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Tobacco Use by Adults – United States, 1987

The 1987 National Health Interview Survey of Cancer Epidemiology and Control (NHIS-CEC) collected information on smoking and other tobacco-use practices from a representative sample of adults in households throughout the United States (*1,2*). Approximately 44,000 persons ≥18 years of age answered questions related to their use of cigarettes, chewing tobacco, snuff, pipes, and cigars. In addition to smoking and other tobacco use, the NHIS-CEC contained questions on a wide range of other factors related to cancer (e.g., dietary practices, cancer screening, occupational exposures, family history of cancer, and alcohol consumption).

In 1987, approximately 33% of U.S. adults regularly used some form of tobacco—38.9% of men and 27.2% of women (*1*). Most of these persons used only cigarettes, although 4.7% of men and 0.8% of women used cigarettes in combination with some other form of tobacco.

Cigarette Smoking

Overall, 28.8% of adults smoked cigarettes—31.2% of men and 26.5% of women (Table 1). Smoking was most prevalent among persons 25–44 years of age (33.2%) and least prevalent among those ≥75 years of age (8.9%). Among men, blacks were more likely to smoke (39.0%) than whites (30.5%). In contrast, rates for black (26.7%) and white (28.0%) women were similar.

Separated and divorced persons were more likely to be smokers than were married persons: 45.1% of separated/divorced men smoked compared with 28.7% of married men, and 38.9% of separated/divorced women smoked compared with 24.2%

TABLE 1. Percentage of adults who smoke cigarettes, by sex and age – United States, 1987

Age (yrs)	Men	Women	Total
18–24	28.1	26.1	27.1
25–44	35.6	30.8	33.2
45–64	33.5	28.6	30.9
65–74	20.2	18.0	19.0
≥75	11.3	7.5	8.9
Total*	**31.2**	**26.5**	**28.8**

*Ninety-five percent confidence intervals: men, 30.4–32.0; women, 25.8–27.2; total, 28.3–29.3.

Tobacco Use — Continued

of married women.* Widowed (19.5%) and never-married (24.9%) persons were less likely to smoke than married persons (26.4%).

Smokeless Tobacco

Four percent of men chewed tobacco and 3.1% used snuff (Table 2); 6.1% of men used one or both of these forms of tobacco. Of men 18–24 years of age, 8.9% reported using either chewing tobacco or snuff or both, compared with 5.3% of men 25–64 years of age. Smokeless tobacco use was also higher in men ≥75 years (7.9%). Use of smokeless tobacco among women was rare: 0.3% of women used chewing tobacco and 0.5% used snuff.

Pipes and Cigars

In 1987, 3.4% and 5.3% of men smoked pipes and cigars, respectively (Table 2). Men ≥45 years were more likely to smoke pipes. Cigar smoking was most common among men aged 45–64 years (7.0%). Only 1.6% of men <25 years of age smoked cigars. The prevalences of pipe and cigar smoking among women were ≤0.1%.

Cigarette Smoking and Alcohol Consumption

Persons who smoked cigarettes were more likely to drink beer frequently (five times or more per week)—10.7% compared with 8.5% of former smokers and 3.0% of never smokers. For all beverage types (i.e., beer, wine, and liquor), smokers were more likely to consume larger quantities of alcohol (three drinks or more per occasion) than were nonsmokers.

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Editorial Note: The 1987 NHIS-CEC data show that the prevalence of cigarette smoking continues to decline in the United States. NHIS data have shown a consistent decline in cigarette smoking among adults during the past quarter century of approximately 0.50 percentage points per year. The rate of annual decline has been higher among men (0.84 percentage points) than among women (0.21 percentage points) (*3*).

Despite these declines, cigarette smoking remains the most important preventable cause of death in our society. Smoking is responsible for an estimated 390,000 deaths

*Age-adjusted to the 1980 U.S. population.

TABLE 2. Percentage of men who use non-cigarette tobacco,* by age and form of smokeless tobacco or alternative smoking method — United States, 1987

	Smokeless tobacco form		Alternative smoking method	
Age (yrs)	Chewing tobacco	Snuff	Pipes	Cigars
18–24	5.5	6.4	0.8	1.6
25–44	3.2	3.1	2.9	5.8
45–64	3.9	1.6	5.1	7.0
65–74	5.0	1.9	5.0	5.2
≥75	6.1	2.7	4.1	3.9
Total†	**4.0**	**3.1**	**3.4**	**5.3**

*Prevalence of use among women was ≤0.5%.

†Ninety-five percent confidence intervals: chewing tobacco, 3.7–4.3; snuff, 2.8–3.4; pipes, 3.1–3.7; cigars, 4.9–5.7.

Tobacco Use — Continued

annually—more than one of every six deaths in the United States. Based on the current rate of decline, the United States will not achieve the 1990 national health objectives for smoking prevalence among adults (<25%) (*4,5*). However, state-specific projections indicate that seven states will achieve this goal (*6*).

To achieve health objectives directed against smoking (*7*), efforts to curb the use of tobacco must be intensified. Important strategies include education in schools about the negative health consequences of smoking; cessation programs in work-sites, health-care facilities, and other community settings; mass-media campaigns; economic incentives that encourage nonsmoking; tobacco advertising restrictions; clean indoor air policies; and policies that restrict children's access to tobacco products. Interventions should target groups at high risk of smoking and smoking-related diseases, including minorities, pregnant women, blue-collar workers, and heavy smokers.

References

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Lead Poisoning in Bridge Demolition Workers — Massachusetts

In March 1988, lead poisoning was diagnosed in five of nine workers employed by a contractor to demolish a bridge spanning a river in western Massachusetts. A subsequent investigation by the Occupational Safety and Health Administration (OSHA) determined that from November 1987 through early March 1988 four of the affected workers had used acetylene torches to cut apart large sections of the bridge; the fifth had cut these sections into smaller pieces on a barge moored below the bridge.

In March 1988, two of the five workers involved in the cutting process sought medical advice: one had headaches and myalgia, and the other had nausea and arthralgia. Blood-lead levels (BLL) (tested on the basis of occupational history) were 78 and 67 μg/dL*, respectively (Table 1, page 693). The three other workers involved in the cutting process were then evaluated; their reported symptoms included joint stiffness, abdominal pain, irritability, and memory loss. BLLs in these workers were

*OSHA regulations state that an employee with confirmed BLL >60 μg/dL must be removed from lead exposure; similarly, an employee whose average BLL (measured on three occasions within 6 months) exceeds 50 μg/dL must be removed from lead exposure (*1*).

Lead Poisoning — Continued

58, 74, and 160 μg/dL. The highest BLL, 160 μg/dL, occurred in the worker assigned to the barge. Because the four remaining crew members had not worked in areas where they would have been exposed to lead fumes, they were not tested.

Four of the five affected workers were treated with chelation therapy (calcium ethylenediaminetetraacetic acid [EDTA]). Each worker excreted substantial amounts of lead and experienced a decline in symptoms. The fifth worker, who had a BLL of 58 μg/dL, demonstrated elevated lead excretion when given a test dose of EDTA. However, because he had become asymptomatic and had no evidence of organ damage, he was not treated with chelation therapy.

The OSHA investigation determined that paint covering the bridge contained 30% lead (by weight). Respirators available to the workers were not always equipped with cartridges that protected against lead fumes. The workers were not trained to OSHA standards in respirator use and wore the respirators infrequently. In addition, the employer had not provided clean work clothing or handwashing and eating facilities for the workers. OSHA cited the contractor for violating several regulations governing proper use of respirators.

(Continued on page 693)

TABLE I. Summary — cases of specified notifiable diseases, United States

Disease	40th Week Ending			Cumulative, 40th Week Ending		
	Oct. 7, 1989	Oct. 8, 1988	Median 1984-1988	Oct. 7, 1989	Oct. 8, 1988	Median 1984-1988
Acquired Immunodeficiency Syndrome (AIDS)	601	U*	365	26,608	23,801	10,055
Aseptic meningitis	335	230	329	6,850	4,982	7,440
Encephalitis: Primary (arthropod-borne & unspec)	34	17	35	607	646	902
Post-infectious	1	3	3	66	102	94
Gonorrhea: Civilian	11,745	14,062	17,299	507,236	531,950	639,148
Military	253	112	328	8,523	9,045	12,771
Hepatitis: Type A	823	612	515	26,484	19,559	17,145
Type B	484	485	512	17,376	17,359	19,637
Non A, Non B	52	39	63	1,816	1,995	2,737
Unspecified	39	64	74	1,792	1,672	3,405
Legionellosis	27	18	19	796	757	574
Leprosy	6	1	5	129	121	179
Malaria	40	24	23	983	781	781
Measles: Total†	103	22	15	11,826	2,351	2,522
Indigenous	93	20	13	11,278	2,114	2,114
Imported	10	2	3	548	237	291
Meningococcal infections	30	33	33	2,070	2,243	2,146
Mumps	78	63	63	4,284	3,708	3,708
Pertussis	99	126	126	2,576	2,210	2,210
Rubella (German measles)	1	4	6	359	181	453
Syphilis (Primary & Secondary): Civilian	628	654	535	30,378	31,010	21,501
Military	3	2	3	188	126	133
Toxic Shock syndrome	7	7	8	286	280	280
Tuberculosis	430	475	415	16,121	16,335	16,309
Tularemia	1	3	4	121	156	156
Typhoid Fever	20	15	12	383	299	263
Typhus fever, tick-borne (RMSF)	16	7	12	540	526	607
Rabies, animal	41	103	102	3,630	3,387	4,176

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1989		Cum. 1989
Anthrax	-	Leptospirosis	69
Botulism: Foodborne (Wash. 1)	19	Plague	3
Infant (Md. 1)	12	Poliomyelitis, Paralytic	-
Other	4	Psittacosis (N.C. 1, Ohio 1, Ark. 1)	84
Brucellosis (Fla. 1, Calif. 1)	66	Rabies, human	1
Cholera	-	Tetanus (D.C. 1)	34
Congenital rubella syndrome	3	Trichinosis (Tenn. 2)	15
Congenital syphilis, ages < 1 year	158		
Diphtheria	3		

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.
†Four of the 103 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending October 7, 1989 and October 8, 1988 (40th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	26,608	6,850	607	66	507,236	531,950	26,484	17,376	1,816	1,792	796	129
NEW ENGLAND	1,086	370	20	2	15,482	16,557	555	843	59	67	54	8
Maine	46	21	5	-	216	320	19	47	5	1	5	-
N.H.	35	36	-	-	135	206	53	48	8	4	2	-
Vt.	11	34	4	-	50	95	29	67	5	-	1	-
Mass.	584	124	6	2	5,945	5,645	158	479	25	48	36	6
R.I.	60	64	-	-	1,127	1,496	35	58	4	7	10	1
Conn.	350	91	5	-	8,009	8,795	261	144	12	7	-	1
MID. ATLANTIC	7,561	845	27	5	60,718	84,734	3,135	2,647	174	203	200	20
Upstate N.Y.	1,042	376	22	4	12,071	11,315	698	523	67	10	66	3
N.Y. City	3,890	124	2	1	25,023	37,414	323	1,017	32	168	27	15
N.J.	1,764	-	3	-	11,684	11,802	355	478	25	5	39	1
Pa.	865	345	-	-	11,940	24,203	1,759	629	50	20	68	1
E.N. CENTRAL	2,048	1,320	225	6	97,579	90,593	1,537	2,078	211	80	221	3
Ohio	376	425	92	2	26,160	20,506	328	372	37	18	102	-
Ind.	308	174	34	3	7,393	6,982	169	335	24	28	42	1
Ill.	873	228	41	1	31,953	26,559	699	554	85	21	14	2
Mich.	380	408	40	-	24,947	28,834	217	508	42	13	36	-
Wis.	111	85	18	-	7,126	7,712	124	309	23	-	27	-
W.N. CENTRAL	656	330	27	3	24,628	22,486	1,054	757	86	23	29	1
Minn.	141	16	-	1	2,735	3,042	111	85	16	4	2	-
Iowa	47	56	10	-	2,140	1,657	103	29	13	5	5	-
Mo.	326	160	3	-	15,057	12,759	551	527	33	8	12	-
N. Dak.	6	12	1	-	108	142	4	19	4	2	1	-
S. Dak.	4	9	4	-	193	397	10	8	7	-	2	-
Nebr.	27	12	5	-	1,155	1,269	67	19	2	2	2	1
Kans.	105	65	4	2	3,240	3,220	208	70	11	2	5	-
S. ATLANTIC	5,437	1,327	120	23	142,796	150,280	2,594	3,344	270	298	98	1
Del.	68	62	1	-	2,477	2,368	38	112	5	8	8	-
Md.	474	174	16	2	16,734	15,545	740	579	23	26	25	-
D.C.	395	13	-	-	8,599	11,285	7	21	2	-	-	-
Va.	362	254	33	3	12,050	11,006	229	237	59	179	7	-
W. Va.	34	60	58	-	1,080	1,059	19	81	9	7	-	-
N.C.	352	151	7	2	21,358	20,997	346	812	70	-	25	1
S.C.	269	32	-	-	13,200	11,428	59	473	3	10	6	-
Ga.	861	97	1	1	27,554	28,676	292	314	10	8	17	-
Fla.	2,622	484	4	15	39,744	47,916	864	715	89	60	10	-
E.S. CENTRAL	580	543	34	2	42,379	41,904	331	1,268	128	10	48	-
Ky.	90	160	10	1	4,159	4,207	97	317	41	5	9	-
Tenn.	200	104	6	-	14,443	14,192	126	665	28	-	27	-
Ala.	171	197	17	-	13,129	12,782	70	182	52	1	11	-
Miss.	119	82	1	1	10,648	10,723	38	104	7	4	1	-
W.S. CENTRAL	2,410	736	59	6	55,816	57,286	2,929	1,728	118	412	40	19
Ark.	61	31	8	-	6,520	5,703	189	57	14	6	1	-
La.	384	62	11	1	12,123	11,561	212	299	14	1	6	-
Okla.	128	61	11	3	4,844	5,467	358	158	27	30	24	-
Tex.	1,837	582	29	2	32,329	34,555	2,170	1,214	63	375	9	19
MOUNTAIN	852	247	9	3	11,325	11,486	3,856	1,152	165	119	45	3
Mont.	15	5	-	-	148	336	73	40	6	3	3	1
Idaho	20	2	-	1	142	282	136	97	12	3	-	-
Wyo.	14	5	-	-	81	160	40	7	2	-	-	-
Colo.	315	121	1	1	2,371	2,517	405	132	43	49	5	-
N. Mex.	75	9	1	-	1,027	1,127	511	156	27	3	4	1
Ariz.	211	79	3	-	4,542	4,160	1,998	445	40	51	20	1
Utah	55	17	1	1	364	427	399	87	22	4	7	-
Nev.	147	9	3	-	2,650	2,477	294	188	13	6	6	-
PACIFIC	5,978	1,132	86	16	56,513	56,624	10,493	3,559	605	580	61	74
Wash.	400	-	2	1	4,952	5,492	2,548	775	164	48	22	7
Oreg.	180	-	-	-	2,418	2,454	1,884	391	62	13	2	1
Calif.	5,257	1,025	71	15	47,965	47,365	5,359	2,269	366	506	34	57
Alaska	12	26	10	-	756	826	555	51	5	3	1	-
Hawaii	129	81	3	-	422	487	147	73	8	10	2	9
Guam	1	5	1	-	78	122	4	-	-	6	-	1
P.R.	1,065	74	2	1	790	1,038	154	184	16	18	-	8
V.I.	26	-	-	-	507	353	-	7	-	-	-	-
Amer. Samoa	-	-	-	-	14	65	19	-	1	-	-	1
C.N.M.I.	-	-	-	-	57	41	2	4	-	1	-	1

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

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending October 7, 1989 and October 8, 1988 (40th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	Cum. 1989	1989	Cum. 1989	1989	Cum. 1989	Cum. 1988	1989	Cum. 1989	Cum. 1988
UNITED STATES	983	93	11,278	10	548	2,351	2,070	78	4,284	99	2,576	2,210	1	359	181
NEW ENGLAND	64	11	296	-	36	108	150	-	72	9	299	247	-	6	9
Maine	-	-	-	-	1	7	13	-	-	-	17	11	-	-	-
N.H.	2	-	10	-	5	87	15	-	13	-	6	42	-	4	5
Vt.	2	-	1	-	2	-	6	-	3	-	6	3	-	1	-
Mass.	36	11	39	-	21	3	84	-	48	9	243	158	-	1	3
R.I.	13	-	38	-	3	-	1	-	-	-	11	15	-	-	1
Conn.	11	-	208	-	4	11	31	-	8	-	16	18	-	-	-
MID. ATLANTIC	185	16	673	-	171	865	289	4	386	30	203	157	-	77	14
Upstate N.Y.	26	12	54	-	98	37	103	3	143	12	90	93	-	62	2
N.Y. City	73	4	96	-	15	49	37	-	18	-	5	5	-	15	7
N.J.	50	-	318	-	-	242	63	-	167	-	24	8	-	-	3
Pa.	36	-	205	-	58	537	86	1	58	18	84	51	-	-	2
E.N. CENTRAL	75	-	3,151	1	95	180	267	6	453	3	276	251	-	24	29
Ohio	13	-	1,209	-	35	25	96	-	118	-	45	42	-	3	1
Ind.	10	-	78	-	-	57	28	4	44	-	19	64	-	-	-
Ill.	30	-	1,387	-	1	71	71	-	144	-	88	40	-	19	24
Mich.	14	-	306	1§	16	23	53	1	113	3	40	34	-	1	4
Wis.	8	-	171	-	43	4	19	1	34	-	84	71	-	1	-
W.N. CENTRAL	27	31	666	-	11	13	65	-	384	1	164	109	-	6	2
Minn.	8	-	17	-	-	11	13	-	2	-	46	48	-	-	-
Iowa	3	1	10	-	1	-	2	-	39	-	14	21	-	1	-
Mo.	9	30	399	-	-	2	14	-	56	-	92	17	-	4	-
N. Dak.	1	-	-	-	-	-	-	-	-	-	2	11	-	-	-
S. Dak.	1	-	-	-	-	-	7	-	-	-	1	5	-	-	-
Nebr.	2	-	108	-	2	-	18	-	5	1	6	-	-	-	-
Kans.	3	-	132	-	8	-	11	-	282	-	3	7	-	1	2
S. ATLANTIC	164	7	552	4	58	356	359	8	754	5	273	215	-	9	17
Del.	7	-	42	-	1	-	2	-	1	-	1	7	-	-	-
Md.	28	7	62	2§	36	14	63	5	382	2	54	34	-	2	1
D.C.	9	-	35	-	4	-	15	-	125	-	-	1	-	-	-
Va.	30	U	20	U	3	170	42	U	109	U	30	21	U	-	11
W. Va.	2	-	53	-	-	6	12	-	13	-	25	8	-	-	-
N.C.	19	-	184	-	3	4	50	1	30	3	58	61	-	1	-
S.C.	10	-	3	-	-	-	25	1	29	-	-	1	-	-	-
Ga.	9	-	1	-	1	-	60	-	29	-	37	35	-	-	2
Fla.	50	-	152	2†§	10	162	90	1	36	-	68	47	-	6	3
E.S. CENTRAL	13	3	238	-	4	69	68	1	203	9	122	88	-	3	2
Ky.	-	3	40	-	4	35	39	-	9	-	1	12	-	-	-
Tenn.	4	-	147	-	-	-	6	-	59	-	47	28	-	2	2
Ala.	6	-	50	-	-	-	18	1	28	9	69	44	-	1	-
Miss.	3	-	1	-	-	34	5	N	N	-	5	4	-	-	-
W.S. CENTRAL	54	21	3,124	2	66	17	151	48	1,388	24	289	126	-	36	10
Ark.	-	-	-	-	19	1	10	-	134	-	21	22	-	-	3
La.	2	-	11	-	-	-	38	39	616	2	18	17	-	5	-
Okla.	7	3	126	-	-	8	22	-	187	2	48	60	-	1	1
Tex.	45	18	2,987	2†	47	8	81	9	451	20	202	27	-	30	6
MOUNTAIN	25	4	373	2	44	140	63	11	179	3	550	611	1	36	6
Mont.	1	-	12	-	1	24	1	-	4	-	33	2	-	1	-
Idaho	2	2	6	1§	3	1	2	2	18	1	59	307	-	32	-
Wyo.	1	-	-	-	-	-	-	-	8	-	-	1	1	2	-
Colo.	6	1	78	1†	18	115	20	1	27	-	49	21	-	-	2
N. Mex.	4	-	16	-	15	-	2	N	N	2	26	47	-	-	-
Ariz.	8	-	141	-	4	-	25	6	104	-	362	205	-	-	-
Utah	-	-	118	-	-	-	5	1	11	-	20	27	-	-	3
Nev.	3	1	2	-	3	-	8	1	7	-	1	1	-	1	1
PACIFIC	376	-	2,205	1	63	603	658	-	465	15	400	406	-	162	92
Wash.	28	-	28	-	13	7	68	-	38	8	162	96	-	-	-
Oreg.	19	-	9	-	19	5	45	N	N	-	10	44	-	3	-
Calif.	320	-	2,149	-	21	578	535	-	409	7	206	202	-	135	62
Alaska	3	-	1	-	-	1	8	-	2	-	1	8	-	-	-
Hawaii	6	-	18	1§	10	12	2	-	16	-	21	56	-	24	30
Guam	3	U	-	U	-	1	-	U	4	U	1	-	U	-	1
P.R.	1	21	524	-	-	190	5	-	8	-	4	14	-	8	3
V.I.	-	-	4	-	-	-	-	-	15	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	2	U	-	-	U	-	-
C.N.M.I.	-	U	-	U	-	-	-	U	6	U	-	-	U	-	-

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

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

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending October 7, 1989 and October 8, 1988 (40th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1988	Cum. 1989	Cum. 1989	Cum. 1989	Cum. 1989
UNITED STATES	30,378	31,010	286	16,121	16,335	121	383	540	3,630
NEW ENGLAND	1,316	879	14	449	408	2	31	7	8
Maine	11	12	3	12	20	-	-	-	2
N.H.	11	6	2	19	8	-	-	-	1
Vt.	1	3	-	8	4	-	-	-	-
Mass.	392	331	4	238	228	2	20	4	2
R.I.	26	27	2	53	33	-	5	1	-
Conn.	875	500	3	119	115	-	6	2	3
MID. ATLANTIC	5,472	7,683	45	3,229	3,248	2	112	57	604
Upstate N.Y.	713	435	8	246	429	1	30	13	48
N.Y. City	2,777	5,483	3	1,815	1,768	-	49	3	-
N.J.	1,098	737	11	627	524	-	25	21	20
Pa.	884	1,028	23	541	527	1	8	20	536
E.N. CENTRAL	1,392	909	47	1,677	1,800	3	44	59	102
Ohio	121	82	15	288	337	-	9	32	9
Ind.	50	46	7	132	179	1	3	19	2
Ill.	603	410	10	764	769	-	21	6	26
Mich.	507	326	15	400	432	1	6	2	22
Wis.	111	45	-	93	83	1	5	-	43
W.N. CENTRAL	253	180	37	409	422	47	6	78	468
Minn.	39	17	11	75	68	-	1	-	101
Iowa	29	17	5	44	43	-	2	2	110
Mo.	133	112	9	190	213	34	2	60	55
N. Dak.	2	2	-	12	14	-	-	1	47
S. Dak.	1	-	4	21	26	6	-	4	71
Nebr.	21	26	5	18	12	3	-	1	40
Kans.	28	6	3	49	46	4	1	10	44
S. ATLANTIC	10,896	10,855	23	3,437	3,469	6	33	186	1,075
Del.	152	81	1	31	32	-	2	1	27
Md.	609	568	1	304	339	2	8	15	297
D.C.	622	530	1	139	157	-	2	-	2
Va.	431	327	4	265	311	4	7	13	200
W. Va.	14	34	-	59	59	-	-	2	44
N.C.	819	602	6	423	373	-	2	101	7
S.C.	640	561	4	383	379	-	2	33	173
Ga.	2,017	1,900	3	531	560	-	3	18	185
Fla.	5,592	6,252	3	1,302	1,259	-	7	3	140
E.S. CENTRAL	2,229	1,520	7	1,283	1,383	7	3	58	296
Ky.	42	50	2	308	307	1	1	14	118
Tenn.	944	652	3	411	416	5	1	29	75
Ala.	695	447	1	359	421	-	1	6	100
Miss.	548	371	1	205	239	1	-	9	3
W.S. CENTRAL	4,513	3,288	23	1,975	2,059	34	14	69	496
Ark.	292	183	2	201	227	24	-	16	65
La.	1,107	638	-	264	248	-	1	-	11
Okla.	87	122	12	176	193	10	1	41	81
Tex.	3,027	2,345	9	1,334	1,391	-	12	12	339
MOUNTAIN	649	648	41	360	464	13	9	22	227
Mont.	1	3	-	11	15	1	-	14	70
Idaho	1	2	3	24	18	-	-	3	10
Wyo.	6	1	2	-	5	2	-	2	72
Colo.	58	85	8	19	83	2	2	3	20
N. Mex.	25	43	5	65	86	2	-	-	20
Ariz.	239	126	10	169	193	-	6	-	23
Utah	13	14	9	36	18	5	1	-	2
Nev.	306	374	4	36	46	1	-	-	10
PACIFIC	3,658	5,048	49	3,302	3,082	7	131	4	354
Wash.	302	183	3	187	171	-	8	-	-
Oreg.	186	229	-	106	118	4	5	1	-
Calif.	3,155	4,601	45	2,836	2,642	2	109	3	289
Alaska	5	10	-	39	34	1	-	-	65
Hawaii	10	25	1	134	117	-	9	-	-
Guam	4	3	-	42	22	-	1	-	-
P.R.	415	543	-	229	184	-	7	-	53
V.I.	8	1	-	4	6	-	1	-	-
Amer. Samoa	-	-	-	2	3	-	-	-	-
C.N.M.I.	7	1	-	12	19	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending October 7, 1989 (40th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	695	493	116	47	20	19	63
Boston, Mass.	188	119	35	15	6	13	21
Bridgeport, Conn.	62	43	12	5	1	1	7
Cambridge, Mass.	32	26	4	2	-	-	5
Fall River, Mass.	26	21	5	-	-	-	-
Hartford, Conn.	65	38	17	6	4	-	5
Lowell, Mass.	15	13	1	-	1	-	1
Lynn, Mass.	23	20	3	-	-	-	-
New Bedford, Mass.	29	25	3	1	-	-	-
New Haven, Conn.	59	41	6	8	3	1	3
Providence, R.I.	35	24	6	2	3	-	-
Somerville, Mass.	7	7	-	-	-	-	-
Springfield, Mass.	54	32	12	6	1	3	8
Waterbury, Conn.	32	29	2	1	-	-	2
Worcester, Mass.	68	55	10	1	1	1	11
MID. ATLANTIC	2,957	1,899	555	333	86	83	139
Albany, N.Y.	52	38	5	4	2	3	-
Allentown, Pa.	12	9	2	1	-	-	1
Buffalo, N.Y.	100	52	21	18	4	4	5
Camden, N.J.	47	29	12	5	-	1	-
Elizabeth, N.J.	30	23	6	1	-	-	2
Erie, Pa.†	25	17	5	1	2	-	2
Jersey City, N.J.	65	38	12	12	-	3	2
N.Y. City, N.Y.	1,419	890	262	192	42	33	44
Newark, N.J.	71	37	17	9	5	3	8
Paterson, N.J.	41	20	10	8	1	2	3
Philadelphia, Pa.	607	386	114	57	23	27	33
Pittsburgh, Pa.†	67	54	10	2	1	-	9
Reading, Pa.	41	33	4	4	-	-	6
Rochester, N.Y.	132	93	26	8	3	2	9
Schenectady, N.Y.	31	19	7	4	-	1	2
Scranton, Pa.†	30	24	6	-	-	-	1
Syracuse, N.Y.	95	68	18	4	2	3	3
Trenton, N.J.	45	31	10	3	-	1	5
Utica, N.Y.	24	19	5	-	-	-	3
Yonkers, N.Y.	23	19	3	-	1	-	1
E.N. CENTRAL	2,213	1,462	453	162	49	87	108
Akron, Ohio	48	29	10	4	1	4	-
Canton, Ohio	28	20	4	4	-	-	5
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	141	91	38	8	1	3	12
Cleveland, Ohio	143	85	30	7	7	14	5
Columbus, Ohio	118	76	24	11	3	4	2
Dayton, Ohio	131	91	32	6	1	1	9
Detroit, Mich.	268	163	48	40	9	8	14
Evansville, Ind.	50	35	10	3	-	2	3
Fort Wayne, Ind.	48	35	9	3	1	-	2
Gary, Ind.	14	10	3	1	-	-	3
Grand Rapids, Mich.	55	40	8	3	2	2	4
Indianapolis, Ind.	181	117	38	10	4	12	5
Madison, Wis.	34	16	13	2	1	2	3
Milwaukee, Wis.	124	88	22	7	2	5	4
Peoria, Ill.	42	33	6	1	1	1	6
Rockford, Ill.	49	37	8	2	1	1	3
South Bend, Ind.	30	24	5	-	-	1	1
Toledo, Ohio	95	70	11	4	5	5	7
Youngstown, Ohio§	50	40	9	1	-	-	4
W.N. CENTRAL	817	562	154	55	28	18	33
Des Moines, Iowa	56	33	13	5	4	1	1
Duluth, Minn.	27	18	4	5	-	-	-
Kansas City, Kans.§	76	57	13	5	1	-	2
Kansas City, Mo.	135	89	30	9	4	3	8
Lincoln, Nebr.	30	18	8	2	2	-	1
Minneapolis, Minn.	171	131	28	7	2	3	10
Omaha, Nebr.	83	49	15	8	5	6	8
St. Louis, Mo.	122	79	20	11	9	3	-
St. Paul, Minn.§	61	50	7	2	1	1	1
Wichita, Kans.	56	38	16	1	-	1	2
S. ATLANTIC	1,142	646	254	142	50	48	54
Atlanta, Ga.	141	79	31	19	6	6	7
Baltimore, Md.	128	74	31	16	4	3	6
Charlotte, N.C.§	70	43	17	8	1	1	5
Jacksonville, Fla.	95	44	29	10	8	4	4
Miami, Fla.	154	85	33	24	5	7	-
Norfolk, Va.	60	31	13	9	4	3	5
Richmond, Va.	89	50	22	8	3	6	10
Savannah, Ga.	49	37	4	3	-	5	4
St. Petersburg, Fla.	53	40	4	6	1	2	3
Tampa, Fla.	67	35	19	3	7	1	6
Washington, D.C.§	217	112	50	35	10	10	4
Wilmington, Del.	19	16	1	1	1	-	-
E.S. CENTRAL	720	445	150	75	28	21	50
Birmingham, Ala.	129	83	25	11	3	7	1
Chattanooga, Tenn.	42	28	10	2	1	1	3
Knoxville, Tenn.	76	47	20	3	6	-	6
Louisville, Ky.	109	68	23	12	1	5	5
Memphis, Tenn.	197	127	36	19	9	6	20
Mobile, Ala.	28	21	3	3	1	-	1
Montgomery, Ala.	40	20	9	8	1	2	1
Nashville, Tenn.	99	51	24	17	6	-	13
W.S. CENTRAL	1,723	1,039	374	180	67	63	69
Austin, Tex.	46	30	8	5	1	2	7
Baton Rouge, La.	38	26	6	3	2	1	2
Corpus Christi, Tex.	41	24	10	4	-	3	-
Dallas, Tex.	213	115	49	29	13	7	4
El Paso, Tex.	54	36	11	6	1	-	3
Fort Worth, Tex	85	51	14	8	4	8	6
Houston, Tex.§	734	436	169	89	24	16	18
Little Rock, Ark.	72	38	19	3	6	6	5
New Orleans, La.	103	58	25	9	4	7	-
San Antonio, Tex.	180	115	35	17	6	7	11
Shreveport, La.	52	33	10	2	2	5	5
Tulsa, Okla.	105	77	18	5	4	1	8
MOUNTAIN	644	420	120	60	16	28	21
Albuquerque, N. Mex.	72	46	15	8	-	3	6
Colo. Springs, Colo.	44	29	8	2	2	3	4
Denver, Colo.	83	59	10	6	2	6	1
Las Vegas, Nev.	128	86	27	13	1	1	5
Ogden, Utah	19	13	5	1	-	-	4
Phoenix, Ariz.	120	68	24	12	4	12	-
Pueblo, Colo.	27	21	1	5	-	-	1
Salt Lake City, Utah	43	27	10	4	-	2	-
Tucson, Ariz.	108	71	20	9	7	1	-
PACIFIC	1,788	1,156	317	198	58	52	105
Berkeley, Calif.	19	13	3	2	1	-	2
Fresno, Calif.	76	41	16	10	4	4	7
Glendale, Calif.	16	9	5	1	1	-	-
Honolulu, Hawaii	81	51	21	8	-	1	2
Long Beach, Calif.	92	62	17	7	5	1	12
Los Angeles Calif.	393	256	54	59	17	5	17
Oakland, Calif.	68	45	11	7	5	-	6
Pasadena, Calif.	40	27	4	4	2	3	3
Portland, Oreg.	116	81	16	12	5	2	3
Sacramento, Calif.§	144	92	30	14	3	5	13
San Diego, Calif.	134	80	28	13	4	8	14
San Francisco, Calif.	181	102	38	29	-	10	7
San Jose, Calif.	170	120	29	10	2	8	8
Seattle, Wash.	163	114	22	18	6	3	4
Spokane, Wash.	46	29	16	1	-	-	3
Tacoma, Wash.	49	34	7	3	3	2	4
TOTAL	12,699††	8,122	2,493	1,252	402	419	642

*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.

§Data not available. Figures are estimates based on average of past available 4 weeks.

Lead Poisoning — Continued

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Editorial Note: Based on findings from the 1981–1983 National Occupational Exposure Survey, an estimated 827,650 U.S. workers have potential work-related exposure to lead (excluding leaded gasoline) (CDC, unpublished data). In the workplace, the respiratory tract is the major route of lead absorption. Clinical manifestations of occupational lead poisoning, which usually occur when BLLs exceed 40 μg/dL, can vary greatly in severity and include abdominal pain, anorexia, fatigue, arthralgia, headaches, irritability, depression, impotence, anemia, and hyperuricemia (*2*). Encephalopathy, peripheral neuropathies, and impaired renal function have been reported, but are infrequently associated with occupational exposure (*2*).

Lead poisoning may occur when workers and employers fail to recognize the presence of lead or fail to adhere to accepted safety guidelines. Recent reviews of workers' compensation data and laboratory-based lead registries indicate that workers at highest risk for lead toxicity include persons who work in lead smelters, storage battery-manufacturing plants, plastic-compounding factories, and nonferrous foundries (*3,4*; California Department of Health Services, unpublished data, 1987). Construction or demolition work that involves cutting through lead-coated metal structures, a process that generates high concentrations of lead fumes, can also present substantial risk for lead toxicity. Lead poisoning has been described in workers who repair and disassemble ships (*5*) and roofs (*6,7*), dismantle elevated subway lines (*8,9*), and demolish and strip paint from bridges (*10–13*).

Construction workers in the United States are excluded from regulation under the OSHA Lead Standard (*1*). However, other OSHA regulations governing the construction industry require respiratory protection for workers who use torches to cut through toxic preservative coatings, such as lead-containing paints (*14*), and man-

TABLE 1. Lead poisoning in bridge demolition workers — Massachusetts, 1988

Age (yrs)	Initial symptoms	Date of diagnosis	Initial BLL* (μg/dL)	Initial ZPP† level (μg/dL)	Treatment	Post-treatment BLL (μg/dL)
31	headaches, myalgia	03/04/88	78	147	chelation	53
28	nausea, arthralgia	03/08/88	67	NA§	chelation	NA§
45	irritability, memory loss	03/15/88	160	270	chelation	21
30	agitation, abdominal pain, joint stiffness	03/21/88	58	265	none	23¶
35	abdominal pain	03/21/88	74	281	chelation	30

*Blood lead level.
†Zinc protoporphyrin (reference range: <50 μg/dL).
§Not available/not measured.
¶Follow-up BLL—person not treated.

Lead Poisoning — Continued

date engineering controls or respiratory protection for workers exposed to airborne lead at concentrations >200 $\mu g/m^3$ (*15*).

As bridges in the United States age, they will require demolition or rebuilding. Construction workers engaged in these processes are at risk for hazardous lead exposure. Proper preventive measures, including engineering controls and appropriate use of respirators, should be carefully implemented. Physicians caring for construction workers should take thorough occupational histories and be aware that workers engaged in bridge demolition work may be at increased risk for occupational lead poisoning.

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References 11–15 may be obtained from the Surveillance Branch, Division of Surveillance, Hazard Evaluations, and Field Studies, NIOSH, CDC, 4676 Columbia Parkway, Mailstop R-10, Cincinnati, OH 45226.

Surveillance for Epidemics — United States

Although state health departments document investigations of disease epidemics and outbreaks, there is no national system for surveillance of epidemics. In 1988, a 5-month pilot project to assess the feasibility and utility of a standard computerized surveillance system for epidemics was conducted by state epidemiology programs in Maryland, New York, Oklahoma, and Washington, and by the Epidemiology Program Office, CDC.

From June through October, 1988, the four participating state epidemiology offices used a uniform data collection system to record reported epidemics investigated by their staffs or by other agencies in their states. For this project, an epidemic or outbreak was defined as: "A recent or sudden excess of cases of a specific disease or clinical syndrome. For a foodborne outbreak, $n \geq 2$; for other outbreaks, $n \geq 3$." Although designed principally to collect information on epidemics, the system also allowed for reporting other epidemiologically important events, including individual cases of rare diseases (e.g., botulism and human rabies) and toxic exposures without documented subsequent illness (e.g., a hazardous material spill during transport).

Epidemic Surveillance — Continued

During the 5 months, 116 events were reported. Maryland and Oklahoma, which already maintained systems of epidemic reporting similar to the pilot system, accounted for 39 (34%) and 33 (28%) reports, respectively. Washington and New York, with pre-existing systems considerably different from the pilot system, accounted for 25 (22%) and 19 (16%), respectively. The number of reported events per 100,000 population was 1.0 in Oklahoma, 0.8 in Maryland, 0.5 in Washington, and 0.1 in New York (*1*). Local health departments originated reports for 69 (59%) events. The timeliness of reporting was measured as the interval between date of onset for the index case and date of report to the state health department. Dates were recorded for 106 events; of these, the reporting interval was ≤1 week for 64 (60%) and ≤2 weeks for 78 (74%).

Seventy-nine (68%) of the events were epidemics or outbreaks; of these, 77 (97%) were caused by communicable diseases. The majority of these were relatively small outbreaks—51 (66%) involved <10 persons. The largest, an outbreak of viral gastroenteritis, involved 64 persons at a nursing home in Oklahoma. The most frequently reported locations associated with outbreaks were commercial food establishments (25%), nursing homes or other long-term care facilities (15%), and the general community (10%). For the 39 (51%) infectious disease outbreaks in which an etiologic agent was reported, the most common agents were *Salmonella* (26%) and hepatitis A virus (23%).

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Editorial Note: The current national system of notifiable disease reporting (data reported weekly in *MMWR* Tables I, II, and III [pages 688–691]) provides surveillance data on a wide range of diseases, many of which can cause epidemics. The 121-city mortality surveillance system (data reported weekly in *MMWR* Table IV [page 692]) is used to assist in identifying epidemic influenza (*2*). However, except for a limited set of problems (e.g., waterborne outbreaks [*3*]), no uniform national system of surveillance exists for epidemics. Consequently, neither CDC nor state epidemiology programs have access to uniform, comparable surveillance data for monitoring temporal and geographic trends of epidemics or for providing national estimates of the frequency of epidemics.

Although most states maintain written records for epidemic surveillance, many do not routinely computerize these data. Increased use of automation might facilitate analysis and evaluation of such data, as well as expedite intervention/prevention efforts. Systematic surveillance of epidemics could be used to improve disease prevention efforts at both state and national levels. For example, epidemic surveillance data could be used to evaluate and improve regulations and standards of public health practice related to child-care licensing, restaurant inspections, and environmental hazard control. This approach might permit comparison of the effectiveness of differing standards in different local or state jurisdictions, measurement of the impact of changes in standards over time, and early detection of changing patterns in the transmission of notifiable diseases, such as the recent increased incidence of hepatitis A transmission among drug abusers (*4*).

Epidemic Surveillance — Continued

This pilot project demonstrated both the feasibility and constraints associated with development of a standard system for surveillance of epidemics. Each of the participating states recognized the utility of the data generated by the project. However, two of the states noted that a permanent system would require substantial revision of their current procedures for collecting and reporting surveillance data. The wide variability of the ratio of reported events to population size probably reflects differences in data included in this system rather than in occurrence of epidemics (e.g., most reports of small foodborne disease outbreaks in New York come directly to the State Bureau of Community Sanitation and Food Protection rather than to the office of the state epidemiologist).

At its annual meeting in May 1989, the Council of State and Territorial Epidemiologists unanimously passed a resolution supporting the concept of state-based epidemic surveillance and endorsed CDC efforts to develop a uniform system that permits comparable information to be collected, analyzed, and shared among the states.

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