



MORBIDITY AND MORTALITY WEEKLY REPORT

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Diabetes-Related Amputations of Lower Extremities in the Medicare Population — Minnesota, 1993–1995

Diabetes mellitus is the leading cause of nontraumatic lower-extremity amputations (LEAs) in the United States and accounts for 45%–70% of all nontraumatic LEAs (1,2). Approximately half of diabetes-related LEAs occur among persons aged ≥65 years (1–3). To assess LEA hospitalization rates and costs for Medicare enrollees aged ≥65 years with and without diabetes, the Minnesota Diabetes Control Program (DCP) and Stratis Health (Minnesota Medicare Quality Improvement Organization) analyzed data for federal fiscal years 1993–1995 (October 1992–September 1995). This report summarizes the findings, which indicate that the LEA Medicare hospitalization rate for persons with diabetes was nearly 13 times the rate for persons without diabetes.

International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), procedural codes 84.10-84.19 were used to identify LEAs in inpatient claims data. Trauma-related LEAs (codes 895-897) were excluded from the analyses. Medicare enrollees who participated in capitated risk health-maintenance organization (HMO) plans (approximately 10%) were excluded because no claims were available describing their care. Persons with diabetes were identified by a discharge code of 250.0-250.9 listed at the time of the LEA or during any hospitalization within the preceding 365 days. Diabetes prevalence estimates and confidence intervals (Cls) were the average annual state prevalence estimates and Cls of diabetes derived from the Behavioral Risk Factor Surveillance System for 1993-1995. These prevalence estimates were applied to the Minnesota Medicare population (derived from the Medicare enrollment history files) to estimate the number of persons with and without diabetes in this population. LEA hospitalization rates were calculated per 10,000 Medicare enrollees with or without diabetes by age and sex. Relative risk was defined as the hospitalization rate for LEA among persons with diabetes divided by the rate among persons without diabetes. The population attributable risk (PAR) was calculated by subtracting the LEA hospitalization rate for persons without diabetes from the rate for the total population, and dividing by the total population rate (4).

The average annual number of LEA hospitalizations was 931 (Table 1); of these, 552 (59%) occurred among persons with diabetes. The average annual cost to Medicare for LEA hospitalizations in Minnesota was \$10.2 million, \$6 million of which was for persons with diabetes.

Diabetes-Related Amputations — Continued

TABLE 1. Prevalence* of and average reimbursement for lower extremity amputations (LEAs)[†] among persons with and without diabetes — Minnesota Medicare population, October 1993–September 1995

	No.			Average
Characteristics	hospitalizations	Rate§	(95% CI)	reimbursement¶
Persons with diabetes				
Sex				
Men	324	144.4	(117.3–187.9)	\$10,631
Women	228	75.4	(64.6- 90.7)	\$11,112
Age group (yrs)				
65–74	258	98.6	(82.8-122.1)	\$11,184
≥75	294	110.5	(92.1–138.1)	\$10,511
Total	552	105.6	(93.0–122.2)	\$10,829
Persons without diabetes				
Sex				
Men	190	10.2	(9.9– 10.5)	\$11,215
Women	189	7.0	(6.9– 7.2)	\$10,859
Age group (yrs)				
65–74	101	4.2	(4.2– 4.2)	\$12,860
≥75	278	12.9	(12.6– 13.2)	\$10,372
Total	379	8.3	(8.2– 8.5)	\$11,037
Total	931	18.3		\$10,914

^{*}Annual averages for fiscal year 1993 through fiscal year 1995.

Regardless of diabetes status, the LEA hospitalization rates (per 10,000 Medicare enrollees) were higher for men than for women and for persons aged \geq 75 years than for persons aged 65–74 years. The relative risk for LEA hospitalization among persons with diabetes compared with persons without diabetes was 12.7 per 10,000 Medicare enrollees (95% Cl=10.9–14.9). For persons with diabetes compared with persons without diabetes, the relative risk was higher for men (14.2; 95% Cl=11.2–19.0) than women (10.8; 95% Cl=9.0–13.1) and higher for persons aged 65–74 years (23.5; 95% Cl=19.3–29.1) than persons aged \geq 75 years (8.6; 95% Cl=7.0–11.0). On the basis of PAR calculations, 55% of all hospitalizations for LEA were directly attributable to diabetes.

The Minnesota DCP and Stratis Health are collaborating to define the burden of diabetes in the elderly population. These data will be incorporated into continuous quality-improvement programs conducted by Stratis Health for the Medicare population in Minnesota. The Minnesota Department of Health will analyze these data by county to help identify areas in which interventions are needed.

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[†]For inpatient procedures only.

[§]Per 10,000 Medicare enrollees with or without diabetes.

[¶]Average Medicare reimbursements for LEA hospitalizations.

Diabetes-Related Amputations — Continued

Editorial Note: The diabetes-related lower extremity conditions that increase the risk for amputation among persons with diabetes include peripheral neuropathy, peripheral vascular disease, and infection (5). Peripheral neuropathy may cause loss of sensation in feet, resulting in a patient's failure to perceive foot problems and may cause development of foot deformities that increase pressure points susceptible to ulceration. Osteomyelitis and gangrene may develop from inadequate blood supply and infection. Risk factors for amputation include being older, male, a member of certain racial/ethnic groups, having poor glycemic control, having diabetes for a longer period, and practicing or receiving poor preventive health care (1).

The findings in this report indicate that, in Minnesota, approximately half of all hospitalizations for LEA were attributable directly to diabetes. Many of these amputations may have been preventable. Preventive foot-care programs for persons with diabetes can decrease the incidence of LEAs or serious foot conditions leading to LEA by 44%–85% (3). Such programs emphasize foot-care education for persons with diabetes, their families, and their physicians; preventive foot-care practices (e.g., proper foot-wear and foot hygiene); early detection of foot conditions through frequent foot examinations by patients and physicians; teamwork among health-care providers in different disciplines; and appropriate treatment and follow up (6–8). Recent clinical trials found that good control of blood sugar levels among persons with type 1 or type 2 diabetes can reduce or delay development of peripheral neuropathy, a major precursor of amputation (7,8).

The findings in this report are subject to at least four limitations. First, data were not available for the Medicare enrollees who participated in capitated risk HMO plans. Second, this analysis only included Medicare claims for hospital inpatient care and did not include claims for hospital outpatient care (part A) or claims for physicians (part B), which would enable determination of diabetic status or LEAs performed in an ambulatory setting. Third, numerator data that relied on ICD-9 coding may have contained some inaccuracies. Finally, denominator data relied on estimates of self-reported diabetes status. However, these LEA surveillance data from Minnesota are consistent with those from other studies and are comparable with national data (1–3,9). For example, the average LEA hospitalization rates per 1000 persons with diabetes in the Minnesota Medicare population for 1993–1995 were 9.9 for persons aged 65–74 years and 11.0 for persons aged \geq 75 years, compared with hospitalization rates for the U.S. population in 1994 of 10.2 for persons aged 65–74 years and 11.9 for persons aged \geq 75 years.

A national health objective for 2000 is to decrease diabetes-related amputation rates by 40% (from 8.2 to 4.9 per 1000 persons with diabetes) (10). CDC is providing assistance to state DCPs for surveillance of diabetes, identification of areas for intervention, and implementation and evaluation of those interventions. Continued collaboration among health-care providers, public health officials, members of community-based organizations, and patients will be necessary to reduce LEAs among patients with diabetes.

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Update: Syringe Exchange Programs — United States, 1997

As of December 1997, more than one third (36%) of the 641,086 cases of acquired immunodeficiency syndrome (AIDS) reported to CDC were directly or indirectly associated with injecting-drug use (1). Syringe exchange programs (SEPs) are one of the strategies employed to prevent infection with human immunodeficiency virus (HIV) among injecting-drug users (IDUs). The goal of SEPs is to reduce the transmission of HIV and other bloodborne infections associated with reuse of blood-contaminated syringes* for drug injection by providing sterile syringes in exchange for used, potentially contaminated syringes. This report summarizes a survey of U.S. SEP activities during January–December 1997 and compares the findings with those of two previous surveys during 1994–1995 and 1996 (2,3). The findings indicate continued expansion in the number, geographic coverage, and activity of SEPs in the United States.[†]

In November 1997, the Beth Israel Medical Center (BIMC) in New York City, in collaboration with the North American Syringe Exchange Network (NASEN), mailed questionnaires to the directors of 113 SEPs in the United States that were members of NASEN. From December 1997 through March 1998, BIMC contacted SEP directors to conduct structured telephone interviews based on the mailed questionnaires. SEP directors were asked about their program's legal status, number of syringes exchanged during 1997, program operations, services provided, budgets, and community and law enforcement relations.

^{*}For this report, the term "syringes" refers to both syringes and needles.

[†]Single copies of this report will be available until August 14, 1998, from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone (800) 458-5231 or (301) 519-0459.

Syringe Exchange Programs — Continued

Of the 113 SEPs, 100 (89%) participated in the survey. Of these, 54 began operating before 1995; 20, in 1995; 18, in 1996; and eight, in 1997. One SEP closed in 1997. These 100 SEPs reported operating in 80 cities in 30 states, the District of Columbia, and Puerto Rico[§]; 52 (52%) of the SEPs were located in four states (California [19], New York [14], Washington [11], and Connecticut [eight]). Nine cities had at least two SEPs (31 SEPs in the nine cities). In the 1996 survey, 87 SEPs reported operating in 71 cities in 26 states, the District of Columbia, and Puerto Rico and during 1994–1995, a total of 60 SEPs reported operating in 46 cities and in 21 states (*2,3*).

In 1997, a total of 96 of the 100 SEPs provided information about the number of syringes and reported exchanging approximately 17.5 million syringes (median: 57,343 syringes per SEP) (Table 1). The 10 largest volume SEPs (i.e., those that exchanged ≥500,000 syringes) exchanged approximately 10.3 million (59%) of all syringes exchanged.** The SEP in San Francisco reported exchanging the largest number of syringes (1.9 million) in 1997. During 1996, a total of 84 SEPs reported exchanging approximately 14 million syringes (median: 36,017) and in 1994, a total of 55 SEPs exchanged 8 million syringes (median: 39,014).

Most of the 100 SEPs provided other public health and social services: 99% offered instruction in the use of condoms and dental dams to prevent sexual transmission of HIV and other sexually transmitted diseases (STDs); 96% provided IDUs with information about safer injection techniques and/or use of bleach to disinfect injection equip-

The following cities have multiple SEPs: New York (12); Los Angeles, Portland, and Seattle (three each); and Boston, Cleveland, Minneapolis, New Haven, and Sacramento (two each).
**States with the 10 largest volume SEPs were: California (three SEPs); New York and

TABLE 1. Number and percentage of syringe exchange programs (SEPs) and sterile syringes provided by SEPs, by size of program — United States, 1997

	S	EPs	Total syringes exchanged				
Size of SEP*	No.	(%)	No.	(%)			
<10,000	24	(25)	82,356	(0.5)			
10,000- 55,000	24	(25)	700,274	(4.0)			
55,001–499,999	38	(40)	6,334,375	(36.3)			
≥500,000	10	(10)	10,330,103	(59.2)			
Total	96	(100)	17,447,108	(100.0)			

^{*}Based on the number of syringes exchanged in 1997.

[§]California (19 SEPs); New York (14); Washington (11); Connecticut (eight); Massachusetts (five); New Jersey, Oregon, and Puerto Rico (three each); Arizona, Colorado, Illinois, Michigan, Minnesota, Ohio, Pennsylvania, Texas, and Wisconsin (two each); and one each in Alaska, District of Columbia, Florida, Georgia, Hawaii, Indiana, Kansas, Louisiana, Maryland, Missouri, Montana, New Hampshire, North Carolina, Rhode Island, and Tennessee. Staff of one SEP asked its location not be reported.

^{**}States with the 10 largest volume SEPs were: California (three SEPs); New York and Washington (two each); and one each in Illinois, Maryland, and Pennsylvania. The largest volume SEPs were San Francisco AIDS Foundation, California (1.9 million syringes exchanged); Chicago Recovery Alliance, Illinois (1.6 million); Clean Needles Now, Los Angeles, California (1.0 million); Point Defiance AIDS Project, Tacoma, Washington (1.0 million); Seattle-King County Department of Public Health Needle Exchange Program (NEP), Seattle, Washington (0.9 million); Alameda County SEP, Oakland, California (0.8 million); Prevention Point, Philadelphia, Pennsylvania (0.8 million); Baltimore City NEP, Maryland (0.8 million); Lower East Side NEP, Manhattan, New York (0.8 million); and New York Harm Reduction Educators, Bronx, New York (0.7 million).

Syringe Exchange Programs — Continued

ment; and 94% referred clients for substance abuse treatment programs. Health-care services offered on site included HIV counseling and testing (64%), tuberculosis skin testing (20%), STD screening (20%), and primary health care (19%).

In this survey, SEPs were defined as legal if they operated in a state that had no law requiring a prescription to purchase a hypodermic syringe (i.e., a prescription law) or had an exemption to the state prescription law allowing the SEP to operate; illegal-tolerated if they operated in a state with a prescription law but had received a formal vote of support or approval from a local elected body (e.g., city council); and illegal-underground if the SEP operated in a state with a prescription law but had not received formal support from local elected officials. In 1997, a total of 52 SEPs were legal, 16 were illegal-tolerated, and 32 were illegal-underground.

SEPs reported receiving financial support from various sources including foundations, individuals, and state and local governments. Current federal law prohibits the use of federal funds to carry out any program of distributing sterile needles or syringes for the hypodermic injection of any illegal drug.

The 100 SEPs operated in various settings, including home visits (37%) (syringe pick-up/drop-off sites), storefront locations (35%), vans (35%), sidewalk tables (23%), on-foot outreach (23%), cars (19%), locations where IDUs gather to inject drugs (i.e., shooting galleries) (17%), and health clinics (11%). Sixty-nine (69%) SEPs operated in multiple settings. Ninety-five SEPs reported data on the hours of program operation each week; they reported providing 2078.5 hours (median: 18 hours; range: 1–112 hours) of SEP services each week.

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Editorial Note: The findings in this survey indicate continued growth in the number, geographic coverage, and activity of SEPs in the United States. From 1994–1995 to 1997, there were increases in the number of SEPs participating in these surveys (67% [from 60 to 100]), the number of cities with SEPs (74% [from 46 to 80]), and the number of syringes exchanged (119% [from 8 million to 17.5 million]). However, the scope of SEP activity may be underestimated because some of the known SEPs in the United States did not participate in this survey and some may not be members of NASEN.

The 10 largest volume SEPs are responsible for approximately half of all syringes exchanged in 1997, and the 24 smallest volume SEPs (i.e., those that exchanged <10,000 syringes) reported exchanging only <1% of total syringes (mean: 3431.5 syringes per program). An IDU makes approximately 1000 illicit drug injections per year (4). Larger volume SEPs could have greater community impact in allowing IDUs to use a sterile syringe for every injection.

Many IDUs who participate in SEPs are high-risk drug users, suggesting that SEPs can reach persons at risk for bloodborne infections (including HIV and hepatitis C) and other public health problems (5,6). IDUs who participate in SEPs increase the proportion of drug injections in which a syringe is used only once, thereby reducing the reuse of potentially contaminated syringes (7). In addition, IDUs using syringes obtained from SEPs have lower rates of HIV incidence (compared to IDUs using syringes obtained from the illicit market) (8). Compared with clients referred to substance abuse

Syringe Exchange Programs — Continued

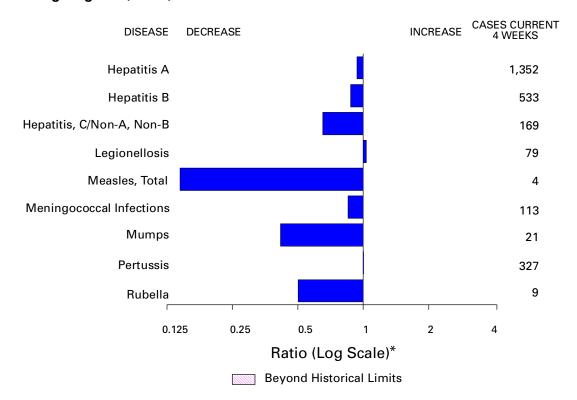
treatment programs from other sources, IDUs referred by SEPs have comparably good short-term treatment outcomes (9).

SEPs are one component of a community's comprehensive approach currently used to prevent HIV infection among IDUs, their sexual partners, and their children. Access to sterile syringes for drug users who continue to inject also can be provided through the sale of syringes in pharmacies. In addition to SEPs, comprehensive programs for reducing the spread of HIV and other bloodborne infections should include community outreach programs, substance abuse treatment programs, HIV-prevention programs in jails and prisons, prevention of initiation of drug injection, health care for HIV-infected IDUs, and HIV risk-reduction counseling and testing for IDUs and their sexual partners (10).

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FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending August 8, 1998, with historical data — United States



^{*}Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending August 8, 1998 (31st Week)

	Cum. 1998		Cum. 1998
Anthrax Brucellosis Cholera Congenital rubella syndrome Cryptosporidiosis* Diphtheria Encephalitis: California* eastern equine* St. Louis* western equine* Hansen Disease Hantavirus pulmonary syndrome* Hemolytic uremic syndrome, post-diarrheal* HIV infection, pediatric*	- 44 6 3 1,172 2 17 2 1 - 68 9 31 145	Plague Poliomyelitis, paralytic Psittacosis Rabies, human Rocky Mountain spotted fever (RMSF) Streptococcal disease, invasive Group A Streptococcal toxic-shock syndrome* Syphilis, congenital [¶] Tetanus Toxic-shock syndrome Trichinosis Typhoid fever Yellow fever	5 1 30 - 150 1,438 37 185 20 78 7 182

^{-:} no reported cases

^{*}Not notifiable in all states.

† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).

§ Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update July 26, 1998.

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

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending August 8, 1998, and August 2, 1997 (31st Week)

	0.17	AIDS Chlamydia				erichia 157:H7	0		Hepatitis C/NA,NB	
	Cum.	Cum.	Cum.	Cum.	NETSS [†] Cum.	PHLIS [§] Cum.	Gono Cum.	Cum.	Cum.	Cum.
Reporting Area UNITED STATES	1998* 27,399	1997 35,436	1998 314,383	1997 265,430	1998 1,344	1998 762	1998 185,476	1997 166,882	1998 2,264	1997 2,037
NEW ENGLAND	1,025	1,470	11,844	10,149	1,344	127	3,326	3,451	31	2,037 41
Maine N.H.	21 26	36 19	618 558	582 460	22 23	- 25	40 52	34 64	-	-
Vt.	14	24	244	228	8	6	22	32	-	2
Mass. R.I.	522 78	528 97	5,002 1,417	4,199 1,140	90 5	80 1	1,228 212	1,306 266	28 3	32 7
Conn. MID. ATLANTIC	364 7,578	766 11,061	4,005 38.080	3,540 32,658	25 129	15 35	1,772 21.334	1,749 21,247	233	- 196
Upstate N.Y.	961	1,728	N	N	96	-	3,508	3,750	181	144
N.Y. City N.J.	4,074 1,475	5,735 2,273	20,945 6,271	15,801 5,701	4 29	6 28	8,916 3,798	7,844 4,316	-	-
Pa.	1,068	1,325	10,864	11,156	N	1	5,112	5,337	52	52
E.N. CENTRAL Ohio	2,078 430	2,556 561	52,149 15,106	35,568 13,027	214 54	130 22	35,857 9,496	22,501 8,318	318 7	358 11
Ind. III.	355 825	394 892	3,507 15,093	5,300 U	57 47	28	2,225 12,259	3,532 U	4 16	10 63
Mich.	353	545	12,486	10,841	56	35	9,423	7,976	291	253
Wis. W.N. CENTRAL	115 532	164 696	5,957 18,528	6,400 18,495	N 210	45 158	2,454 9,176	2,675 8,323	120	21 40
Minn.	104	128	3,649	3,863	78	78	1,300	1,354	7	3
Iowa Mo.	49 244	74 331	2,063 7,161	2,650 6,922	65 15	25 29	660 5,233	720 4,506	12 96	20 5
N. Dak. S. Dak.	4 11	7 3	290 961	497 737	6 12	11 10	29 152	32 80	-	2
Nebr. Kans.	48 72	65 88	1,361 3,043	1,140 2,686	19 15	5	494 1,308	438 1,193	2 3	2 8
S. ATLANTIC	6,869	8,699	65,423	55,731	109	79	53,067	54,236	115	138
Del. Md.	91 826	159 1,078	1,473 4,970	4,153	16	1	815 5,813	699 6,840	5	4
D.C.	567	658	N	N	1	-	1,997	2,600	_	-
Va. W. Va.	502 59	719 60	6,988 1,631	6,925 1,722	N 6	25 3	3,942 469	4,691 546	7 4	18 13
N.C. S.C.	456 452	503 475	12,939 11,206	10,095 7,462	20 5	31 2	11,167 7,255	9,813 6,655	14 3	34 27
Ga.	725	1,071	14,049	10,307	40	- 8	11,827	11,820	9 73	42
Fla. E.S. CENTRAL	3,191 1,084	3,976 1,188	12,167 23,338	15,067 20,244	21 69	o 25	9,782 22,566	10,572 20,216	73 105	223
Ky. Tenn.	156 378	211 495	3,645 7,789	3,884 7,582	18 32	22	2,087 6,684	2,453 6,314	16 85	10 151
Ala.	330	287	5,982	4,743	19	2	7,649	6,849	4	6
Miss. W.S. CENTRAL	220 3,328	195 3,601	5,922 43,886	4,035 35,214	U 77	1 12	6,146 25,528	4,600 22,921	U 549	56 278
Ark.	123	131	2,087	1,766	6	6	1,214	2,874	5	9
La. Okla.	586 183	640 188	8,671 5,753	5,260 4,414	3 10	2 4	7,570 3,148	4,936 2,777	19 7	124 6
Tex.	2,436 967	2,642	27,375	23,774	58 190	- 84	13,596 4,774	12,334	518 25.6	139
MOUNTAIN Mont.	18	1,032 26	12,797 731	16,943 644	180 8	-	26	4,649 27	256 7	181 13
ldaho Wyo.	19 1	34 13	1,003 388	853 315	18 49	7	97 18	64 29	86 45	36 42
Colo. N. Mex.	186 153	264 105	10 2,172	3,750 2,277	37 16	32 11	1,339 526	1,256 518	18 63	20 32
Ariz.	377	247	6,615	6,340	13	13	2,390	2,064	3	23 3
Utah Nev.	70 143	86 257	1,378 500	990 1,774	33 6	15 6	150 228	145 546	21 13	12
PACIFIC Week	3,938	5,133	48,338	40,428	183	112	9,848	9,338	537	582
Wash. Oreg.	270 116	417 188	6,582 3,382	5,419 2,887	31 54	22 48	1,132 470	1,135 444	12 2	18 2
Calif. Alaska	3,439 17	4,449 42	35,971 1,128	30,258 848	96 2	35 -	7,801 187	7,235 233	468 1	463
Hawaii	96	37	1,275	1,016	N	7	258	291	54	99
Guam P.R.	- 1,141	2 1,198	8 U	193 U	N 1	- U	2 242	27 378	-	-
V.I. Amer. Samoa	18	70	N U	N U	N N	Ŭ	Ü	Ü	U U	U U
C.N.M.I.	-	1	N N	N	N	Ü	14	17	-	2

N: Not notifiable

U: Unavailable

-: no reported cases

C.N.M.I.: Commonwealth of Northern Mariana Islands

^{*}Updated monthly to the Division of HIV/AIDS Prevention-Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention,

last update July 26, 1998.

† National Electronic Telecommunications System for Surveillance.

§ Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending August 8, 1998, and August 2, 1997 (31st Week)

	Legionellosis		Lyı Dise		Mai	laria	Syp (Primary &		Tubero	Rabies, Animal	
Reporting Area	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.
	1998	1997	1998	1997	1998	1997	1998	1997	1998*	1997	1998
UNITED STATES	665	512	5,543	4,975	700	998	4,263	4,958	8,212	10,335	4,138
NEW ENGLAND	39	38	1,833	1,276	41	45	42	99	252	258	797
Maine	1	1	6	7	4	1	1	-	5	16	122
N.H.	3	4	27	9	3	2	1		6	10	37
Vt.	4	6	6	6	14	2	4	-	1	3	33
Mass.	15	11	412	209		21	25	47	135	143	270
R.I.	8	5	217	169	2	5	1	2	34	18	47
Conn.	8	11	1,165	876	18	14	10	50	71	68	288
MID. ATLANTIC	157	92	3,032	2,642	170	312	150	245	1,655	1,827	953
Upstate N.Y.	46	26	1,745	1,043	49	46	22	24	185	236	670
N.Y. City	22	7	12	122	80	194	32	53	879	939	U
N.J.	7	14	629	818	22	53	53	101	350	376	116
Pa.	82	45	646	659	19	19	43	67	241	276	167
E.N. CENTRAL	201	175	51	418	61	98	562	371	609	1,083	81
Ohio	83	74	41	18	4	12	80	130	U	174	41
Ind.	38	29	8	15	6	9	130	94	76	88	5
III.	14	13	1	8	18	41	212	U	361	583	8
Mich.	44	38		17	31	24	104	72	172	168	19
Wis.	22	21	U	360	2	12	36	75	238	70	8
W.N. CENTRAL	44	35	69	52	50	31	87	107		323	461
Minn.	3	1	47	27	26	10	6	14	87	84	82
Iowa	6	9	16	4	5	8		6	20	38	108
Mo.	14	5 2	1	15	10	7 2	68	61	86 3	127	19
N. Dak. S. Dak.	2	2	-	1	2	-	1	-	14	8 7	89 90
Nebr.	15	12	3	2	1	1	4	2	10	12	5
Kans.	4	4	2	3	6	3	8	24	18	47	68
S. ATLANTIC	78	66	394	403	157	159	1,813	1,989	1,195	1,897	1,229
Del.	8	7	12	82	1	2	16	16	U	19	17
Md.	19	14	267	258	50	51	410	547	179	178	308
D.C.	5	3	4	7	12	10	46	77	64	59	
Va.	8	14	35	18	29	43	97	150	144	194	371
W. Va.	N	N	7	3	1	9	2	3	26	33	54
N.C.	<u>6</u>	9	35	20	12		445	442	244	230	136
S.C. Ga.	7	3	3	1	4 17	10 20	179 483	237 334	185 283	207 355	98 120
Fla.	21	16	28	13	31	14	135	183	70	622	125
E.S. CENTRAL	33	34	47	52	16	20	720	1,098	614	766	174
Ky.	16	7	11	11	3	6	70	88	108	111	25
Tenn.	12	20	25	23	9	4	339	467	208	284	93
Ala.	5	2	11	4	4	7	162	277	162	232	56
Miss.	U	5	U	14	U	3	149	266	136	139	U
W.S. CENTRAL	20	12	18	43	20	10	561	740	246	1,527	112
Ark. La.	2	1 2	6 2	14 2	1 6	2 5	71 237	111 225	72 U	118 119	21
Okla. Tex.	8 10	1 8	2 8	9 18	2 11	3	32 221	69 335	101	131 1,159	91
MOUNTAIN Mont.	43 2	30 1	8	6	35	49 2	129	99	246 12	336 6	98 34
ldaho Wyo.	2 1	2 1	2	2 1	7	2	- 1	- -	8	7 2	45
Colo.	8 2	9 1	3 2	-	11 11	24 6	8	5 4	U 34	57	1 3
N. Mex. Ariz.	10	7	-	1	5	7	12 102	78	124	31 155	9
Utah Nev.	16 2	6 3	1	2	1 -	3 5	3 3	4 8	36 29	14 64	6
PACIFIC	50	30	91	83	150	274	199	210	3,157	2,318	233
Wash.	8	6	5	4	14	10	23	7	144	182	
Oreg.	-	23	9	12	13	14	3	5	71	97	1
Calif.	41		76	67	120	242	173	196	2,818	1,871	211
Alaska Hawaii	1	1	1 -	-	1 2	3 5	-	1 1	31 93	51 117	21
Guam	-	-	-	-	-	- 4	- 101	3	-	13	- 22
P.R. V.I.	Ų	Ü	U	Ų	Ü	U	121 U	148 U	46 U	129 U	32 U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	-	-	-	-	98	9	54	2	-

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

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending August 8, 1998, and August 2, 1997 (31st Week)

	H. influ	ienzae,	Н	epatitis (Vi	ral), by typ	ре			Meas	les (Rubec	ola)	1)		
		sive	-	4	E		Indi	genous	lmp	orted [†]		tal		
Reporting Area	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	1998	Cum. 1998	1998	Cum. 1998	Cum. 1998	Cum. 1997		
UNITED STATES	663	699	12,988	16,419	4,807	5,549	-	28	-	19	47	100		
NEW ENGLAND Maine	37 2	39 3	151	420	76 2	101 6	-	1	-	2	3	18 1		
N.H.	7	6	13 8	45 21	10	7	-	-	-	-	-	1		
Vt. Mass.	3 22	3 23	13 47	8 176	3 18	5 43	-	1	-	1 1	1 2	- 15		
R.I. Conn.	2 1	2 2	10 60	92 78	43	11 29	-	-	-	-	-	- 1		
MID. ATLANTIC	94	101	856	1,312	671	805	_	9	_	4	13	21		
Upstate N.Y. N.Y. City	39 18	27 27	203 213	196 587	184 176	168 303	-	2	-	-	2	5 7		
N.J.	32	33	197	194	105	157	-	7	-	1	8	3		
Pa. E.N. CENTRAL	5 102	14 117	243 1,755	335 1,680	206 493	177 914	-	- 11	-	3 3	3 14	6 8		
Ohio	38	65	202	213	45	54	-	-	-	1	1	-		
Ind. III.	27 30	11 27	99 273	185 441	61 90	69 175	-	2	-	1 -	3 -	6		
Mich. Wis.	3 4	14 -	1,068 113	716 125	275 22	260 356	-	9	-	1 -	10 -	2		
W.N. CENTRAL	64	36	971	1,241	254	303	-	-	-	-	-	12		
Minn. Iowa	49 2	27 3	83 384	111 215	24 45	23 23	-	-	-	-	-	3		
Mo. N. Dak.	8	3	391 3	651 10	151 4	222 3	U U	-	U U	-	-	1		
S. Dak.	-	2	18	15	1	-	-	-	-	-	-	8		
Nebr. Kans.	5	1 -	24 68	50 189	9 20	9 23	Ū	-	Ū	-	-	-		
S. ATLANTIC Del.	137	108	1,109 3	956 20	690	698 4	-	3	-	5 1	8 1	9		
Md.	41	44	193	131	96	102	-	-	-	1	1	2		
D.C. Va.	13	7	34 144	16 126	8 60	24 77	-	-	-	2	2	1 1		
W. Va. N.C.	4 20	3 17	1 66	6 118	4 127	9 151	-	-	-	-	-	- 1		
S.C. Ga.	3 28	3 21	18 323	69 199	22 117	62 71	-	- 1	-	- 1	2	1 1		
Fla.	28	13	327	271	256	198	-	2	-	-	2	2		
E.S. CENTRAL Ky.	40 6	39 6	217 14	393 49	240 25	409 26	-	-	-	2	2	1		
Tenn.	24	23	153	243	170	277	-	-	-	-	-	-		
Ala. Miss.	10 U	8 2	50 U	58 43	45 U	43 63	Ū	Ū	Ū	2 U	2 U	1 -		
W.S. CENTRAL Ark.	38	33 2	2,501	3,395 142	811 54	703 53	-	-	-	-	-	7		
La.	18	7	62 51	127	62	82	-	-	-	-	-	-		
Okla. Tex.	18 2	22 2	351 2,037	975 2,151	52 643	25 543	-	-	-	-	-	- 7		
MOUNTAIN	73	65	2,035	2,489	519	523	-	-	-	-	-	7		
Mont. Idaho	-	1	67 169	53 87	4 20 2	6 17	-	-	-	-	-	-		
Wyo. Colo.	1 15	2 11	25 163	21 262	2 71	16 100	-	-	-	-	-	-		
N. Mex.	5	7	97	196	215	170	-	-	-	-	-	-		
Ariz. Utah	41 4	27 3	1,309 131	1,228 383	133 45	118 60		-	-	-	-	5		
Nev. PACIFIC	7 78	14 161	74 3,393	259 4,533	29 1,053	36 1,093	U	- 4	U	3	- 7	2 17		
Wash.	7	3	696	314	71	48	-	-	-	1	1	1		
Oreg. Calif.	32 31	25 124	231 2,429	230 3,875	69 900	66 960	-	4	-	2	6	12		
Alaska Hawaii	1 7	2 7	14 23	24 90	8 5	11 8	-	-	-	-	-	4		
Guam	-	-	-	-	-	3	U	-	U	-	-	-		
P.R. V.I.	2 U	Ū	37 U	198 U	263 U	461 U	Ū	- U	- U	Ū	Ū	Ū		
Amer. Samoa C.N.M.I.	Ū -	U 6	Ú 1	U 1	U 28	U 34	Ü	Ü	Ü	Ü	Ü	Ŭ 1		

N: Not notifiable

U: Unavailable

^{-:} no reported cases

 $^{^{*}}$ Of 150 cases among children aged <5 years, serotype was reported for 82 and of those, 33 were type b. † For imported measles, cases include only those resulting from importation from other countries.

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending August 8, 1998, and August 2, 1997 (31st Week)

	Meningococcal				, 1337	(SISE V	VCCK/		<u> </u>			
		ease		Mumps			Pertussis			Rubella		
Reporting Area	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	
UNITED STATES	1,723	2,210	7	292	391	82	2,835	3,137	-	295	125	
NEW ENGLAND	74	138	-	2	8	4	498	609	-	36	1	
Maine N.H.	5 4	15 12	-	-	-	-	5 40	7 70	-	-	-	
Vt. Mass.	1 36	3 71	-	- 1	2	3	52 369	181 327	-	- 6	- 1	
R.I. Conn.	3 25	11 26	-	1	5 1	- 1	5 27	12 12	-	1 29	-	
MID. ATLANTIC	159	233	- 1	18	45	5	311	235	-	124	- 28	
Upstate N.Y. N.Y. City	42 18	64 41	-	3	10 3	2	159 9	88 54	-	110 9	4 24	
N.J.	41	44	-	2	7	-	5	11	-	4	-	
Pa. E.N. CENTRAL	58 261	84 324	1 2	9 53	25 49	3 14	138 249	82 314	-	1	- 5	
Ohio	94	119	1	21	18	11	90	92	-	-	-	
Ind. III.	48 64	35 94	-	5 7	6 8	3	69 35	35 45	-	-	1	
Mich. Wis.	31 24	47 29	1 -	20	14 3	-	38 17	32 110	-	-	4	
W.N. CENTRAL	144	164	-	21	12	23	244	187	-	27	-	
Minn. Iowa	25 26	29 38	-	10 7	5 6	17 6	149 53	120 10	-	-	-	
Mo. N. Dak.	53 2	71 1	U	3 1	-	U	16 2	33 1	U	2	-	
S. Dak. Nebr.	6 7	4 6	-	-	- 1	-	6 8	3 4	-	-	-	
Kans.	25	15	U	-	-	U	10	16	U	25	-	
S. ATLANTIC Del.	305 1	376 5	-	37	46	6	176 2	281 1	-	9	58 -	
Md. D.C.	24	36 6	-	-	1	-	31 1	87 3	-	-	-	
Va.	24	38	-	5	8	1	8	34	-	-	1	
W. Va. N.C.	12 45	14 72	-	9	7	-	1 65	5 80	-	6	50	
S.C. Ga.	44 65	40 75	-	4 1	10 6	2	22 10	11 8	-	-	6	
Fla.	90	90	-	18	14	3	36	52 74	-	3	1	
E.S. CENTRAL Ky.	129 19	165 38	1 -	7	21 3	1 -	65 22	74 26	-	1 -	1 -	
Tenn. Ala.	46 64	58 52	- 1	1 6	3 6	1 -	23 20	25 16	-	- 1	- 1	
Miss.	U	17	U	U	9	U	U	7	U	U	-	
W.S. CENTRAL Ark.	195 25	201 25	-	40	44 1	4	200 26	126 10	-	80	3	
La. Okla.	42 29	43 24	-	8 -	11 -	-	2 18	13 17	-	-	-	
Tex.	99	109	-	32	32	4	154	86	-	80	3	
MOUNTAIN Mont.	97 3	130 7	2	26	48 -	9	587 3	795 14	-	5 -	6	
Idaho Wyo.	6 4	8 1	-	3 1	2 1	1 1	194 8	467 6	-	-	2	
Colo. N. Mex.	19 17	35 22	2 N	8 N	3 N	1 5	129 75	214 48	-	- 1	-	
Ariz.	33	33	-	5	31	-	129	23	-	1	4	
Utah Nev.	11 4	11 13	Ū	3 6	6 5	1 U	36 13	12 11	Ū	2 1	-	
PACIFIC Wash.	359 50	479 56	1 1	88 7	118 13	16 8	505 193	516 216	-	13 9	23 5	
Oreg.	58	94	N	N	N	6	36	23	-	-	-	
Calif. Alaska	245 2	324 1	-	63 2	86 5	2	268 3	259 4	-	2	10	
Hawaii	4	4	-	16	14	-	5	14	-	2	8	
Guam P.R.	6	1 8	U . .	1	1 5	U . .	2		U . .	- -		
V.I. Amer. Samoa	U U	U U	U U	U U	U U	U U	U U	U U	U U	U U	U U	
C.N.M.I.	-	-	U	2	4	U	1	-	U	-	-	

N: Not notifiable

U: Unavailable

TABLE IV. Deaths in 122 U.S. cities,* week ending August 8, 1998 (31st Week)

	1	All Cau	ises, By	/ Age (Y	ears)		P&l [†]		All Causes, By Age (Years)						
Reporting Area	All Ages	>65	45-64	25-44	1-24	<1	Total	Reporting Area	All Ages	>65	45-64	25-44	1-24	<1	P&l [†] Total
NEW ENGLAND Boston, Mass. Bridgeport, Conn. Cambridge, Mass. Fall River, Mass. Hartford, Conn. Lowell, Mass. Lynn, Mass. New Bedford, Mass. New Haven, Conn. Providence, R.I. Somerville, Mass. Springfield, Mass. Waterbury, Conn. Worcester, Mass. MID. ATLANTIC Albany, N.Y. Allentown, Pa. Buffalo, N.Y. Camden, N.J. Elizabeth, N.J.	41 60 5 41 28 51 2,143 41 10 71 33 28	411 104 26 13 22 40 17 11 23 25 39 3 28 24 436 1,507 33 10 50 20 90	25 9 1 18 2 2 2 8 13 10 428 4 13 7 5	34 10 3 - 4 1 1 1 4 3 1 2 1 3 3 1 4 3 1 2 1 3 3 4 4 3 1 4 3 1 3 1 4 3 1 3 1 3 1 3	13 4 1 - - - - 2 1 1 - 1 41 - - 3 3 - - 1 1	15 4 1 - 2 2 4 - 1 1 24 1 - 1 2	31 15 2 - 2 1 1 - 1 - 1 8 108 2 - 2	S. ATLANTIC Atlanta, Ga. Baltimore, Md. Charlotte, N.C. Jacksonville, Fla. Miami, Fla. Norfolk, Va. Richmond, Va. Savannah, Ga. St. Petersburg, Fla. Washington, D.C. Wilmington, Del. E.S. CENTRAL Birmingham, Ala. Chattanooga, Tenn. Knoxville, Tenn. Lexington, Ky. Memphis, Tenn. Mobile, Ala. Montgomery, Ala.	995 U 173 101 195 94 28 60 61 62 198 U 23 825 166 90 80 90 69 190 68	650 U 113 577 1588 42 200 311 388 444 1355 U U 12 5577 1166 699 611 45 113 522 45	205 U 38 29 23 26 4 21 12 7 42 U 3 160 33 10 10 14 45 7 7	91 17 5 5 18 3 6 9 6 14 0 8 8 5 6 20 5 3	23 U 1 5 7 2 2 2 3 1 U - 26 6 3 3 2 7 3 -	24 U 4 5 2 6 1 - 2 4 U - 15 3 - 1 2 5 1	69 19 12 7 2 1 4 8 16 U
Erie, Pa. Jersey City, N.J. New York City, N.Y. Newark, N.J. Paterson, N.J. Philadelphia, Pa. Pittsburgh, Pa.§ Reading, Pa. Rochester, N.Y. Schenectady, N.Y. Schenectady, N.Y. Scranton, Pa. Syracuse, N.Y. Trenton, N.J. Utica, N.Y. Yonkers, N.Y. E.N. CENTRAL Akron, Ohio Canton, Ohio Chicago, Ill. Cincinnati, Ohio Cleveland, Ohio Columbus, Ohio Dayton, Ohio Dayton, Ohio Detroit, Mich.	31 57	122 333 769 333 8 201 311 28 855 22 26 811 15 U 1,025 34 109 93 109 910	5 19 236 60 4 3 23 4 2 15 4 5 0 273 7 3 11 31 31 31 18	1 4 65 17 1 25 2 1 3 - 1 1 U 115 2 1 U 9 11 16 4 4 24	2 1 18 10 1 1 1 1 1 1 3 3 1 2 3 3 8	1 - 7 7 3 3 - 4 4 - 1 1 2 2 1 1 1 1 - 1 1 2 2 4 4 1 1 8	1 - 50 4 - 12 2 3 9 1 2 11 3 - U 76 - 2 U 13 12 3	Nashville, Tenn. W.S. CENTRAL Austin, Tex. Baton Rouge, La. Corpus Christi, Tex. Dallas, Tex. El Paso, Tex. Ft. Worth, Tex. Houston, Tex. Little Rock, Ark. New Orleans, La. San Antonio, Tex. Shreveport, La. Tulsa, Okla. MOUNTAIN Albuquerque, N.M. Boise, Idaho Colo. Springs, Colo Denver, Colo. Las Vegas, Nev. Ogden, Utah Phoenix, Ariz. Pueblo, Colo.	101 1,400 58 365 180 79 103 385 82 82 22 110 896 100 35 . 500 102 195 25 157 26	56 853 31 193 55 70 203 50 5158 17 77 572 67 24 33 411 18 103 103 103 103 103 103 103 103	29 302 14 7 11 39 18 20 103 19 15 33 3 20 179 21 7 120 45 2 22 26	12 128 7 7 6 20 2 5 42 3 12 16 2 6 90 11 2 3 8 24 4 4 8 12 12 12 12 13 14 14 15 16 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	2 76 4 3 3 10 3 5 26 4 2 10 6 3 1 2 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 41 2 8 1 3 11 6 4 4 5 - 1 7 5 1 8 1 8 1 8 1 8 1 1 8 1 8 1 8 1 8 1 8	65 2 4 1 4 8 28 1 9 1 7 50 1 2 1 9 10 4 7
Evansville, Ind. Fort Wayne, Ind. Gary, Ind. Grand Rapids, Micl Indianapolis, Ind. Lansing, Mich. Milwaukee, Wis. Peoria, Ill. Rockford, Ill. South Bend, Ind. Toledo, Ohio Youngstown, Ohio W.N. CENTRAL Des Moines, Iowa Duluth, Minn. Kansas City, Kans. Kansas City, Kans. Kansas City, Mo. Lincoln, Nebr. Minneapolis, Minn. Omaha, Nebr. St. Louis, Mo. St. Paul, Minn. Wichita, Kans.	173 44 103 23 39 97 58 873 140 46 45 104 31	37 33 34 110 38 77 13 25 26 70 48 601 109 45 71 64 64	9 2 7 40 2 14 6 9 6 20 7 155 23 11 10 21 4 15 18 29	2 2 - 3 3 3 10 2 3 5 4 1 64 8 3 5 9 3 5 5 5 9 4 4 13	1 2 5 1 1 2 1 1 1 1 9 4 2 2 2 7	2 1 1 5 - 1 1 2 2 2 1 1 27 2 2 2 - 4 4 - 5 3 3 10 1 1	1 2 · 4 9 3 8 · 1 3 2 · 35 15 1 · 2 3 7 3 2 2 ·	Salt Lake City, Utah Tucson, Ariz. PACIFIC Berkeley, Calif. Fresno, Calif. Glendale, Calif. Honolulu, Hawaii Long Beach, Calif. Los Angeles, Calif. Pasadena, Calif. Portland, Oreg. Sacramento, Calif. San Diego, Calif. San Diego, Calif. San Jose, Calif. Santa Cruz, Calif. Seattle, Wash. Spokane, Wash. Tacoma, Wash. TOTAL	115 1,556 14 80 24 66 69 339 30 121 143 138	60 74 1,075 12 55 16 49 53 235 18 81 99 98 75 19 88 37 54 7,251	16 28 273 1 12 6 14 9 61 9 25 26 25 22 17 130 6 9	10 8 108 8 2 24 1 9 7 14 12 9 2 5 840	3 4 39 3 - 2 6 5 7 1 2 3 1 6 1 2 3 3 0 0	2 1 61 1 2 3 13 2 1 4 4 - 2 2 1 1 29 265	11 5 110 2 3 1 6 9 19 2 7 13 10 4 4 1 4 5 5 7 7

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

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

Total includes unknown ages.

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