109	35	23	8	4	2
El Paso, Tex.	82	56	13	7	3	3	12
Ft. Worth, Tex.	115	71	24	11	8	1	5
Houston, Tex.	397	204	97	61	26	9	26
Little Rock, Ark.	63	35	13	9	4	2	8
New Orleans, La.	123	77	22	15	6	1	-
San Antonio, Tex.	193	130	33	21	4	5	14
Shreveport, La.	87	67	15	3	2	-	9
Tulsa, Okla.	113	77	22	10	3	1	8
MOUNTAIN	823	543	157	69	29	25	59
Albuquerque, N.M.	106	69	23	6	2	6	6
Colo. Springs, Colo.	45	32	6	4	1	2	4
Denver, Colo.	103	60	23	12	3	5	9
Las Vegas, Nev.	137	93	24	15	4	1	5
Ogden, Utah	26	19	4	2	-	1	5
Phoenix, Ariz.	186	125	31	14	9	7	15
Pueblo, Colo.	14	6	4	2	2	-	2
Salt Lake City, Utah	87	53	20	9	4	1	6
Tucson, Ariz.	119	86	22	5	4	2	7
PACIFIC	1,825	1,195	340	179	71	35	108
Berkeley, Calif.	8	6	-	2	-	-	1
Fresno, Calif.	98	68	11	11	5	3	9
Glendale, Calif.	26	19	5	2	-	-	1
Honolulu, Hawaii	64	44	11	6	1	2	6
Long Beach, Calif.	92	61	20	6	2	3	9
Los Angeles, Calif.	455	263	97	52	30	8	21
Pasadena, Calif.	31	24	4	-	2	1	5
Portland, Oreg.	131	96	23	8	3	1	10
Sacramento, Calif.	150	110	26	7	5	2	10
San Diego, Calif.	139	80	28	19	6	6	6
San Francisco, Calif.	153	87	37	25	2	2	1
San Jose, Calif.	167	112	35	13	5	2	10
Santa Cruz, Calif.	27	17	9	1	-	-	4
Seattle, Wash.	146	101	19	19	5	2	3
Spokane, Wash.	57	42	7	4	2	2	2
Tacoma, Wash.	81	65	8	4	3	1	10
TOTAL	12,140¶	7,813	2,315	1,261	441	301	711

*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.

TABLE 1. Number of sex partners and condom use, by selected characteristics of sexually active residents — District of Columbia, 1992

Category	Sample size*	Weighted % distribution†	No. sex partners during preceding 12 months		Respondents who reported ≥2 sex partners		Reported always using a condom		Reported never using a condom	
			No.	(95% CI§)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Age group (yrs)										
18–29	232	46.1	1.6	(1.5–1.8)	27.5	(21.3–33.7)	46.5	(39.5–53.4)	22.0	(16.3–27.8)
30–45	346	53.9	1.5	(1.3–1.6)	22.4	(18.2–26.7)	34.5	(29.7–39.3)	44.8	(39.8–49.9)
Sex										
Men	251	48.7	1.9	(1.7–2.1)	35.3	(29.0–41.7)	50.2	(43.5–56.8)	29.2	(23.2–35.2)
Women	327	51.3	1.2	(1.2–1.3)	14.8	(11.1–18.5)	30.4	(25.6–35.2)	39.2	(34.1–44.3)
Race¶										
White	227	36.0	1.5	(1.4–1.7)	19.7	(14.6–24.7)	35.3	(29.3–41.4)	38.7	(32.6–44.8)
Black	351	64.0	1.5	(1.4–1.6)	27.7	(22.8–32.5)	42.7	(37.3–48.1)	31.9	(26.8–36.9)
Status										
Married**	159	29.4	1.0	(1.0–1.0)	1.1	(0 – 2.7)	17.2	(11.1–23.3)	62.0	(54.1–69.9)
In a steady relationship	264	44.0	1.4	(1.3–1.5)	22.4	(17.4–27.4)	40.3	(34.3–46.2)	30.3	(24.8–35.8)
Sexually active, not in steady relationship††	155	26.6	2.2	(1.9–2.5)	54.9	(46.9–62.8)	64.8	(57.2–72.4)	10.5	(5.7–15.4)
Education										
Less than high school	33	8.0	1.4	(1.1–1.7)	40.0	(20.3–59.7)	36.4	(17.0–55.7)	38.8	(19.2–58.3)
High school graduate	140	24.5	1.4	(1.3–1.6)	23.6	(16.6–30.7)	31.2	(23.4–38.9)	45.2	(36.9–53.5)
College graduate	405	67.5	1.6	(1.4–1.7)	23.5	(19.4–27.6)	43.5	(38.7–48.4)	30.1	(25.6–34.5)
Risk for HIV infection										
High/Medium	88	16.3	2.4	(2.0–2.8)	54.6	(43.7–65.5)	46.0	(35.1–56.9)	18.0	(9.6–26.5)
Low/None	459	79.3	1.3	(1.2–1.4)	17.6	(14.1–21.2)	38.7	(34.2–43.2)	37.9	(33.4–42.3)
Don't know	31	4.4	1.7	(1.3–2.1)	39.5	(23.1–56.0)	44.2	(27.5–60.9)	27.8	(12.7–42.9)
No. sex partners										
1	436	75.2	1.0	—	0	—	33.7	(29.2–38.2)	42.6	(37.9–47.3)
≥2	142	24.8	3.2	(2.9–3.5)	100.0	—	59.2	(51.0–67.4)	9.2	(4.4–14.1)
Total	**578**	**100.0**	**1.5**	**(1.4–1.6)**	**24.8**	**(21.2–28.3)**	**40.0**	**(36.0–44.1)**	**34.3**	**(30.4–38.2)**

* Five hundred seventy-eight non-Hispanic sexually active persons (defined as respondents who were married or who reported having a sex partner during the preceding 12 months).

† Weighted by sex, age, and race to the 1990 census population of the District of Columbia.

§ Confidence interval.

¶ The sample size for other racial/ethnic groups was too small to include in the analysis.

** Anyone responding as married, regardless of number of sex partners.

Sexual Risk Factors — Continued

two or more sex partners differed little from the percentage of DC women (13% versus 15%, respectively). The findings in the DC study indicate that sexually active men in an urban area such as DC may be more likely to report having had sexual contact with two or more sex partners in the recent past.

The findings in this report also indicate that, in DC, the percentage of persons with multiple partners who reported always using condoms was higher than that reported from a national sample (59% versus 17%, respectively) (*5*). Although the findings reported here and the national sample measured different age ranges and obtained the same information with different questions, the difference between the results of the two surveys may reflect the higher percentage of college graduates among DC residents in this sample compared with persons nationwide. In addition, because findings in this sample were not weighted for education level, this group may overrepresent college graduates in DC.

This survey is subject to at least three limitations. First, with a sample based on randomly selected telephone numbers, households without telephones (i.e., poorer residents) were not included. Second, persons who are often away from home would have been less likely to have been contacted. Third, this survey was not designed to determine condom use of specific partners. However, use of global measures of condom use such as "always" or "never" should offset recall bias for condom use in regard to different sex partners.

The findings in this report can be used to determine target groups for public health education messages encouraging consistent use of condoms. These messages should be appropriate for the target groups with risk behaviors for HIV infection.

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Topics in Minority Health

Childbearing Patterns Among Selected Racial/Ethnic Minority Groups — United States, 1990

Childbearing patterns in the United States reflect marked increases in and variation among different racial/ethnic groups. Groups with high rates of teenage childbearing traditionally have elevated risks for low birthweight (LBW [<2500 g (5 lb 8 oz)]) and other poor birth outcomes associated with serious infant morbidity, permanent disability, and death. To characterize childbearing variations among American Indians/Alaskan Natives, Asians/Pacific Islanders, and Hispanic ethnic groups, CDC's National Center for Health Statistics analyzed data from U.S. birth certificates for 1990.

Childbearing Patterns — Continued

This report compares patterns among these groups and relates them to selected birth outcomes; in addition, this report presents birth rates for subgroups of Asians/Pacific Islanders* for the first time.

Birth certificates are the primary source for monitoring childbearing patterns and maternal and infant health; data for this report were based on 1990 birth certificates. Data on mother's race and Hispanic ethnicity are reported separately on the birth certificate. Maternal race was reported from all states and Hispanic ethnicity from all but two states (New Hampshire and Oklahoma). Birth rates were computed on the basis of population counts from the 1990 census (*1*). Rates provided for subgroups of Asians/Pacific Islanders can be computed only in census years.

Overall, the fertility rate (births per 1000 women aged 15–44 years) in 1990 was 70.9 (Table 1). The fertility rate for Hispanics (107.7) was approximately 71% higher than that for white non-Hispanics (62.8). Fertility rates varied even more markedly among subgroups, from 40.8 (Japanese Americans) to 118.9 (Mexican Americans).

For teenagers (aged <20 years), birth rates were highest for Hawaiians, black non-Hispanics, and Hispanics (Table 1). In particular, rates for teenaged Mexican Americans, Puerto Ricans,† black non-Hispanics, and Hawaiians were each two to three times the rates for white non-Hispanics, Cuban Americans, and Filipino Americans and up to 31 times the rates for Chinese Americans, Japanese Americans, and "other" Asians/Pacific Islanders. Rates for American Indian/Alaskan Native teenagers were approximately twice those for white non-Hispanic teenagers.

In 1990, Mexican American and Hawaiian women had the highest average number of children per woman (i.e., total fertility rate) (3.2 each). For these two groups, birth rates were high for every age group throughout the childbearing period (ages 10–49 years) (Table 1). In comparison, for black non-Hispanics, Puerto Ricans, and American Indians/Alaskan Natives, the average number of children per woman ranged from 2.2 to 2.5, reflecting a sharp decline in birth rates for women aged ≥30 years; the average number of children for "other" Asians/Pacific Islanders was slightly higher (2.7). The average numbers of children for Chinese Americans (1.4) and Japanese Americans (1.1) were lower than those of any group—65% of replacement (i.e., 2.1 children—the level considered necessary for a given generation to exactly replace itself [*2*]) for Chinese Americans and 53% for Japanese Americans. These averages reflect the low birth rates for these women aged 20–29 years—generally the principal childbearing ages. Rates for both groups peaked at ages 30–34 years and were similar to those of all other groups for ages ≥35 years.

Groups with low birth rates for teenagers (i.e., Chinese Americans, Japanese Americans, Filipino Americans, "other" Asians/Pacific Islanders, Cuban Americans, and white non-Hispanics) generally were characterized by relatively low proportions of births to unmarried mothers and relatively high proportions of births to mothers who have completed high school (Table 2).

The risk for LBW was lowest among Chinese American infants (4.7%) (Table 2), followed by white non-Hispanic, Cuban American, Japanese American, and Filipino

*Includes Chinese Americans, Japanese Americans, Hawaiians, Filipino Americans, and Southeast Asian and Asian Indian Americans. "Other" Asians/Pacific Islanders comprises primarily Southeast Asian and Asian Indian Americans.

†Comprising persons of Puerto Rican origin residing in the 50 states and the District of Columbia.

TABLE 1. Number of births, fertility rates, total fertility rates, and birth rates, by race, Hispanic origin, and age of mother — United States, 1990

Race/Ethnicity of mother	No. births	Fertility rate[†]	Total fertility rate[§]	Birth rate,* by age (yrs) of mother									
				10–14	*15–17*	*18–19*	15–19	20–24	25–29	30–34	35–39	40–44	45–49
Non-Hispanic													
White	2,626,500	62.8	1,850.5	0.5	*22.9*	*65.9*	42.5	97.5	115.3	79.4	30.0	4.7	0.2
Black	661,701	89.0	2,547.5	5.0	*84.1*	*156.0*	116.2	165.1	118.4	70.2	28.7	5.6	0.3
Total[¶]	**3,457,417**	**67.1**	**1,979.5**	**1.3**	***33.4***	***80.5***	**54.8**	**108.1**	**116.5**	**79.2**	**30.7**	**5.1**	**0.2**
Hispanic**													
Mexican American	385,640	118.9	3,214.0	2.5	*69.7*	*162.3*	108.0	200.3	165.3	104.4	49.1	12.4	0.8
Puerto Rican[††]	58,807	82.9	2,301.0	2.9	*71.6*	*141.6*	101.6	150.1	109.9	62.8	26.2	6.2	0.5
Cuban American	11,311	52.6	1,459.5	—	*18.2*	*46.1*	30.3	64.6	95.4	67.6	28.2	4.9	—
Other[§§]	139,315	102.7	2,877.0	2.1	*57.2*	*123.8*	86.0	162.9	155.8	106.9	49.4	11.6	0.7
Total	**595,073**	**107.7**	**2,959.5**	**2.4**	***65.9***	***147.7***	**100.3**	**181.0**	**153.0**	**98.3**	**45.3**	**10.9**	**0.7**
Asian/Pacific Islander													
Chinese American	22,737	49.9	1,357.5	—	*2.7*	*7.2*	4.7	26.8	88.9	98.6	43.7	8.3	—
Japanese American	8,674	40.8	1,111.8	—	*5.7*	*15.7*	10.4	25.0	64.2	77.5	38.0	7.0	—
Hawaiian	6,099	115.1	3,223.3	—	*72.2*	*188.1*	120.9	207.3	167.2	95.3	44.0	7.8	—
Filipino American	25,770	63.5	1,881.0	0.4	*15.2*	*42.8*	27.0	78.8	114.0	95.0	49.8	10.7	0.5
Other[¶¶]	78,355	91.8	2,675.0	1.0	*20.2*	*52.3*	33.4	115.7	179.8	131.6	57.9	13.4	2.2
Total	**141,635**	**69.6**	**2,002.5**	**0.7**	***26.4***	***16.0***	**40.2**	**79.2**	**126.3**	**106.5**	**49.6**	**10.7**	**1.1**
American Indian/ Alaskan Native	**39,051**	**76.2**	**2,184.5**	**1.6**	***48.5***	***129.3***	**81.1**	**148.7**	**110.3**	**61.5**	**27.5**	**5.9**	**0.3**
All***	**4,158,212**	**70.9**	**2,081.0**	**1.4**	***37.5***	***88.6***	**59.9**	**116.5**	**120.2**	**80.8**	**31.7**	**5.5**	**0.2**

* Per 1000 women in specified age group.
† Per 1000 women aged 15–44 years.
§ Rates are sums of birth rates for 5-year age groups multiplied by 5.
¶ Includes races other than white and black.
** Persons of Hispanic origin may be of any race. Rates are based on births and population in 48 states and the District of Columbia; New Hampshire and Oklahoma did not report Hispanic origin on the birth certificate.
†† Comprising persons of Puerto Rican origin residing in the 50 states and the District of Columbia.
§§ Includes Central and South American infants (83,008) and other and unknown Hispanic infants (56,307).
¶¶ Comprising primarily Southeast Asian and Asian Indian Americans.
*** Includes persons for whom origin was not stated.

TABLE 2. Percentage of births with selected characteristics, by race and Hispanic origin of mother — United States, 1990

Race/Ethnicity of mother	Births to mothers aged <20 yrs	Births to mothers aged ≥30 yrs	Fourth and higher order births	Births to unmarried mothers	Mothers with ≥12 yrs school*		Mothers born in U.S.	Mothers who began prenatal care in 1st trimester	Mothers who had late/no prenatal care	LBW[†] infants	Preterm infants[§]
					All ages	Aged ≥20 yrs					
Non-Hispanic											

Childbearing Patterns — Continued

American infants (6%–7%)—levels that are consistent with their older age at childbearing, higher educational attainment, and early receipt of prenatal care (*3*). Rates of LBW also were low (6%–7%) for other racial/ethnic subgroups who are at higher risk (i.e., American Indians/Alaskan Natives, Hawaiians, "other" Asians/Pacific Islanders, Mexican Americans, and Central and South Americans). The prevalence of LBW was elevated for Puerto Rican (9%) and black non-Hispanic infants (13%).

Reported by: Natality, Marriage, and Divorce Statistics Br, Div of Vital Statistics, National Center for Health Statistics, CDC.

Editorial Note: From 1980 through 1990, the U.S. Asian/Pacific Islander population increased by 108%, more than twice the increase of the Hispanic population (53%) and nearly three times that of the American Indian/Alaskan Native population (38%) (*1*). In 1990, Hispanics, American Indians/Alaskan Natives, and Asians/Pacific Islanders together accounted for 19% of U.S. births, compared with 12% in 1980 (*4*), reflecting these total population increases and, for some groups, high birth rates.

The findings in this report indicate wide variations in childbearing patterns among different U.S. racial/ethnic groups. These differences reflect a broad range of factors and determinants, including variations in maternal income and education; access to health care, family-planning assistance, and health insurance; and other socioeconomic factors. For example, completion rates for high school are inversely associated with teenage birth rates and risk for LBW and directly associated with receipt of early prenatal care (*3*).

Despite the presence of multiple risk factors for many pregnant women, the risk for a poor birth outcome can be abated through such factors as adequate maternal nutrition and low rates of tobacco and alcohol use. For example, Mexican Americans and "other" Asians/Pacific Islanders generally have good birth outcomes despite low educational attainment and less timely receipt of prenatal care, and for Mexican Americans, high teenage birth rates. Good outcomes may be due in part to low smoking rates for these groups—in 1989, 4%–6% were smokers, compared with approximately 20% of all mothers (*5,6*). Despite high teenage birth rates and less prenatal care, infants of Hawaiian mothers were at relatively low risk for LBW—reflecting the possible protective effect of weight gain of 31–45 pounds during pregnancy: Hawaiians were less likely than any other group to gain <16 pounds and more likely to gain ≥31 pounds.

Although LBW has been a principal means for assessing pregnancy outcome, it may not adequately indicate infant health status for some populations. However, revision of the standard birth certificate in 1989 has increased the availability of data, including more extensive measures of medical risk factors during pregnancy and abnormal outcomes for the infant, that can be used to assess more precisely pregnancy risk and pregnancy outcome (*5*). For example, American Indian/Alaskan Native infants have low rates of LBW but elevated rates of fetal alcohol syndrome and assisted ventilation; their mothers have above average rates of tobacco and alcohol use (*7*). In addition, the prevalence of selected conditions (e.g., obesity, diabetes, hypertension, and anemia) is disproportionately higher among American Indians/Alaskan Natives; these maternal and infant conditions increase the risk for adverse outcomes (including infant death) of pregnancy (*8–10*).

The impact of medical and lifestyle risk factors (e.g., tobacco use, poor maternal nutrition) may be attenuated and the pregnancy outcome for many women improved

Childbearing Patterns — Continued

with early prenatal education targeted toward specific needs of diverse populations. This and similar analyses can assist in the development of strategies toward achieving the national health objectives for the year 2000 in maternal and infant health (objectives 14.4–14.14) (*11*).

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