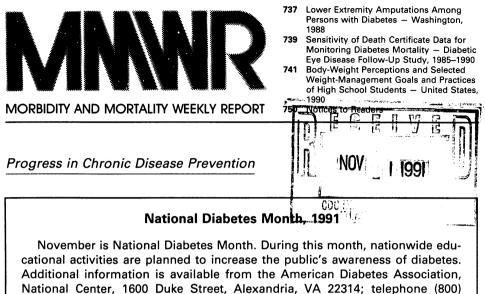


232-3472 ([800] ADA-DISC).



# Lower Extremity Amputations Among Persons with Diabetes Mellitus – Washington, 1988

Diabetes mellitus is the leading cause of lower extremity amputations (LEAs) in the United States, accounting for approximately 50% of all nontraumatic LEAs (1). To assist public health programs in preventing diabetes-related LEAs in Washington state, the diabetes-control program of the Washington Department of Health characterizes LEAs. This report summarizes an analysis of the incidence of LEAs during 1988 among Washington residents with and without diabetes.

The analysis included all hospitalizations in Washington in 1988 except hospitalizations from Veterans Administration, military, and psychiatric facilities. The criterion for LEA classification was any *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) procedural code of 84.10–84.19 recorded on state hospital discharge records; cases of traumatic amputation (ICD-9-CM diagnostic codes 800–995.89) were deleted from the analysis. The criterion for diabetes classification was any ICD-9-CM diagnostic code of 250.0–250.9 listed among the discharge diagnoses. Estimates of the number of persons with diabetes were calculated by applying National Health Interview Survey diabetes prevalence rates for 1988 to Washington population estimates for 1988. The population-attributable risk

### Lower Extremity Amputations – Continued

(PAR)-the proportion of all new nontraumatic amputations associated with diabetes-was calculated using a standard formula (2).

In 1988, 1087 residents of Washington had nontraumatic LEAs; 543 (50%) of these persons had diabetes. Although the overall rate of LEA among persons with diabetes was 5.1 per 1000 persons (95% confidence interval [CI]=4.7–5.5), county-specific rates varied substantially, ranging from 1.6 per 1000 (95% CI=0.5–2.7) to 11.7 per 1000 (95% CI=6.8–16.6).

The incidence rate of LEA for persons with diabetes was substantially higher for males (5.3 per 1000 [95% CI = 4.7–5.9]) than for females (3.6 per 1000 [95% CI = 3.1–4.1]). Compared with females without diabetes, the risk for LEA was greatest for females aged <45 years (relative risk [RR] = 218.1; 95% CI = 123.6–384.7) and lowest for females aged  $\geq$ 75 years (RR = 6.0; 95% CI = 4.5–8.1) (Table 1).\*

Among persons with diabetes, the rate of LEA was more than 40 times that for persons without diabetes. Based on PAR calculations for males and females, depending on age, 38%–66% and 30%–69% of all nontraumatic LEAs, respectively, were directly attributed to diabetes.

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**Editorial Note:** The clinical and pathologic changes that necessitate LEA in persons with diabetes are related to several problems, including peripheral neuropathy, peripheral vascular disease, and infection (3). For example, peripheral neuropathy may result in loss of sensation in the feet and the development of foot deformities; these deformities, in turn, can cause pressure points that may ulcerate. Inadequate blood supply and infection may then result in osteomyelitis and gangrene that necessitate LEA.

Based on national surveillance data, in 1987 there were approximately 56,000 LEAs among persons with diabetes in the United States – a hospital discharge rate of 8.2 per 1000 persons with diabetes (4). One of the national health objectives for the year 2000 is to reduce this rate to 4.9 per 1000 persons with diabetes (5). The risk for LEA within the population with diabetes increases by age and by the duration of diabetes. Therefore, to achieve the national objective, clinicians must promptly identify persons

		Male	Female					
Age (yrs)	RR	(95% CI <sup>+</sup> )	RR	(95% CI)				
≤44	84.9	(48.6–148.4)	218.1	(123.6-384.7)				
45-64	35.5	(25.5- 49.5)	43.1	(26.5-70.1)				
65-74	15.3	(11.1 - 21.1)	16.2	(10.9-24.1)				
≥75	7.1	(5.3-9.5)	6.0	( 4.5– 8.1)				
Total	48.0	(40.6 56.7)	39.2	( 32.4– 47.5)				

TABLE 1. Re	lative ris	sk (RR)*	for	nontraumatic	amputations	among	persons	with
diabetes, by	age and	sex - W	/ash	ington state, 1	1988	-	-	

\*Based on a comparison with persons without diabetes. \*Confidence interval.

<sup>\*</sup>The risk for LEA among persons with diabetes appears greatest for those aged <45 years because few persons without diabetes account for nontraumatic LEA in that age group. When the risk is calculated only for persons with diabetes, the risk increases with age.

### Lower Extremity Amputations - Continued

who are at increased risk, take measures to both treat and prevent foot ulcers, and prevent the recurrence of foot ulcers (6).

In the United States, an estimated 44%–85% of LEAs among persons with diabetes can be prevented with improved foot-care programs (7). This will require clinicians to provide patients with information about proper foot care and the need for daily foot inspection as well as intensified collaboration among medical and public health practitioners. For example, CDC has provided recommendations for identifying when patients' feet are at increased risk, preventing and treating foot ulcers, halting the recurrence of foot ulcers, and educating patients and their families about proper foot care (8).

State and county surveillance data, such as those developed by the Washington Department of Health, will assist public health practitioners and health-care providers in directing services to the populations with greatest need and track progress toward the year 2000 objective. By using this approach, 44%–85% of all diabetes-related LEAs in the United States may be prevented (7); for example, in Washington approximately 240–460 LEAs could be prevented each year with appropriate targeting of improved foot-care programs. The Washington State Diabetes Control Program provides community health centers and hospitals with educational materials and technical assistance to prevent diabetes-related LEAs; based on the analysis in this report, such resources can be targeted especially toward counties that have high rates of diabetes-related LEAs.

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## Sensitivity of Death Certificate Data for Monitoring Diabetes Mortality – Diabetic Eye Disease Follow-Up Study, 1985–1990

Although death certificates are a primary source of data for characterizing mortality patterns in the United States, the underreporting of diabetes as a cause of death limit the use of death certificates for monitoring diabetes mortality (1). To determine whether diabetes was underreported on the death certificates of patients

### Diabetes Mortality - Continued

with known diabetic eye disease, CDC analyzed data from death certificates for persons identified as deceased by the Diabetic Eye Disease Follow-Up Study (DEDFUS).\*

DEDFUS was designed to determine adherence to recommended eye-treatment protocols and to measure changes in visual acuity among participants who were first evaluated from 1985 through 1987 in diabetes-control programs (DCPs). A stratified probability sample (n = 569) was selected from persons with diabetes who had been 1) identified at high risk<sup>†</sup> for blindness and 2) screened for or diagnosed with eye disease by DCPs in Colorado, Florida, Maryland, and Minnesota.

For this analysis, during September 1989–December 1990, DCP staff attempted to interview and obtain medical record information for the 569 persons in the sample from the four states; vital records in the four states were searched for those patients who had died or were lost to follow-up. CDC's National Center for Health Statistics coded the death certificates by the underlying causes of death according to the *International Classification of Diseases, Ninth Revision*.

Of the 569 persons, 74 (13%) had died during 1985–1990 (Table 1). Of these, CDC was able to obtain death certificates for 59 (80%) patients (15 death certificates were unavailable at the time of the analysis). Overall, cardiovascular disease, particularly heart disease, was the most common underlying cause of death (28 [48%] deaths). Diabetes was mentioned as either the underlying or contributory cause on 28 (48%) of the 59 death certificates and listed as the underlying cause on 10 (36%) of these 28. The proportion of death certificates listing diabetes as a contributory cause of death was statistically greater (p<0.01; 1-sided Fisher exact test) if cardiovascular disease was given as the underlying cause of death than if other causes were given (50%)

				Death certificates obtained							
State	Sample Size	No.	vn deceased % of state sample	No.	Frequency of any mention <sup>†</sup> of diabetes (%)	Median age at death (yrs)					
Colorado	155	20	12.9	18	44.4	67					
Florida	162	20 <sup>§</sup>	12.3	15 <sup>§</sup>	46.7	67					
Maryland	228	32	14.0	24	45.8	66					
Minnesota	24	2	8.3	2	100.0	35					
Aggregate	569	74	13.0	59	47.5	67					

# TABLE 1. Reported deaths among persons known to have diabetes\* and frequency with which diabetes was reported on death certificates – selected states, 1989–1990

\*From a stratified probability sample derived from persons identified by the Diabetic Eye Disease Follow-Up Study who were interviewed or for whom a death certificate was available. \*As either an underlying or contributory cause.

<sup>§</sup>Includes one patient for whom interview data were obtained.

<sup>\*</sup>Seventy percent of the study's population (95% confidence interval = 64%–76%) was diagnosed with eye disease (i.e., nonproliferative diabetic retinopathy, preproliferative diabetic retinopathy, proliferative diabetic retinopathy, diabetic maculopathy, cataracts, or glaucoma) at or within 1 year of evaluation by a diabetes-control program.

<sup>&</sup>lt;sup>†</sup>Considered at high risk were postpubertal persons who had not received an eye examination in the past 12 months and who had either type II diabetes or type I diabetes for 5 or more years.

## Diabetes Mortality - Continued

versus 19%, respectively). The frequency of any mention of diabetes was 53% for whites, 50% for Hispanics, and 33% for blacks.

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**Editorial Note:** When compared with studies of diabetes-related mortality in the general population, diabetes appears to be recorded more often on the death certificates of persons from the DEDFUS sample (48% versus 40%) (2–4). Nonetheless, the findings in this report indicate that even though DEDFUS patients were known to have diabetes, diabetes was substantially underreported in the DEDFUS sample. This underreporting limits the use of death certificates for monitoring diabetes mortality, even for persons with a recognized complication of diabetes. Factors associated with underreporting of diabetes-related mortality include the specific underlying cause of death (2,5) and the duration of the disease (6).

To plan and implement public health programs for control of diabetes, national and state health officials need to be able to measure accurately the magnitude of the disease burden. Therefore, physicians and other medical personnel are urged to record diabetes on death certificates, when appropriate, to assist in public health surveillance for and efforts to better characterize this disease. Additional efforts will be necessary to determine factors affecting the recording of diabetes on death certificates.

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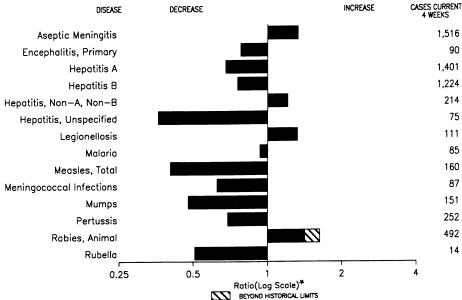
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# Health Objectives for the Nation

# Body-Weight Perceptions and Selected Weight-Management Goals and Practices of High School Students – United States, 1990

Among adults, overweight is associated with elevated serum cholesterol levels, elevated blood pressure, and noninsulin-dependent diabetes and is an independent risk factor for coronary heart disease (1). Youth who are overweight and remain overweight as adults may increase their risk for certain chronic diseases in adulthood (1). However, overemphasis on thinness during adolescence may contribute to potentially harmful weight-management practices and eating disorders such as

(Continued on page 747)



# FIGURE I. Notifiable disease reports, comparison of 4-week totals ending October 26, 1991, with historical data - United States

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

# TABLE I. Summary – cases of specified notifiable diseases, United States, cumulative, week ending October 26, 1991 (43rd Week)

	Cum. 1991		Cum. 1991
AIDS	35,807	Measles: imported	198
Anthrax	-	indigenous	8,623
Botulism: Foodborne	17	Plague	8
Infant	62	Poliomyelitis, Paralytic*	-
Other	6	Psittacosis	70
Brucellosis	69	Rabies, human	3
Cholera	21	Syphilis, primary & secondary	34,308
Congenital rubella syndrome	17	Syphilis, congenital, age < 1 year <sup>†</sup>	1,535
Diphtheria	2	Tetanus	41
Encephalitis, post-infectious	66	Toxic shock syndrome	241
Gonorrhea	488.748	Trichinosis	61
Haemophilus influenzae (invasive disease)	2,295	Tuberculosis	18,598
Hansen Disease	115	Tularemia	169
Leptospirosis	48	Typhoid fever	375
Lyme Disease	7,594	Typhus fever, tickborne (RMSF)	587

\*Four suspected cases of poliomyelitis have been reported in 1991; none of the 8 suspected cases in 1990 have been confirmed to date. Five of the 13 suspected cases in 1989 were confirmed and all were vaccine associated. Includes updates for first two quarters of 1991.

		Aseptic	Encephalitis				н	epatitis (\	type		<u> </u>	
Reporting Area	AIDS	Menin- gitis	Primary	Post-in- fectious	Gond	orrhea	A	В	NA,NB	Unspeci- fied	Legionel- losis	Lyme Disease
	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991
UNITED STATES	35,807	12,096	786	66	488,748	561,861	19,273	13,810	2,501	995	1,003	7,594
NEW ENGLAND	1,475	1,368	28	1	12,114	15,330	478	683	58	26	68	1,338
Maine N.H.	51 36	144 161	3 5	-	132 167	181 228	18 30	18 29	2	-	2	-
Vt.	17	221	5	-	45	46	23	29 15	ź	1	8 4	35 7
Mass. R.I.	799 78	455 380	12 1	1	5,158	6,410	226	473	29	22	49	246
Conn.	494	380	2	-	1,061 5,551	1,005 7,460	88 93	22 126	11 2	3	5	120 930
MID. ATLANTIC	9,442	2,352	59	11	57,532	73,333	1,950	1,341	298	18	283	4,638
Upstate N.Y. N.Y. City	1,303 5,242	1,188 331	31 1	7	11,126	12,109	744	496	167	10	96	3,053
N.J.	1,980		-	-	21,008 9,639	29,995 12,460	691 221	213 317	8 80	-	48 29	- 754
Pa.	917	833	27	4	15,759	18,769	294	315	43	8	110	831
E.N. CENTRAL Ohio	2,499 476	2,357 896	231 81	7	91,134 28,489	109,179 33,223	2,489 325	1,594 347	390	59	203	274
Ind.	231	170	21	1	9,856	9,419	325	178	153 1	19 1	98 17	143 10
III.	1,203	400	74	4	27,887	33,799	1,051	238	62	ż	18	21
Mich. Wis.	417 172	776 115	50 5	-	19,420 5,482	25,325 7,413	248 537	519 312	114 60	32	39 31	100
W.N. CENTRAL	1,000	607	57	7	24,303	28,969	1,954	602	252	23	55	- 287
Minn.	200	120	35	-	2,592	3,520	353	67	11	23	12	287
lowa	84	138		4	1,612	1,974	47	38	9	4	11	18
Mo. N. Dak.	576 4	238 9	12 2	3	14,941 49	17,395 116	531 38	403 4	222	12 1	14 1	171 1
S. Dak.	3	11	4	-	303	254	722	7	1		3	1
Nebr.	45	25	2	-	1,474	1,564	185	35	1	-	9	-
Kans.	88	66	2	•	3,332	4,146	78	48	4	4	5	18
S. ATLANTIC Del.	8,531 67	2,163 64	153 2	29	146,609	159,083	1,524	2,909	315	198	160	594
Md.	805	268	22	1	2,416 16,317	2,685 19,620	242	43 329	5 44	2 14	2 34	54 244
D.C.	572	66	2	:	7,636	10,924	66	128	1	1	7	2
Va. W. Va.	599 49	380 39	38 27	3	15,316 1,042	15,360 1,118	155 20	185 56	25 2	128	13 2	128
N.C.	475	301	29	-	29,870	24,536	150	466	103	14	19	38 73
S.C.	277	40	-	-	12,092	12,663	37	588	16	3	33	10
Ga. Fla.	1,161 4,526	283 722	9 24	2 23	32,209 29,711	34,283 37,894	196 651	447 667	59 60	36	15 35	27 18
E.S. CENTRAL	845	727	37		46.853	48,487	212	1,156	334	3	49	97
<u>К</u> у.	132	177	12	-	5,018	5,432	51	150	7	ž	17	40
Tenn. Ala.	283 255	208 272	17 8	-	16,664 13,263	15,232 15,880	116 35	854 141	301	:	17	43
Miss.	175	70	-	-	11,908	11,943	35 10	141	22 4	1	14 1	14
W.S. CENTRAL	3,454	1,185	103	4	56,030	61,212	2,564	1,808	109	196	41	72
Ark. La.	164 570	58 118	32 16	-	6,613 12,848	7,278 11,521	234 112	107	3	6	7	27
Okla.	161	4	8	3	5,854	5,335	242	265 171	6 44	8 16	7 17	3 31
Tex.	2,559	1,005	47	1	30,715	37,078	1,976	1,265	56	166	10	11
MOUNTAIN Mont.	1,040 25	230 18	17 1	2	9,901 82	11,769 172	3,001	833	163 4	130	70	17
Idaho	20		-	-	130	120	74 78	63 65	4	5 1	5 3	2
Wyo.	15	-	-	-	83	146	102	11	3	-	-	8
Colo. N. Mex.	374 95	90 20	7	1	2,725 848	3,442 1,032	519 735	121	81	24	14	-
Ariz.	216	54	9	1	3,726	4,457	735 954	197 147	15 18	29 56	3 27	-
Utah	84	16	-	-	266	324	251	64	14	14	7	1
Nev.	211	32	•	•	2,041	2,076	288	165	25	1	11	6
PACIFIC Wash.	7,521 456	1,107	101 8	5 1	44,272 3,773	54,499 4,740	5,101 456	2,884 372	582 123	342 19	74	277
Oreg.	229	-	-		3,773	4,740 2,115	456 336	372 254	123	19	8 2	3
Calif.	6,683	1,018	91	4	37,437	46,115	4,179	2,186	334	314	62	274
Alaska Hawaii	18 135	45 44	2	-	741 619	996 533	87 43	32 40	13 4	1	2	-
Guam	2	-		-	-	246		-	-	-	-	_
P.R.	1,487	212	2	3	457	637	115	412	153	44	-	
V.I.	14	-	-	-	309	380 73	1	9	-	-	-	-
Amer. Samoa	-											

# TABLE II. Cases of selected notifiable diseases, United States, weeks ending October 26, 1991, and October 27, 1990 (43rd Week)

N: Not notifiable

U: Unavailable

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

	r						tober 2		•	r					
	Malaria	India	Meas enous	les (Ru Impo		Total	gococcal	Mu	mps		Pertussi	5		Rubella	
Reporting Area	Cum. 1991	1991	Cum. 1991	1991	Cum. 1991	Cum. 1990	Infections Cum. 1991	1991	Cum. 1991	1991	Cum. 1991	Cum. 1990	1991	Cum. 1991	Cum. 1990
UNITED STATES	989	82	8,623	5	198	23,961	1,676	41	3,277	37	2,179	3,552	5	1,283	1,029
NEW ENGLAND	64	-	62	-	17	292	133	-	25	6	250	357	-	4	8
Maine N.H.	1	-	7	-	-	30 9	11 13	-	4	1	52 18	16 51	-	1	1
Vt. Mass.	4 30	-	5 26	-	11	1 29	14 75	-	4 1	- 5	4 153	7 252	-	2	2
R.I.	7	-	3	-	1	30	1	-	4 12	-	23	6 25	-	- 1	1 3
Conn. MID. ATLANTIC	20 178	- 26	21 4,481		5 7	193 1.523	19 182	5	254	5	177	476	-	561	11
Upstate N.Y.	44 72	-	334	-	4	318 443	93	1	92	4	118	309	-	539	10
N.Y. City N.J.	48	25	1,750 858	-	2	377	13 37		58	-	1	35	-	-	1
Pa. E.N. CENTRAL	14 78	1 3	1,539 75	-	1 20	385 3,538	39 276	4 7	104 331	1 5	51 357	132 915		22 317	162
Ohio	19	3	4	5 5†§	7	539	85	2	81	•	100	198	-	283	131
Ind. III.	3 28	-	1 25	-	5 1	418 1,356	28 78	-	8 120	5	69 55	124 341		2 6	19
Mich. Wis.	25 3	:	43 2	-	7	473 752	62 23	5	99 23	-	37 96	74 178	-	25 1	9 3
W.N. CENTRAL	34		39	-	16	860	96	3	108	3	174	190	-	18	40
Minn. Iowa	11 6		12 17	-	15	374 26	20 13	:	20 20	:	69 20	37 18	-	6 6	34 4
Mo. N. Dak.	7	-	-	-	1	101	32 1	1	33 2	2	58 3	103 3	-	5 1	1
S. Dak.	2		- 1	-	-	23 106	2	1	2	-	4	1	-	-	1
Nebr. Kans.	1 6	-	9	-	-	230	22	1	25	1	11	21	-	-	-
S. ATLANTIC	205 2	4	481 21	-	23	1,295 11	302	13	1,161 6	1	216	286 8	1	9	20
Del. Md.	55		173		3	212	31	7	226	-	54	61		1	2
D.C. Va.	13 47	:	- 25	-	5	22 86	13 31	-	23 53	:	1 18	14 18	2	1	1
W. Va. N.C.	3 13	-	- 40	-	4	6 30	13 51	3 1	25 239	-	9 34	28 72	-	2	:
S.C.	10	-	13	-	-	4	29	-	358 40	-	12	5		-	- 1
Ga. Fla.	18 44	4	10 199	-	5 6	358 566	60 72	2	191	1	42 46	32 48	1	5	15
E.S. CENTRAL	20	20	30	-	3 1	199	107	4	170	1	90	143	-	100	4
Ky. Tenn.	2 11	20	23 6	-	1	43 104	37 36	3	138	-	38	71		100	3
Ala. Miss.	7	:	1	-	1	25 27	32 2	1	12 20	1	50 2	64 8	:	-	-
W.S. CENTRAL	64	-	186	-	14	4,274	121	4	300	1	138	183	-	7	66
Ark. La.	9 17	-		2	5	48 10	20 32	1	43 29	:	9 16	21 30	2	1	3
Okla. Tex.	7 31	-	186	:	- 9	174 4,042	13 56	4	15 213	1	39 74	52 80	-	- 6	1 62
MOUNTAIN	42	26	1,228	-	19	935	63	-	273	9	299	282	1	25	109
Mont. Idaho	1 3	1	444	-	2	1 26	10 7	:	- 8	:	4 27	35 52	:	:	14 49
Wyo.	11	Ú	1	U	25	15	1 12	U	4 127	U 3	3 122	93	U	-	-
Colo. N. Mex.	6	-	1 117	-	5	138 93	8	N	N	1	42	18	1	2 3	4
Ariz. Utah	15 5	25	427 220	-	4	303 128	19	-	108 13	5	62 37	49 31	:	2 11	32 2
Nev.	1	-	18	-	1	231	6	-	13	-	2	4	-	7	8
PACIFIC Wash.	304 21	3	2,041 46	-	79 15	11,045 254	396 53	5	655 166	6 1	478 127	720 195	3	242 8	609
Oreg. Calif.	11 268	2	52 1,933	-	38 14	212 10,465	50 282	N 5	N 452	4	64 220	90 351	- 3	4 224	74 520
Alaska	- 4	- 1	1,555	-	39	80	9	-	12 25	1	13	7	-	1	-
Hawaii Guam	4	U	• -	U	9	34 1	2	U	20	υ	54	77	- U	5	15
P.R. V.I.	1	Ū	93	Ū	1	1,657	18	Ū	10 9	Ū	50	11	-	1	•
Amer. Samoa	2	U	-	Ŭ	2	24 566	-	Ū	-	Ū	-	-	U U	-	
C.N.M.I.	-	U	-	U	-	8	-	υ	-	U	-	4	U	-	

# TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending October 26, 1991, and October 27, 1990 (43rd Week)

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

N: Not notifiable U: Unavailable <sup>†</sup>International <sup>§</sup>Out-of-state

Reporting Area	Syp (Primary &		Toxic- shock Syndrome	Tuber	culosis	Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal	
	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	
UNITED STATES	34,308	40,714	241	18,598	19,196	169	375	587	5,409	
NEW ENGLAND	858	1,401	13	534	470	5	32	9	98	
Maine N.H.	1	7	4	33	18	-	1	-	-	
Vt.	12	47 1	2	5 8	3 8	-	1	•	2	
Mass.	405	562	7	283	243	5	27	- 8	14	
R.I. Conn.	45 393	19 765	-	69 136	61 137	-	-	-	-	
MID. ATLANTIC	5,834	7,791	38	4,280	4,590	2	3 89	1	82	
Upstate N.Y.	118	742	17	275	4,590	1	89 17	23 12	1,870 731	
N.Y. City	3,292	3,714	2	2,669	2,873	-	50	1	/31	
N.J. Pa.	1,064 1,360	1,247 2,088	19	749 587	789	1	16	6	845	
E.N. CENTRAL					605	-	6	4	294	
Ohio	4,169 543	2,925 443	47 21	1,865 288	1,873 329	7	30	41	159	
Ind.	148	79	-	188	177	1	3	24 10	18	
10.	2,003	1,235	15	958	950	4	10	4	26 34	
Mich. Wis.	1,025 450	832	11	346	350	2	12	3	33	
		336	-	85	67	-	5	-	48	
W.N. CENTRAL Minn.	670	440	37	427	500	48	6	36	730	
lowa	59 62	77 66	8	86 55	97	1	2	-	262	
Mo.	446	230	12	189	50 253	38	1	1 24	145 19	
N. Dak.	-	1	-	6	17	-	-	- 24	82	
S. Dak. Nebr.	1	2	1	29	12	5	-	1	154	
Kans.	12 90	14 50	1 8	15 47	16 55	1 3	3	5 5	16	
S. ATLANTIC	10.054	13.058	23				-		52	
Del.	144	156	23	3,530 28	3,557 33	4	65	271	1,269	
Md.	814	994	1	320	274	-	10	27	147 476	
D.C.	614	951	1	154	132	-	2		15	
Va. W. Va.	741 26	791 18	5	276	319	-	9	18	217	
N.C.	1,653	1,478	10	60 462	61 481	1	1 4	4 149	47	
S.C.	1,286	887	2	344	401	i	4	35	19 92	
Ga. Fla.	2,447 2,329	3,300	-	692	588	1	5	35	228	
	-	4,483	3	1,194	1,268	1	30	3	28	
E.S. CENTRAL Ky.	3,728 89	3,775	9	1,244	1,376	19	2	93	138	
Tenn.	1.256	86 1,580	4 5	289 389	314 372	4 14	2	25	40	
Ala.	1,331	1,140	-	310	417	1	-	52 16	29 69	
Miss.	1,052	969	•	256	273	-	-	-		
W.S. CENTRAL	6,216	7,057	14	2,257	2,287	51	25	103	519	
Ark. La.	578 2,290	447 2,262	3	190	285	38	-	26	39	
Okla.	167	2,202	4	197 143	251 169	12	5	-	5	
Tex.	3,181	4,135	7	1,727	1,582	1	17	75 2	151 324	
MOUNTAIN	502	742	30	498	464	28	12	8	223	
Mont.	6	-	1	6	22	9		6	38	
ldaho Wyo.	4 9	6 3	-	8	10	:	-	-	6	
Colo.	66	44	5	4 57	5 42	1 9	2	-	77	
N. Mex.	28	40	7	58	86	2	2	2	25 5	
Ariz. Utah	303	531	5	262	206	2	7		43	
Nev.	6 80	17 101	12	40 63	37 56	5	1	-	18	
PACIFIC	2,277		-				-	-	11	
Wash.	139	3,525 330	30 4	3,963 250	4,079 226	5 2	114	3	403	
Oreg.	74	118	-	106	104	2	6 5	2 1	1	
Calif. Alaska	2,053	3,042	26	3,398	3,549	ī	95	-	5 393	
Hawaii	4	17 18	-	49 160	52 148	-	-	-	3	
Guam		2	-	100		-	8	-	1	
P.R.	349	291	-	203	36 95	-	9	-	-	
V.I.	85	12	-	2	4	-	-	-	54	
Amer. Samoa C.N.M.I.		- 3	-	-	15	-	-	-	-	
	-	3	-	-	48			-		

# TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending October 26, 1991, and October 27, 1990 (43rd Week)

U: Unavailable

.

	October 26, 1991 (43rd Week)														
	Т	All Ca	uses, B	y Age	(Years)		P&I <sup>†</sup>			All Cau	ises, B	y Age (	Years)		P&I
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	Total
NEW ENGLAND	570	400		38	10	12	36	S. ATLANTIC	1,358	818			43	37	80
Boston, Mass.	140	88 23		17	5	2	11	Atlanta, Ga.	159	95		25	1	1	5
Bridgeport, Conn. Cambridge, Mass.	36 27	23		2	1	1	1 6	Baltimore, Md. Charlotte, N.C.	187 96	122 52				3	18 3
Fall River, Mass.	19	14		ī	-	-	-	Jacksonville, Fla.	112	64				4	15
Hartford, Conn.	69	41		7	1	2	-	Miami, Fla.	88	49			4	1	-
Lowell, Mass.	16	12		1	-	-	2	Norfolk, Va.	47	33			2	1	2
Lynn, Mass. New Bedford, Mass.	19 22	17 17		-	1	-	3	Richmond, Va. Savannah, Ga.	97 78	53 50			3 5	11 4	4 8
New Haven, Conn.	35	30		2	-	-	2	St. Petersburg, Fla.	57	40			2	2	1
Providence, R.I.	36	26	7	2	1	-	-	Tampa, Fla.	162	118	29		3	5	16
Somerville, Mass.	4	3		:	-	-	-	Washington, D.C.	257	130			14	5	8
Springfield, Mass.	58 24	45 19		2	1	1	2 1	Wilmington, Del.	18	12	5	1	-	•	-
Waterbury, Conn. Worcester, Mass.	24 65	44		3	-	6	8	E.S. CENTRAL	742	490			22	20	54
				-	~~~		-	Birmingham, Ala.	110	70			1	4	5
MID. ATLANTIC Albany, N.Y.	3,212 50	2,055 33		398 5	68 3	79 1	156 3	Chattanooga, Tenn. Knoxville, Tenn.	65 60	53 43			1	1	5 7
Allentown, Pa.	26	23		-		-	-	Louisville, Ky.	85	54			8		5
Buffalo, N.Y.	100	78	10	8	1	3	6	Memphis, Tenn.	130	76		13	5	5	13
Camden, N.J.	39	17		5	2	3	-	Mobile, Ala.	108	79			1	-	9
Elizabeth, N.J.	41	27		5	-	-	:	Montgomery, Ala.	49	34				5	3
Erie, Pa.§ Jersey City, N.J.	32 118	22 74		1 13	2	2 5	1	Nashville, Tenn.	135	81		12		5	7
New York City, N.Y.		1,165		266	39	34	75	W.S. CENTRAL	1,459	882			68	39	92
Newark, N.J.	66	24		13	1	6	4	Austin, Tex.	74	46			4	-	4
Paterson, N.J.	32	22		4	-	1	4	Baton Rouge, La. Corpus Christi, Tex.	52 37	30 18		6 5	3	2 3	1
Philadelphia, Pa.	405	248		44	13	16	15	Dallas, Tex.	221	132			10	6	6
Pittsburgh, Pa.§ Reading, Pa.	83 32	56 22		6 2	1	3	8 9	El Paso, Tex.	65	41		7	2	6	4
Rochester, N.Y.	126	92		ŝ	i	2	8	Ft. Worth, Tex.	109	78			3	2	7
Schenectady, N.Y.	21	17	3	1	-	-	2	Houston, Tex.	372	197			21	11	41
Scranton, Pa.§	33	25		1	-	-	6	Little Rock, Ark. New Orleans, La.	51 115	36 67		4 19	1	2	5
Syracuse, N.Y.	69	48		6	2	2	3	San Antonio, Tex.	182	109				3	7
Trenton, N.J. Utica, N.Y.	32 29	21 21		2 5	-	1	3 1	Shreveport, La.	79	58				-	11
Yonkers, N.Y.	23	20		2			4	Tulsa, Ökla.	102	70	20	6	3	3	6
E.N. CENTRAL	2,084	1.302	410	208	107	57	112	MOUNTAIN	827	535			27	29	36
Akron, Ohio	78	44		- 8	5	5		Albuquerque, N.M.	93	55		6	8	3	3
Canton, Ohio	30	15		6	1	-	4	Colo. Springs, Colo. Denver, Colo.	33 123	15 73		8 13		6	5 9
Chicago, III.	298	122		63	41	8	15	Las Vegas, Nev.	174	111				4	6
Cincinnati, Ohio Cleveland, Ohio	131 163	82 102		8 17	5 4	7	12 2	Ogden, Utah	24	19			-		ĭ
Columbus, Ohio	167	112		17	6	2	5	Phoenix, Ariz.	190	118			9	13	4
Dayton, Ohio	101	74		7	4	-	8	Pueblo, Colo.	31	24			1		-
Detroit, Mich.	233	145		26	13	4	4	Salt Lake City, Utah Tucson, Ariz.	42 117	26 94				1	2 6
Evansville, Ind.	53 59	30		3	2	3	2								
Fort Wayne, Ind. Gary, Ind.	59 18	43 7		4	3	2	3	PACIFIC Berkeley, Calif.	1,376 26	900				46	98
Grand Rapids, Mich.	68	49		4	1	1	10	Fresno, Calif.	20 81	18 56				1	12
Indianapolis, Ind.	219	150		21	Ż	Ż	16	Glendale, Calif.	Ŭ	Ű				່ບ່	ΰ
Madison, Wis.	51	30		6	3	3	3	Honolulu, Hawaii	92	61			-	3	10
Milwaukee, Wis.	116	80		4	2	2	6	Long Beach, Calif.	93	59				5	15
Peoria, III. Rockford, III.	50 44	35 27		3	1	3 3	2 5	Los Angeles, Calif. Oakland, Calif.	UU	U				U.	U
South Bend, Ind.	49	42		1	i		6	Pasadena, Calif.	35	26				U 2	U 4
Toledo, Ohio	103	69		4	7	3	7	Portland, Oreg.	125	95				2	4
Youngstown, Ohio	53	44	4	4	-	1	2	Sacramento, Čalif.	150	102	25		2	5	
W.N. CENTRAL	863	629	123	66	26	19	41	San Diego, Calif.	189	104		23	7	16	16
Des Moines, Iowa	72	63	2	1	5	1	5	San Francisco, Calif.		90				1	2
Duluth, Minn.	34	24		2	1	-	4	San Jose, Calif. Seattle, Wash.	176 129	114 88				6	
Kansas City, Kans.	30 117	21		2	1	-	Ē	Spokane, Wash.	50	37				4	2 6
Kansas City, Mo. Lincoln, Nebr.	29	79 22		13 2	1	6 1	5 2	Tacoma, Wash.	71	50				1	
Minneapolis, Minn.	218	160		19	4	2	14	TOTAL	12,491 <sup>¶</sup>			1,317	-	338	
Omaha, Nebr.	79	59		4	3	-	2			0,011	£,+10	1,317	402	338	705

# TABLE III. Deaths in 121 U.S. cities.\* week ending

\*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.

2

tPneumonia and influenza.

74

54

156

106 24 14 5 7

55 8 5 ã ż 6

40 8 4 2 -1

Secause 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

St. Louis, Mo.

St. Paul, Minn.

Wichita, Kans.

# Weight Perceptions and Management - Continued

anorexia nervosa and bulimia nervosa (2,3). This report presents self-reported body-weight perceptions and selected weight-management goals and practices among high school students in the United States.

The national school-based Youth Risk Behavior Survey (YRBS) is a component of CDC's Youth Risk Behavior Surveillance System, which periodically measures the prevalence of priority health-risk behaviors among youth through comparable national, state, and local surveys (4). A three-stage sample design was used to obtain a representative sample of 11,631 students in grades 9-12 in the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. To obtain body-weight perceptions, students were asked, "Do you think of yourself as too thin (underweight), about the right weight, or too fat (overweight)?" Weight-management goals of students were determined from responses to the question, "Which of the following are you doing about your weight: not trying to do anything about weight, trying to lose weight, trying to keep from gaining more weight, or trying to gain more weight?" Students were asked four separate questions about their weight-management practices: "During the past 7 days, how many times did you [take a diet pill, vomit on purpose, or exercise] to try to lose weight or to keep from gaining weight?" and "During the past 7 days, how many meals did you skip to try to lose weight or to keep from aaining weight?"

Male students were significantly more likely to consider themselves either the right weight (68.8%) or underweight (16.5%) than were female students (58.5% and 7.2%, respectively) (Table 1). Among both male and female students, black students were significantly less likely to consider themselves overweight than were white and Hispanic students.

Overall, female students were significantly more likely to report currently trying to lose weight (43.6%) than were male students (15.3%) (Table 2). Moreover, 27.4% of female students who considered themselves the right weight reported currently trying to lose weight. Female students were significantly more likely than male students to report having exercised, skipped meals, taken diet pills, or induced vomiting for weight management during the 7 days preceding the survey or ever (Table 2).

Reported by: Div of Adolescent and School Health and Div of Nutrition, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Overweight, inappropriate weight-management practices, and eating disorders among adolescents are important public health concerns in the United

			Fe	male		Male							
Race/	Und	erweight	Righ	Right weight		rweight	Und	erweight	Righ	t weight	Overweight		
Ethnicity	%	(95% CI <sup>+</sup> )	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	
White	5.4	(±0.9)	58.0	(±2.6)	36.7	(±2.1)	15.6	(±1.4)	68.6	(±2.3)	15.8	(±1.8)	
Black	12.7	(±3.0)	62.0	(±5.0)	25.3	(±4.3)	19.8	(±3.9)	72.5	(±4.4)	7.8	(±2.0)	
Hispanic	10.5	(±3.8)	53.0	(±5.7)	36.5	(±4.7)	18.5	(±2.8)	66.6	(±2.5)	14.8	(±2.8)	
Total	7.2	(±0.7)	58.5	(±2.0)	34.3	(±1.7)	16.5	(±1.1)	68.8	(±1.8)	14.7	(±1.4)	

TABLE 1. Body-weight perceptions of high school students, by race/ethnicity and
gender – United States, Youth Risk Behavior Survey, 1990*

\*Unweighted sample size = 11,631 students.

<sup>†</sup>Confidence interval.

### Weight Perceptions and Management - Continued

States (1,2,5). Consequently, national health objectives for the year 2000 are to "reduce overweight to a prevalence of no more than 15 percent among adolescents aged 12 through 19" (objective 2.3) (6), and to "increase to at least 50 percent the proportion of overweight people aged 12 and older who have adopted sound dietary practices combined with regular physical activity to attain an appropriate body weight" (objective 2.7) (6). Because height and weight are not measured, the YRBS cannot directly monitor these two objectives. However, data about self-reported body-weight perceptions and weight-management goals and practices provide important information to plan programs to help students maintain a healthy body weight through appropriate weight-management skills.

Race- and ethnicity-specific differences in perceptions of overweight described in this report are consistent with previous findings (7) that showed white and Hispanic females perceive themselves to be overweight more often than black females. Previous studies (5) also have indicated that normal-weight adolescent females often consider themselves to be overweight and use inappropriate weight-reducing methods. In addition, harmful weight-loss practices and negative attitudes about body size have been reported among girls as young as 9 years of age (8).

Serious long-term adverse health consequences may result from unhealthy weight-loss behaviors among youth. For example, nutritional self-deprivation by and recurrent weight fluctuations in children and adolescents may increase the likelihood of weight gain and obesity in adulthood (8). In addition, unhealthy weight-loss behaviors may be associated with nutritional deficiencies, decreases in growth velocity, and delays of pubertal and psychosocial development (8).

National health objectives for the year 2000 that address these issues include plans for sound school breakfast and lunch menus, nutrition education, and appropriate physical activity. To encourage nutritionally sound eating habits, school breakfast and lunch programs should offer menus that are consistent with the nutrition principles in the *Dietary Guidelines for Americans* (objective 2.17) (6). Nutrition education should be provided from preschool through 12th grade, preferably as part of quality school health education (objective 2.19) (6). In addition, daily school physical education (objective 1.8) (6) should help young persons develop a healthy body weight through physical activity.

The high prevalence of body weight dissatisfaction and the potentially harmful weight-loss practices among female students described in this report underscore the potential influences of social norms that equate thinness with attractiveness and social approval. To ensure appropriate weight-management practices among adolescents, educational programs about assessment and maintenance of healthy body weight should involve families; teachers; school administrators, nurses, and counselors; public health officials; pediatricians; and family physicians. This goal also can be addressed through family-based adolescent obesity programs (9) that support body weight acceptance and the adoption of healthy dietary and physical activity patterns.

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				Ferr	nale				Male							
	Unc	lerweight	Righ	t weight	Ove	rweight		Total	Und	erweight	Righ	t Weight	Ove	erweight	•	Total
Category	%	(95% CI <sup>†</sup> )	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI
Goals Not trying to do anything about weight	27.6	(±8.4)	34.0	(±2.6)	4.4	(±1.0)	23.4	(±2.0)	20.5	(±4.5)	55.9	(±2.9)	12.2	(±2.6)	43.6	(±2.5)
Trying to lose weight	3.6	(±2.9)	27.4	(±2.9)	79.6	(±2.0)	43.6	(±2.5)	1.2	(±0.9)	7.6	(±1.0)	66.9	(±3.2)	15.3	(±1.4)
Trying to keep from gaining more weight	3.2	(±2.3)	35.4	(±2.3)	15.8	(±1.7)	26.3	(±1.6)	2.8	(±2.0)	17.4	(±1.7)	19.0	(±2.9)	15.1	(±1.6)
Trying to gain more weight	65.6	(±8.4)	3.2	(±1.1)	0.2	(±0.2)	6.6	(±1.3)	75.5	(±5.4)	19.2	(±2.5)	2.0	(±1.5)	26.0	(±2.5)
ractices <sup>\$</sup> Exercise Past 7 days	10.2 26.5	(±3.7)	46.5 77.1	(±3.3)	67.5	(±3.7)	51.0 79.5	(±2.9)	5.9	(±2.2)	26.7 41.6	(±2.4)	70.1	(±4.9)	29.6	(±1.8)
Ever <sup>¶</sup> <i>Diet pills</i> Past 7	20.5	(±7.9)	//.1	(±2.5)	94.8	(±2.2)	79.5	(±2.2)	12.9	(±2.4)	41.0	(±2.4)	90.9	(±2.7)	44.1	(±1.8)
days Ever¶	1.6 3.8	(±1.8) (±2.4)	2.0 14.7	(±0.8) (±2.2)	6.4 34.3	(±1.8) (±4.1)	3.5 20.6	(±0.8) (±2.4)	1.2 3.1	(±0.8) (±1.4)	1.0 3.8	(±0.4) (±1.2)	5.0 14.4	(±2.4) (±3.5)	1.6 5.3	(±0.6) (±1.2)
<i>Vomiting</i> Past 7																
days Ever¶	2.0 4.9	(±2.0) (±2.5)	1.4 9.4	(±0.6) (±1.6)	5.5 23.3	(±1.2) (±2.4)	2.8 13.8	(±0.6) (±1.2)	2.0 4.3	(±1.8) (±2.2)	0.8 2.5	(±0.4) (±1.0)	3.4 7.9	(±1.8) (±2.7)	1.4 3.6	(±0.4) (±1.0)
Skipping meals past																
7 days **	13.3	(±4.9)	39.6	(±2.4)	72.5	(±2.9)	49.0	(±2.0)	7.0	(±2.5)	13.3	(±1.8)	54.3	(±5.7)	18.4	(±2.0)

 TABLE 2. Selected weight-management goals and practices among high school students, by gender and by body-weight perception – United States, Youth Risk Behavior Survey, 1990\*

\*Unweighted sample size = 11,631 students.

<sup>†</sup>Confidence interval.

<sup>§</sup>Categories not mutually exclusive.

Includes number of times in past 7 days plus response category "have done this but not in the past 7 days."

\*\*Question did not include "ever" response category.

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### Weight Perceptions and Management - Continued

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### Notices to Readers

# ATSDR Training Sessions: Association Between Illness and Environmental Exposures

Health-care professionals increasingly must diagnose and treat illnesses caused by exposure to hazardous substances. On November 9 and 10, the Agency for Toxic Substances and Disease Registry will sponsor a training program to inform health professionals about using health assessments to determine the adverse health implications of hazardous exposures. The course is designed for physicians, nurses, and other public health professionals such as epidemiologists, toxicologists, and sanitarians.

The training program will include a 1-day general session to discuss the basic components of the health-assessment process and a 1-day advanced session to address specific case studies of environmental exposure. Participants will receive a syllabus containing instructional material.

The program will be held at the American Public Health Association (APHA) meeting in Atlanta. Applicants may register through the Continuing Education Program, APHA, 1015 15th Street, NW, Washington, DC 20005; telephone (202) 789-5622; fax (202) 789-5661.

# International Conference on Child Day Care Health: Science, Prevention, and Practice

On June 15–17, 1992, CDC will sponsor a conference entitled "International Conference on Child Day Care Health: Science, Prevention, and Practice" in Atlanta. The objective of the conference is to provide structured and informal opportunities to exchange information, skills, knowledge, and experiences related to child day care health. Presentations and discussion will focus on three major themes: child day care health, meeting the needs of children and care-givers, and translating science into practice. Topics for the scientific sessions will include infectious diseases; injuries

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### Notices to Readers - Continued

and hazards; health promotion; children with special needs and disabilities; environmental health; developmental and psychologic aspects; occupational health; impact of regulations, standards, accreditation, and training; and economics. The deadline for abstracts is January 15, 1992. Additional information is available from Lillian Glickman at Pace Enterprises, Inc., telephone (404) 633-8610 or fax (404) 633-8745.

## Publication of Report on Exposure to Alcoholism in the Family

CDC's National Center for Health Statistics (NCHS) has released a report presenting data on exposure to alcoholism in the family. The study, a collaborative project between NCHS's National Health Interview Survey and the National Institute on Alcohol Abuse and Alcoholism, provides new data on this public health problem.

The report, *Exposure to Alcoholism in the Family: United States, 1988* (1), is available free of charge from the Scientific and Technical Information Branch, NCHS, CDC, Room 1064, 6525 Belcrest Road, Hyattsville, MD 20782; telephone (301) 436-8500.

### Reference

### **Publication of Annual Vital Statistics Summary Report**

CDC's National Center for Health Statistics (NCHS) has released provisional data on the number and rate of births, marriages, divorces, and deaths for 1990. Monthly estimates and rates are included for each vital event.

The report presents statistics on the expectation of life, major causes of death, deaths by human immunodeficiency virus infection, and infant mortality. Data by state of occurrence are shown for birth, marriage, divorce, death, and infant death.

The report, Annual Summary of Births, Marriages, Divorces, and Deaths: United States, 1990 (1), is available free of charge from the Scientific and Technical Information Branch, NCHS, CDC, Room 1064, 6525 Belcrest Road, Hyattsville, MD 20782; telephone (301) 436-8500.

### Reference

 NCHS. Annual summary of births, marriages, divorces, and deaths: United States, 1990. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1991. (Monthly vital statistics report; vol 39, no. 13).

NCHS. Exposure to alcoholism in the family: United States, 1988. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1991. (Advance data no. 205).

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The data in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. Inquiries about the *MMWR* Series, including material to be considered for publication, should be directed to: Editor, *MMWR* Series, Mailstop C-08, Centers for Disease Control, Atlanta, GA 30333; telephone (404) 332-4555.

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