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Seat Belt Use — United States

In surveys conducted from 1981 to 1983, 76% of the U.S. adult population reported that they did not use seat belts (i.e., used seat belts sometimes, seldom, or never) (*1*). The percentages of men and women who did not use seat belts were similar, but the percentages were significantly higher for people who were younger, who were black, and who had completed fewer years of education. These differences persisted after adjusting for the other demographic characteristics (Table 1). The percentage of persons who did not use seat belts also varied widely

TABLE 1. Adjusted* percentage of adults reporting using seat belts sometimes, seldom, or never, by age, race/ethnicity, sex, and education — United States, 1981-1983†

Group	% using seat belts sometimes, seldom, or never	95% confidence interval
Sex		
Male	76.4	74.6-78.1
Female	75.2	73.7-76.7
Age (yrs.)		
18-24	81.4§	78.6-84.2
25-34	77.2	74.9-79.5
35-59	76.0	74.0-77.9
≥60	69.4§	66.2-72.6
Race/ethnicity		
White non-Hispanic	75.8§	74.5-77.1
Black	80.6§	77.7-83.6
Hispanic	67.4§	62.7-72.0
Education (grades completed)		
< 12	84.7§	82.5-86.9
12	81.8	79.6-84.0
13-15	73.7	71.0-76.4
≥16	60.3§	57.4-63.3

*Adjusted for the other demographic variables. For example, age has been adjusted for race/ethnicity, sex, and education.

†Adapted with permission (*1*).

§Differs significantly from the other categories within group (z-test at 0.05 level). For example, the percentage of white non-Hispanics differs significantly from the percentage of blacks and Hispanics.

Seat Belt Use — Continued

by state, ranging from 68% in California to 89% in Arkansas (Figure 1). Persons who exhibited another particular risk behavior, i.e., smoking, binge drinking, chronic drinking, drunk driving, overweight, or inactivity, were significantly more likely to report not using seat belts than persons who did not exhibit that particular risk behavior. For example, 80% of smokers did not use seat belts, compared with 74% of nonsmokers ($p < 0.05$).

These data were collected in the first phase of the Behavioral Risk Factor Surveillance System, a state-based surveillance system designed to monitor the prevalence of behavioral risk factors, such as smoking and failure to use seat belts. Twenty-eight states and the District of Columbia conducted population-based telephone surveys. A supplemental survey completed coverage of the remaining states.

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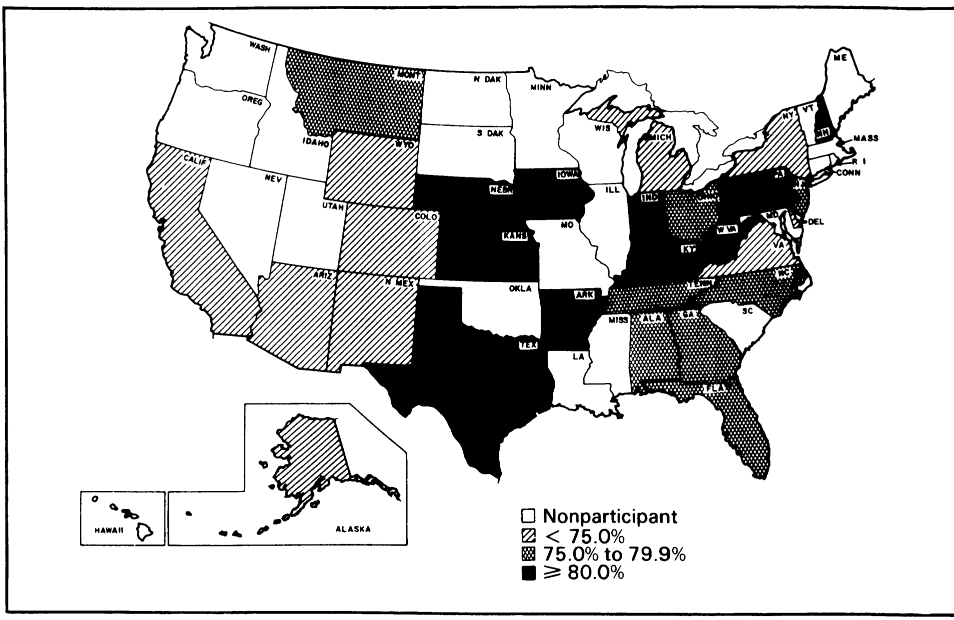
Editorial Note: Injuries from motor vehicle collisions (MVCs) are the fourth leading cause of death in the United States (*2*). In 1984, the most recent year for which complete data are available, 36,271 occupants of motor vehicles (including motorcycles) died on U.S. highways (*3*). Of these, 14,528 (28%) were under 25 years old, making MVC-associated injuries the leading cause of death among persons aged 5-24 years. In 1984, MVC-associated mortality among persons aged 15-24 years, 36.5 per 100,000, was nearly three times that associated with any other cause and accounted for more than one-third the total mortality in this age group (*2*). Because MVCs affect the young disproportionately, injuries from MVCs are the

FIGURE 1. Adjusted* percentage of adults reporting using seat belts sometimes, seldom, or never, by state — United States, 1981-1983†



*Adjusted for age, race-ethnicity, sex, and education.

†Adapted with permission (*1*).

Seat Belt Use — Continued

third leading cause of years of potential life lost (see Table V, p. 311). For 1984, MVC-associated injuries resulted in 1.3 million years of potential life lost before age 65. In addition, injuries from MVCs accounted for 27% of the occupational fatalities in 1984 (*4*). Of the estimated $33 billion in direct and indirect costs for occupational injuries in 1984 (*5*), $11 billion may be attributable to injuries from MVCs.

During 1982-1984, highway fatalities among occupants of passenger vehicles (excluding motorcycles, trucks, and buses) remained essentially unchanged in the United States (*3,6,7*). Throughout this period, occupant restraints were used by fewer than 6% of fatally injured persons. Nationwide data for 1985, the first year any state required seat belt use by adults, are not yet available.

Twenty-three states* and the District of Columbia have passed seat belt mandatory-use laws (MULs) for adults; 11 states† are already enforcing their laws with fines. Observational surveys in New York, Michigan, and Nebraska suggest that such laws increase seat belt usage initially (*8-10*). In New York, for example, observational surveys found that the prevalence of seat belt use increased from 16% before the law took effect to 57% 3 months after the law took effect, this prevalence declining to 46% 9 months after the law took effect. Additional surveys are needed to monitor the long-term impact of the laws.

The observational surveys used to assess the impact of the laws are complemented by self-report surveys, such as the Behavioral Risk Factor Surveys. Self-report surveys underestimate observed failure to use seat belts (*11,12*), but they can provide detailed demographic and behavioral data. Such data can be useful for planning intervention strategies. Currently, 25 states and the District of Columbia are participating in the Behavioral Risk Factor Surveillance System. In selected states, it will soon be possible to compare demographic characteristics of persons not using seat belts before and after MULs were enforced.

Regardless of how seat belt usage is measured, the goal of intervention is to reduce morbidity and mortality on U.S. highways. MULs appear to have lowered fatalities during the first few months of their enforcement. The New York State Department of Motor Vehicles reported that occupant fatalities decreased 17% for the first 9 months after New York's law was enforced, for the lowest highway fatality rate (per 100 million miles driven) in several decades. If all states enacted MULs, if all states experienced a decrease in highway fatalities comparable to that in New York, and if the decrease in highway fatalities persisted, approximately 4,000 lives could be saved nationwide each year.

Injury data are not currently available for states with MULs. However, the experience in Great Britain strongly suggests that the incidence of severe injuries is reduced by such laws. During 1983, the first year after the British law went into effect, 15% fewer patients were brought to the hospital following MVCs, and 25% fewer required admission than during the preceding year (*13*).

Nonetheless, MULs alone will not eliminate injuries and deaths on U.S. highways. Better enforcement of existing speeding and drunk-driving laws, augmentation of seat belts with passive restraints (e.g., air bags) and other vehicle-design changes to maximize occupant protection, improved engineering of highways to minimize crash occurrence, and effective public education about all aspects of highway safety are needed to reduce highway fatalities.

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*California, Connecticut, Hawaii, Idaho, Illinois, Indiana, Iowa, Louisiana, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Tennessee, Texas, Utah, and Washington.

†California, Connecticut, Hawaii, Illinois, Massachusetts, Michigan, Nebraska, New Jersey, New Mexico, New York, and Texas.

Seat Belt Use — Continued

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Epidemiologic Notes and Reports

Plasmid-Mediated Tetracycline-Resistant *Neisseria gonorrhoeae* — Georgia, Massachusetts, Oregon

CDC has confirmed 79 cases of plasmid-mediated tetracycline-resistant *Neisseria gonorrhoeae* infection (TRNG) between February 1985, when it was first identified, and March 14, 1986. Three of the 79 cases, all from Massachusetts, have been confirmed as combined tetracycline-resistant penicillinase-producing *N. gonorrhoeae* (TRNG-PPNG). Sixty-five (82%) of the confirmed TRNG cases were isolated from three states—Georgia (31 cases), Massachusetts (23), and Oregon (10). The Georgia and Massachusetts cases were identified as a result of a collaborative surveillance with CDC. Georgia's Fulton and DeKalb County health

Neisseria gonorrhoeae — *Continued*

departments (metropolitan Atlanta) conducted active TRNG surveillance in the fall of 1985. Massachusetts has an ongoing statewide surveillance program for gonococcal resistance. The Oregon cases are all from an outbreak among homosexual men in the Portland area, and a brief report follows.

On October 22, 1985, a 32-year-old homosexual male presented to the sexually transmitted disease (STD) clinic in Multnomah County, Oregon, with a 3-day history of urethral discharge and dysuria. A diagnosis of gonorrhea was made, and because the patient was allergic to penicillin, oral tetracycline was prescribed. On returning to the clinic 1 week later, the patient was still symptomatic and had a positive urethral culture for *N. gonorrhoeae*. Sensitivity testing by disk diffusion demonstrated a zone size to tetracycline of 13 mm (sensitive strains were defined as having disk diffusion zone sizes greater than 30 mm). The isolate was confirmed by CDC as high-level TRNG with a minimum inhibitory concentration of 32 μg/ml.

Between October 22, and December 26, 1985, nine other CDC-confirmed TRNG cases were identified at the Multnomah County STD clinic on the basis of disk-diffusion testing results. All patients were homosexual males infected at rectal (three patients), urethral (two), rectal and urethral (four), and pharyngeal (one) sites. All four patients treated with tetracycline alone were treatment failures, and one of these had developed clinical orchitis since his initial clinic visit. All cases were of the same auxotype and serovar class, suggesting the isolates were of a clonal origin. Six additional cases of gonococcal disease, including two out-of-state cases, were diagnosed by contact-tracing. Two cases were tetracycline treatment failures; two were TRNG on the basis of disk-diffusion testing (zone size less than 20 mm); and two were not tested. Nineteen contacts, including 15 bathhouse contacts of one patient, could not be traced due to lack of adequate identifying and locating information.

In response to this outbreak, the Multnomah County Health Department instituted ceftriaxone as the drug of choice for all gonococcal infections among homosexual males. Educational efforts targeted at both the professional and lay community were intensified toward increasing TRNG awareness.

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Editorial Note: The geographic dispersion of TRNG strains since the original *MMWR* report in September 1985 (*1*) has been impressive. The rapid onset of the outbreak in Portland and the large number of untraceable contacts elicited from several of the patients underscore the potential for rapid dissemination of new gonococcal strains into a community.

The identification of combined PPNG-TRNG strains in Massachusetts once again demonstrates the ability of *N. gonorrhoeae* to acquire multiple drug-resistant determinants. This includes such combinations as plasmid-mediated resistance (e.g., PPNG-TRNG), plasmid and chromosomally-mediated resistance (e.g., spectinomycin-resistant PPNG) (*2,3*), or chromosomally-mediated resistance to multiple antibiotics (*4*).

The largest numbers of TRNG cases were described from areas where active surveillance programs were in operation. With the exception of testing for β-lactamase, most areas in the United States do not routinely perform antimicrobial susceptibility testing on gonococcal isolates. Therefore, the incidence of resistant strains that do not present as treatment failures is not known.

Tetracycline (doxycycline, minocycline) therapy alone is not recommended for the treatment

Neisseria gonorrhoeae — *Continued*

of gonococcal infections (*5*). Because of the increasing geographic distribution and the complexity of antimicrobial resistance in *N. gonorrhoeae* and the increasing need for effective surveillance for new cases, CDC is preparing comprehensive guidelines for susceptibility testing.

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

Disease	19th Week Ending			Cumulative, 19th Week Ending		
	May 10, 1986	May 11, 1985	Median 1981-1985	May 10, 1986	May 11, 1985	Median 1981-1985
Acquired Immunodeficiency Syndrome (AIDS)	228	174	N	4,530	2,467	N
Aseptic meningitis	90	77	84	1,553	1,325	1,447
Encephalitis: Primary (arthropod-borne & unspec.)	16	19	18	277	336	336
Post-infectious	1	3	3	31	51	35
Gonorrhea: Civilian	14,267	16,144	17,434	296,856	285,377	324,852
Military	309	326	633	5,563	6,751	8,819
Hepatitis: Type A	400	376	428	7,950	7,780	8,304
Type B	495	528	482	9,105	9,065	8,382
Non A, Non B	76	76	N	1,227	1,521	N
Unspecified	108	148	148	1,814	1,965	2,664
Legionellosis	5	12	N	191	222	N
Leprosy	5	3	3	104	149	79
Malaria	11	8	15	256	255	267
Measles: Total*	51	34	64	2,329	1,116	1,116
Indigenous	44	24	N	2,229	888	N
Imported	7	10	N	100	228	N
Meningococcal infections: Total	58	60	69	1,167	1,130	1,308
Civilian	58	59	69	1,165	1,126	1,305
Military	-	1	-	2	4	5
Mumps	106	83	92	1,285	1,518	1,619
Pertussis	34	26	26	778	547	547
Rubella (German measles)	9	24	29	189	175	447
Syphilis (Primary & Secondary): Civilian	539	464	485	9,333	9,087	10,919
Military	4	1	8	76	71	132
Toxic Shock syndrome	9	6	N	135	144	N
Tuberculosis	427	390	458	7,221	7,166	7,964
Tularemia	2	4	4	21	33	40
Typhoid fever	7	6	5	86	105	129
Typhus fever, tick-borne (RMSF)	17	10	10	48	61	63
Rabies, animal	123	106	124	1,959	1,789	2,178

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1986		Cum 1986
Anthrax	-	Leptospirosis	15
Botulism: Foodborne	4	Plague	-
Infant	21	Poliomyelitis, Paralytic	-
Other	-	Psittacosis (Vt. 1, Ala. 1)	22
Brucellosis (Tex. 1, Hawaii 1)	20	Rabies, human	-
Cholera	-	Tetanus (Pa. 1, Ala. 1)	15
Congenital rubella syndrome	2	Trichinosis	7
Congenital syphilis, ages < 1 year	11	Typhus fever, flea-borne (endemic, murine) (Tex. 1)	9
Diphtheria	-		

*Five of the 51 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 May 10, 1986 and May 11, 1985 (19th Week)

Reporting Area	AIDS	Aseptic Menin-gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel-losis	Leprosy
			Primary	Post-in-fectious			A	B	NA,NB	Unspeci-fied		
	Cum. 1986	1986	Cum. 1986	Cum. 1986	Cum. 1986	Cum. 1985	1986	1986	1986	1986	1986	Cum. 1986
UNITED STATES	4,530	90	277	31	296,856	285,377	400	495	76	108	5	104
NEW ENGLAND	171	3	9	2	6,674	8,780	8	45	4	7	1	2
Maine	9	-	-	-	347	345	-	4	-	1	-	-
N.H.	7	-	2	-	182	178	-	-	-	-	-	-
Vt.	2	-	2	1	99	89	-	2	2	-	-	-
Mass.	92	1	2	-	2,887	3,275	7	28	2	6	1	2
R.I.	9	2	-	-	623	643	-	-	-	-	-	-
Conn.	52	-	3	1	2,536	4,250	1	11	-	-	-	-
MID ATLANTIC	1,734	10	44	1	50,985	40,490	19	47	8	21	-	9
Upstate N.Y.	161	7	16	-	5,689	5,680	9	22	3	2	-	1
N.Y. City	1,217	3	10	-	29,490	18,711	1	3	-	18	-	7
N.J.	269	-	5	-	6,925	7,625	5	10	5	1	-	-
Pa.	87	-	13	1	8,881	8,474	4	12	-	-	-	1
E.N. CENTRAL	250	8	55	4	38,625	40,949	24	44	7	7	1	4
Ohio	30	3	16	2	9,303	10,616	13	10	2	1	1	-
Ind.	26	-	5	2	4,720	3,922	3	15	-	-	-	-
Ill.	128	3	12	-	10,582	11,387	5	10	2	4	-	3
Mich.	52	2	21	-	12,034	11,717	3	9	3	2	-	1
Wis.	14	-	1	-	1,986	3,307	-	-	-	-	-	-
W.N. CENTRAL	82	5	9	6	12,945	14,241	13	9	3	-	1	1
Minn.	38	1	5	-	1,929	2,120	7	1	2	-	-	1
Iowa	7	-	4	-	1,322	1,526	-	3	-			-
Mo.	20	-	-	-	6,519	6,670	1	3	-	-	1	
N. Dak.	2	-	-	-	118	99	-	-	-	-	-	-
S. Dak.	1	3	-	-	262	258	2	-	-	-	-	-
Nebr.	3	-	-	-	930	1,333	1	-	1	-	-	-
Kans.	11	1	-	6	1,865	2,235	2	2	-	-	-	-
S. ATLANTIC	650	20	45	11	73,229	61,125	27	96	8	5	2	1
Del.	10	-	3	-	1,247	1,380	1	1	-	-	-	-
Md.	70	2	11	-	8,969	9,960	-	4	-	-	-	-
D.C.	86	-	-	-	5,880	5,157	1	2	-	-	-	-
Va.	61	8	16	-	6,324	6,505	-	11	-	2	1	1
W. Va.	2	1	6	-	887	911	1	1	1	-	-	-
N.C.	26	2	8	1	12,552	11,143	2	12	1	1	1	-
S.C.	16	-	-	-	6,762	7,695	1	30	1	-	-	-
Ga.	87	2	-	-	9,359	-	-	11	1	1	-	-
Fla.	292	5	1	10	21,249	18,374	21	24	4	1	-	-
E.S. CENTRAL	45	4	19	1	24,968	24,896	1	23	2	1	-	-
Ky.	12	-	8	-	2,894	2,722	1	-	-	-	-	-
Tenn.	20	-	1	1	9,804	9,901	-	7	1	1	-	-
Ala.	9	4	9	-	6,979	7,878	-	16	1	-	-	-
Miss.	4	-	1	-	5,291	4,395	-	-	-	-	-	-
W.S. CENTRAL	349	8	29	1	36,849	39,756	48	39	6	22	-	7
Ark.	11	-	-	-	3,496	3,800	-	-	-	-	-	-
La.	54	4	2	-	6,581	8,187	3	9	-	-	-	-
Okla.	16	-	6	-	4,277	4,165	5	2	1	2	-	-
Tex.	268	4	21	1	22,495	23,604	40	28	5	20	-	7
MOUNTAIN	122	4	12	1	9,447	9,360	47	41	9	5	-	7
Mont.	3	-	-	1	251	275	-	1	-	-	-	-
Idaho	1	-	-	-	291	326	2	-	-	-	-	-
Wyo.	2	-	2	-	201	239	-	-	-	-	-	-
Colo.	65	-	2	-	2,444	2,788	4	4	-	2	-	3
N. Mex.	6	-	1	-	949	1,119	6	1	-	1	-	-
Ariz.	28	2	5	-	3,115	2,711	21	24	7	2	-	2
Utah	6	-	1	-	393	394	6	3	-	-	-	-
Nev.	11	2	1	-	1,803	1,508	8	8	2	-	-	2
PACIFIC	1,127	28	55	4	43,134	45,780	213	151	29	40	-	73
Wash.	34	2	5	-	3,303	3,201	15	30	7	7	-	7
Oreg.	24	-	-	-	1,757	2,298	36	20	3	-	-	-
Calif.	1,050	20	48	4	36,438	38,468	162	98	19	33	-	57
Alaska	9	-	2	-	1,127	1,119	-	3	-	-	-	-
Hawaii	10	6	-	-	509	694	-	-	-	-	-	9
Guam	-	-	-	-	40	69	-	-	-	-	-	1
P.R.	48	-	3	-	820	1,369	16	8	-	2	-	-
V.I.	-	-	-	-	79	174	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	72	322	3	-	-	-	-	1
Amer. Samoa	-	-	-	-	14	-	2	-	-	-	-	1

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending May 10, 1986 and May 11, 1985 (19th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum. 1986	1986	Cum. 1986	1986	Cum. 1986	Cum. 1985	Cum. 1986	1986	Cum. 1986	1986	Cum. 1986	Cum. 1985	1986	Cum. 1986	Cum. 1985
UNITED STATES	256	44	2,229	7	100	1,116	1,167	106	1,285	34	778	547	9	189	175
NEW ENGLAND	13	-	16	-	-	90	84	-	35	2	45	26	-	1	6
Maine	-	-	-	-	-	-	18	-	-	-	2	2	-	-	-
N.H.	-	-	-	-	-	-	3	-	10	-	15	15	-	1	2
Vt.	1	-	-	-	-	-	11	-	-	-	2	2	-	-	-
Mass.	8	-	15	-	-	88	17	-	1	2	11	4	-	-	4
R.I.	1	-	1	-	-	-	11	-	6	-	1	1	-	-	-
Conn.	3	-	-	-	-	2	24	-	18	-	14	2	-	-	-
MID ATLANTIC	31	4	874	4	11	80	191	4	71	5	92	62	1	26	41
Upstate N.Y.	7	3	7	4†	10	38	63	2	30	1	62	32	1	18	8
N.Y. City	9	-	153	-	1	27	38	-	5	-	3	9	-	5	15
N.J.	3	-	713	-	-	7	27	1	17	1	6	1	-	3	6
Pa.	12	1	1	-	-	8	63	1	19	3	21	20	-	-	12
E.N. CENTRAL	9	-	253	-	2	364	153	69	639	1	146	80	2	9	17
Ohio	2	-	-	-	-	43	67	-	58	-	63	13	-	-	-
Ind.	-	-	-	-	-	1	15	-	16	-	16	11	-	-	-
Ill.	4	-	140	-	-	220	35	56	355	-	18	12	2	6	5
Mich.	3	-	-	-	-	50	35	13	113	1	18	8	-	2	11
Wis.	-	-	113	-	2	50	1	-	97	-	31	36	-	1	1
W.N. CENTRAL	6	6	111	1	11	5	61	1	56	1	46	46	1	8	9
Minn.	2	6	15	-	4	2	13	-	1	-	24	11	-	-	1
Iowa	1	-	-	-	1	-	7	-	10	-	6	3	-	-	-
Mo.	2	-	2	1†	4	2	22	-	13	-	4	9	-	1	-
N. Dak.	-	-	4	-	1	-	-	-	2	-	2	6	-	-	1
S. Dak.	-	-	-	-	-	-	1	-	1	-	3	-	-	-	-
Nebr.	1	-	-	-	-	-	7	-	-	-	-	1	-	-	-
Kans.	-	-	90	-	1	1	11	1	29	1	7	16	1	7	7
S. ATLANTIC	33	9	314	2	26	132	235	6	95	18	239	132	-	6	21
Del.	-	-	1	-	-	-	1	-	-	1	108	-	-	-	-
Md.	5	-	16	1§	6	20	32	-	6	-	24	51	-	-	1
D.C.	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
Va.	6	1	12	-	17	16	43	2	17	-	9	3	-	-	1
W. Va.	-	-	2	-	-	5	3	1	28	1	5	-	-	-	8
N.C.	3	1	1	1§	1	1	39	-	7	-	15	7	-	-	-
S.C.	2	4	268	-	-	-	24	-	11	2	5	-	-	-	2
Ga.	4	2	2	-	1	8	34	2	8	14	65	47	-	-	-
Fla.	13	1	12	-	1	80	57	1	18	-	8	24	-	6	9
E.S. CENTRAL	5	-	1	-	-	-	67	-	15	-	16	6	-	1	1
Ky.	2	-	-	-	-	-	11	-	2	-	1	1	-	1	1
Tenn.	-	-	1	-	-	-	29	-	11	-	5	1	-	-	-
Ala.	2	-	-	-	-	-	20	-	1	-	10	2	-	-	-
Miss.	1	-	-	-	-	-	7	-	1	-	-	2	-	-	-
W.S. CENTRAL	20	-	302	-	24	65	93	6	97	1	27	67	-	35	14
Ark.	-	-	271	-	2	-	12	-	7	-	2	9	-	-	1
La.	4	-	-	-	-	7	14	-	-	1	4	2	-	-	-
Okla.	2	-	-	-	4	-	13	N	N	-	21	56	-	-	-
Tex.	14	-	31	-	18	58	54	6	90	-	-	-	-	35	13
MOUNTAIN	7	12	153	-	8	283	45	12	140	5	91	23	-	1	4
Mont.	-	-	-	-	1	134	5	-	3	-	1	3	-	-	-
Idaho	1	-	-	-	-	21	1	-	2	-	26	-	-	-	1
Wyo.	-	-	-	-	-	-	2	-	-	1	1	-	-	-	-
Colo.	1	-	2	-	3	5	8	-	6	3	21	8	-	-	-
N. Mex.	-	-	16	-	4	2	5	N	N	-	9	3	-	-	2
Ariz.	2	12	135	-	-	121	13	4	117	-	23	5	-	1	1
Utah	2	-	-	-	-	-	5	8	9	1	10	4	-	-	-
Nev.	1	-	-	-	-	-	6	-	3	-	-	-	-	-	-
PACIFIC	132	13	205	-	18	97	238	8	137	1	76	105	5	102	62
Wash.	11	10	47	-	7	1	30	-	5	-	26	17	-	2	2
Oreg.	9	-	-	-	2	3	19	N	N	-	5	16	-	-	1
Calif.	112	3	139	-	8	86	180	7	119	1	41	67	5	99	41
Alaska	-	-	-	-	-	-	8	-	4	-	1	2	-	-	-
Hawaii	-	-	19	-	1	7	1	1	9	-	3	3	-	1	18
Guam	1	-	3*	-	-	10	-	-	2	-	-	-	-	2	1
P.R.	3	-	8	-	-	46	2	1	16	-	4	1	-	58	8
V.I.	-	-	-	-	-	10	-	-	7	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	1	1	2	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*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 May 10, 1986 and May 11, 1985 (19th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1986	Cum. 1985	1986	Cum. 1986	Cum. 1985	Cum. 1986	Cum. 1986	Cum. 1986	Cum. 1986
UNITED STATES	9,333	9,087	9	7,221	7,166	21	86	48+16	1,959
NEW ENGLAND	185	206	-	214	248	-	4	1	2
Maine	11	7	-	19	17	-	-	-	-
N.H.	6	3	-	5	10	-	-	-	-
Vt.	6	-	-	8	4	-	-	-	-
Mass.	89	106	-	107	150	-	3	1	-
R.I.	12	6	-	14	21	-	-	-	1
Conn.	61	84	-	61	46	-	1	-	1
MID ATLANTIC	1,329	1,214	1	1,493	1,335	-	9	1	177
Upstate N.Y.	64	93	-	225	223	-	1	1	26
N.Y. City	742	754	-	714	686	-	4	-	1
N.J.	249	253	-	285	140	-	3	-	4
Pa.	274	114	1	269	286	-	1	-	146
E.N. CENTRAL	389	421	-	919	877	-	5	4+1	39
Ohio	50	52	-	150	157	-	-	4 2	3
Ind.	43	35	-	106	108	-	-	-	8
Ill.	217	218	-	404	382	-	-	-	14
Mich.	56	96	-	212	184	-	4	- -1	5
Wis.	23	20	-	47	46	-	1	-	9
W.N. CENTRAL	99	99	1	196	185	7	4	2+1	293
Minn.	17	25	1	49	36	-	1	-	31
Iowa	5	14	-	17	29	1	-		69
Mo.	51	41	-	95	85	6	3		29
N. Dak.	2	-	-	3	2	-	-		69
S. Dak.	1	4	-	9	7	-	-	-	65
Nebr.	8	6	-	4	8	-	-	-	5
Kans.	15	9	-	19	18	-	-	2 1	25
S. ATLANTIC	2,621	2,282	-	1,374	1,463	4	9	15+6	460
Del.	12	16	-	16	16	-	-	-	-
Md.	176	158	-	96	129	1	1	1 1	278
D.C.	129	129	-	51	71	-	1	-	-
Va.	159	123	-	131	115	1	2	3 2	77
W. Va.	8	4	-	47	34	-	1	1 1	10
N.C.	192	258	-	207	173	1	2	2	1
S.C.	258	284	-	159	177	-	-	7 2	13
Ga.	383	-	-	188	225	1	-	1	60
Fla.	1,304	1,310	-	479	523	-	2	-	21
E.S. CENTRAL	616	777	1	633	630	3	-	10+2	120
Ky.	26	31	-	161	125	2	-	1	34
Tenn.	237	219	-	184	185	1	-	3 1	56
Ala.	211	259	1	204	220	-	-	2	30
Miss.	142	268	-	84	100	-	-	4 1	-
W.S. CENTRAL	1,975	2,296	3	880	799	5	5	14+6	289
Ark.	93	113	-	95	83	3	-	-	64
La.	315	380	-	171	119	-	-	-	6
Okla.	56	63	1	82	92	2	1	11 5	23
Tex.	1,511	1,740	2	532	505	-	4	3 1	196
MOUNTAIN	215	292	2	155	170	1	4	1	335
Mont.	2	1	-	7	19	-	-	-	124
Idaho	2	2	-	5	6	-	-	-	-
Wyo.	-	5	-	-	4	-	-	1	154
Colo.	67	67	1	4	18	-	1	-	-
N. Mex.	26	36	-	34	34	1	-	-	3
Ariz.	94	164	1	76	78	-	1	-	54
Utah	4	3	-	14	5	-	2	-	-
Nev.	20	14	-	15	6	-	-	-	-
PACIFIC	1,904	1,500	1	1,357	1,459	1	46	-	244
Wash.	48	53	-	76	77	-	2	-	-
Oreg.	39	33	-	48	48	-	-	-	-
Calif.	1,800	1,385	1	1,141	1,218	-	41	-	236
Alaska	-	1	-	24	50	1	1	-	8
Hawaii	17	28	-	68	66	-	2	-	-
Guam	1	2	-	-	16	-	-	-	-
P.R.	301	315	-	91	113	-	2	-	17
V.I.	-	1	-	1	1	-	-	-	-
Pac. Trust Terr.	112	22	-	10	26	-	27	-	-
Amer. Samoa	-	-	-	2	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending May 10, 1986 (19th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	644	461	125	22	20	16	47
Boston, Mass.	164	115	33	6	7	3	19
Bridgeport, Conn.	44	26	13	1	3	1	2
Cambridge, Mass.	27	17	8	2	-	-	3
Fall River, Mass.	33	24	8	1	-	-	-
Hartford, Conn.	68	43	15	4	1	5	2
Lowell, Mass.	28	22	4	1	1	-	2
Lynn, Mass.	23	17	6	-	-	-	1
New Bedford, Mass.	21	20	1	-	-	-	1
New Haven, Conn.	44	30	6	2	4	2	3
Providence, R.I.	47	32	12	2	-	1	1
Somerville, Mass.	9	4	4	-	1	-	1
Springfield, Mass.	47	37	4	2	2	2	7
Waterbury, Conn.	31	26	4	1	-	-	1
Worcester, Mass.	58	48	7	-	1	2	4
MID ATLANTIC	2,613	1,714	538	220	73	68	116
Albany, N.Y.	58	41	9	3	3	2	1
Allentown, Pa.	18	16	2	-	-	-	-
Buffalo, N.Y.	132	90	29	10	2	1	10
Camden, N.J.	41	21	14	2	1	3	1
Elizabeth, N.J.	22	17	4	1	-	-	-
Erie, Pa.†	41	26	13	-	1	1	-
Jersey City, N.J.	60	36	14	3	2	5	-
N.Y. City, N.Y.	1,279	810	269	138	38	24	56
Newark, N.J.	55	25	17	8	3	2	1
Paterson, N.J.	19	14	1	4	-	-	-
Philadelphia, Pa.	402	261	92	22	11	16	27
Pittsburgh, Pa.†	71	54	12	3	-	2	1
Reading, Pa.	37	26	7	4	-	-	1
Rochester, N.Y.	135	95	18	9	8	5	7
Schenectady, N.Y.	27	26	1	-	-	-	2
Scranton, Pa.†	21	18	3	-	-	-	1
Syracuse, N.Y.	94	63	19	6	2	4	4
Trenton, N.J.	52	32	10	6	1	3	-
Utica, N.Y.	27	26	1	-	-	-	2
Yonkers, N.Y.	22	17	3	1	1	-	2
E.N. CENTRAL	2,101	1,371	466	136	52	76	78
Akron, Ohio	47	28	12	3	2	2	1
Canton, Ohio	38	26	10	2	-	-	5
Chicago, Ill.§	566	362	126	45	10	23	17
Cincinnati, Ohio	121	83	29	4	2	3	10
Cleveland, Ohio	145	87	41	6	5	6	3
Columbus, Ohio	133	80	30	8	8	7	8
Dayton, Ohio	105	58	34	9	4	-	3
Detroit, Mich.	212	142	33	21	5	11	4
Evansville, Ind.	31	25	5	-	-	1	1
Fort Wayne, Ind.	51	39	9	1	1	1	2
Gary, Ind.	17	9	2	4	1	1	1
Grand Rapids, Mich.	52	36	6	4	2	4	3
Indianapolis, Ind.	153	91	43	9	4	6	3
Madison, Wis.	36	22	8	2	1	3	3
Milwaukee, Wis.	125	96	20	3	3	3	2
Peoria, Ill.	48	30	11	4	2	1	3
Rockford, Ill.	42	29	7	4	1	1	2
South Bend, Ind.	45	32	11	-	1	1	-
Toledo, Ohio	83	60	18	4	-	1	4
Youngstown, Ohio	51	36	11	3	-	1	3
W.N. CENTRAL	696	469	135	44	15	33	23
Des Moines, Iowa	70	45	17	4	1	3	2
Duluth, Minn.	31	24	6	1	-	-	2
Kansas City, Kans.	30	19	8	3	-	-	-
Kansas City, Mo.	118	78	22	10	4	4	5
Lincoln, Nebr.	34	24	6	2	1	1	1
Minneapolis, Minn.	91	54	19	10	2	6	4
Omaha, Nebr.	76	55	11	5	1	4	4
St. Louis, Mo.	127	89	21	6	2	9	3
St. Paul, Minn.	67	49	12	1	2	3	2
Wichita, Kans.	52	32	13	2	2	3	-
S. ATLANTIC	1,304	808	322	100	39	33	53
Atlanta, Ga.	173	100	53	14	6	-	2
Baltimore, Md.	210	123	64	14	4	5	4
Charlotte, N.C.	85	49	23	6	5	2	2
Jacksonville, Fla.	132	88	26	9	9	-	8
Miami, Fla.	72	45	21	2	1	3	-
Norfolk, Va.	47	27	12	3	2	3	4
Richmond, Va.	99	64	24	6	3	2	10
Savannah, Ga.	53	39	9	3	1	1	7
St. Petersburg, Fla.	120	101	11	4	1	3	7
Tampa, Fla.	78	45	19	5	-	7	4
Washington, D.C.	211	118	52	28	6	7	5
Wilmington, Del.	24	9	8	6	1	-	-
E.S. CENTRAL	800	498	183	61	26	32	36
Birmingham, Ala.	138	81	32	10	5	10	5
Chattanooga, Tenn.	51	30	10	5	1	5	-
Knoxville, Tenn.	89	67	11	5	4	2	6
Louisville, Ky.	105	58	31	10	1	5	8
Memphis, Tenn.	210	134	49	18	7	2	9
Mobile, Ala.	49	26	14	4	2	3	1
Montgomery, Ala.	38	20	11	3	4	-	2
Nashville, Tenn.	120	82	25	6	2	5	5
W.S. CENTRAL	1,232	731	279	119	58	43	51
Austin, Tex.	52	28	13	6	4	1	2
Baton Rouge, La.	27	18	1	4	1	3	1
Corpus Christi, Tex.	44	27	10	2	3	2	2
Dallas, Tex.	191	107	42	25	7	10	9
El Paso, Tex.	43	20	14	3	4	-	2
Fort Worth, Tex.	91	54	27	6	-	4	2
Houston, Tex.	292	156	77	26	20	13	8
Little Rock, Ark.	73	53	9	7	2	2	5
New Orleans, La.	115	65	28	16	5	1	-
San Antonio, Tex.	158	106	25	14	10	3	16
Shreveport, La.	51	33	12	5	-	1	-
Tulsa, Okla.	95	64	21	5	2	3	4
MOUNTAIN	681	436	134	62	27	21	31
Albuquerque, N.Mex.	94	63	13	11	4	2	2
Colo. Springs, Colo.	43	27	9	2	4	1	3
Denver, Colo.	123	83	19	12	5	4	4
Las Vegas, Nev.	81	43	23	10	3	2	3
Ogden, Utah	22	14	5	2	-	1	2
Phoenix, Ariz.	148	91	27	15	9	6	6
Pueblo, Colo.	29	21	7	1	-	-	3
Salt Lake City, Utah	49	27	12	5	2	3	1
Tucson, Ariz.	92	67	19	4	-	2	7
PACIFIC	1,844	1,190	358	172	61	57	90
Berkeley, Calif.	21	14	5	2	-	-	1
Fresno, Calif.	56	42	8	1	3	2	6
Glendale, Calif.	24	17	6	1	-	-	1
Honolulu, Hawaii	63	43	15	1	1	3	1
Long Beach, Calif.	79	49	15	7	5	3	8
Los Angeles, Calif.	535	317	114	69	23	6	17
Oakland, Calif.	62	37	9	7	-	9	1
Pasadena, Calif.	28	21	3	1	-	3	2
Portland, Oreg.	119	85	24	5	4	1	7
Sacramento, Calif.	146	103	18	13	5	7	14
San Diego, Calif.	143	95	31	7	7	3	14
San Francisco, Calif.	126	78	23	20	1	4	2
San Jose, Calif.	167	103	33	19	5	7	3
Seattle, Wash.	154	98	36	11	5	4	5
Spokane, Wash.	70	51	11	4	2	2	7
Tacoma, Wash.	51	37	7	4	-	3	1
TOTAL	11,915††	7,678	2,540	936	371	379	525

* 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 4 weeks.

Table V. Estimated years of potential life lost before age 65 and cause-specific mortality, by cause of death — United States, 1984

Cause of mortality (Ninth Revision ICD)	Years of potential life lost by persons dying in 1984*	Cause-specific mortality† (rate/100,000)
ALL CAUSES (Total)	11,761,000	866.7
Unintentional injuries§ (E800-E949)	2,308,000	40.1
Malignant neoplasms (140-208)	1,803,000	191.6
Diseases of the heart (390-398, 402, 404-429)	1,563,000	324.4
Suicide, homicide (E950-E978)	1,247,000	20.6
Congenital anomalies (740-759)	684,000	5.6
Prematurity¶ (765, 769)	470,000	3.5
Sudden infant death syndrome (798)	314,000	2.4
Cerebrovascular diseases (430-438)	266,000	65.6
Chronic liver diseases and cirrhosis (571)	233,000	11.3
Pneumonia and influenza (480-487)	163,000	25.0
Chronic obstructive pulmonary diseases (490-496)	123,000	29.8
Diabetes mellitus (250)	119,000	15.6

*For details of calculation, see footnotes for Table V, *MMWR* 1986;35:27.

†Cause-specific mortality rates as reported in the MVSR are compiled from a 10% sample of all deaths.

§Equivalent to accidents and adverse effects.

¶Category derived from disorders relating to short gestation and respiratory distress syndrome.

Epidemiologic Notes and Reports

Campylobacter Outbreak Associated with Raw Milk Provided on a Dairy Tour — California

On October 3, 1985, students and teachers from northern California, and some of their family members, made a field trip to a San Joaquin County dairy. Of the 50 attendees from whom information was available, 23 (46%) became ill with *Campylobacter jejuni* infection.

Twenty-three (59%) of the 39 attendees who drank raw milk, and none of the 11 who did not drink it, became ill ($p = 0.0005$). Included among the cases was an infant who had been

Campylobacter Outbreak — Continued

almost exclusively breast-fed and became ill after drinking a bottle filled with raw milk at the dairy. In addition, secondary cases occurred in two women who had not visited the dairy but who tended an infant who drank raw milk and developed campylobacter gastroenteritis. Stool cultures from one asymptomatic and eight ill persons grew *C. jejuni.* Neither the cows nor milk were cultured.

Of the 23 ill field-trip attendants, 96% reported diarrhea; 35%, abdominal cramps; 35%, fever; 26%, vomiting; and 22%, bloody diarrhea. Incubation periods ranged from 1 day to 10 days, but were 3 or 4 days in most cases. Symptoms most commonly lasted 5 days.

Adapted from California Morbidity *(February 7, 1986) as reported by B Benda, Contra Costa County Health Dept, J Pollak, R Benjamin, MD, T Livermore, MD, Alameda County Health Dept, H Mitchell, MD, San Joaquin Local Health District, SB Werner, MD, J Chin, MD, State Epidemiologist, California Dept of Health Svcs; Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.*

Editorial Note: Numerous outbreaks of enteric diseases have occurred among schoolchildren given raw milk while on field trips to dairies in the United States (*1-5*). As a result, in January 1985, the U.S. Food and Drug Administration (FDA) issued a "milk advisory" to all state school officers recommending that children not be permitted to sample raw milk on such visits.

Healthy lactating cows can carry *C. jejuni* in the intestinal tract, providing an extrinsic source of contamination. In one study of 193 healthy dairy cows at three dairies, 77 (40%) had positive rectal cultures (*6*). In another study of 477 dairy cows, 69 (14%) had *C. jejuni* cultured from bile (*7*). In addition, cows with no evidence of illness can excrete *Campylobacter* directly into their milk as a result of mammary infection (*8*). Fourteen (61%) of 23 *Campylobacter* outbreaks reported to CDC from 1980 to 1982 were traced to consumption of raw milk (*5*). Since culture of diarrheal stools for *C. jejuni* became common, many raw milk-associated *Campylobacter* outbreaks involving thousands of cases have been reported (*9,10*).

Milk is an excellent vehicle for infection, because its fat content protects pathogens from gastric acid and because, being fluid, it has a relatively short gastric transit time (*11*). Present technology cannot produce raw milk that can be assured to be free of pathogens; only with pasteurization is there this assurance (*11*). Since 1983, when Scotland banned the sale of raw milk, milkborne infection has decreased markedly (*12*).

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Excavation Cave-in Fatalities — Texas, 1976-1985

A review of death certificates in Texas for 1976-1985 identified 93 fatalities resulting from 81 excavation cave-ins among male workers in that state (Figure 2). Thirty-five fatalities occurred in 30 incidents during the first 5 years (1976-1980), and 58 fatalities occurred in 51 incidents during the last 5 years (1981-1985). This is a 66% increase in the number of such deaths during the second 5 years.

The average age at death for all 93 workers was 33.1 years. Forty-eight (52%) of the workers killed were Hispanic (32 of whom were not U.S. citizens); 30 (32%) were white non-Hispanic; and 15 (16%) were black. The cave-in incidents occurred in 40 of the 254 Texas counties, with 21 worker fatalities occurring in the Dallas-Fort Worth metropolitan statistical area (MSA) and 21 in the Houston MSA. Together, these two locations accounted for 45% of the fatalities.

Based on information recorded on the death certificates regarding occupation and industry, 74 (80%) fatalities took place during construction activities; eight (9%), in utility-related jobs; five (5%), among persons described only as "laborers"; and six (6%), among persons with other, unrelated occupations (e.g., "student").

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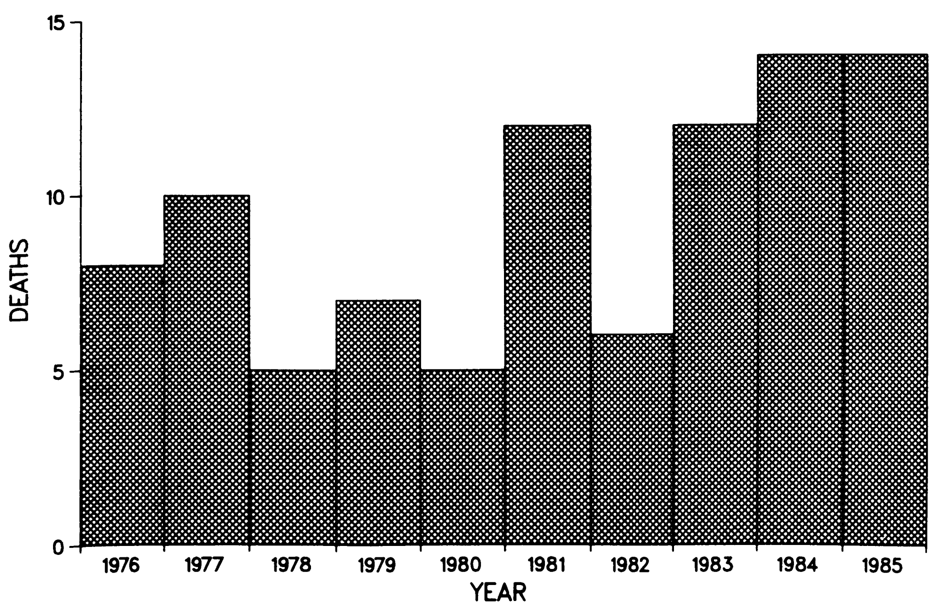
Editorial Note: In a recent report from the National Institute for Occupational Safety and Health (NIOSH) of four fatalities caused by excavation cave-ins, investigators concluded that adherence to safe work practices and especially to the shoring (bracing)/sloping of excavation walls would have reduced the inherent risk in each case (*1*). Although no review of the work

FIGURE 2. Number of excavation cave-in fatalities, by year — Texas, 1976-1985



Cave-in Fatalities — Continued

practices that preceded the cave-in fatalities in Texas was possible, the data available from death certificates are useful for directing prevention-oriented activities, because they document a temporal increase and indicate the location and activities involved in such fatalities in the state.

These cave-in fatalities were identified through the manual review of death certificates in Texas for males 16 years of age and older within selected cause-of-death codes.* This method probably underreports the total number of cases because cave-in fatalities can be misclassified and inadequately described on death certificates. The 66% increase in fatalities observed for 1981 through 1985 may be the result of more accurate recording of cause-of-death information during those years or may represent a real increase in the number of fatalities because of decreased attention to safety (shoring/sloping). It could also be explained by an expansion in construction activity or in the population at risk in the state.

The risk of excavation cave-ins can be reduced through greater employer recognition of and adherence to Occupational Safety and Health Administration (OSHA) standards† and NIOSH recommendations (*2*) for shoring/sloping the walls of excavation sites. The current OSHA standards specify that:

1. The walls and faces of all excavations in which employees are exposed to danger from moving ground shall be guarded by a shoring system, sloping of the ground, or some other equivalent means.
2. Sides of trenches in unstable or soft material 5 feet or more in depth shall be shored, sheeted, braced, sloped, or otherwise supported by means of sufficient strength to protect employees working within them.
3. Excavations (including trenches) adjacent to backfilled areas or subjected to vibrations from railroads, highway traffic, or operation of machinery shall have additional shoring and bracing precautions taken.

NIOSH and the National Bureau of Standards (NBS) recommend that:

1. Shoring systems or sloping of the walls be used in all excavations 5-24 feet deep in any type of soil, except solid, stable rock.
2. Appropriate shoring, shielding, or sloping requirements for all excavations deeper than 24 feet (except those in unfractured rock) be determined by an engineer qualified to make these determinations.
3. All employers engaged in excavation activities familiarize themselves with the provisions of the NBS/NIOSH document, *Development of Draft Construction Safety Standards for Excavations* (*2*), and implement them as safe work practices in conjunction with compliance to the existing OSHA standards.

Other states are encouraged to undertake studies such as this for the surveillance of occupational fatalities, not only from excavation cave-ins but from other causes as well. The Texas investigators used death certificates; additional records (e.g., workers' compensation claim files) may also be useful.

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*Eighth Revision, International Classification of Diseases, E913.9, and The International Classification of Diseases, 9th Revision, E913.3.

†29 CFR 1926.651 and 1926.652.

Addendum: Vol. 35, No. 17, p. 275

Rubella Vaccination during Pregnancy — United States, 1971-1985

Thirty susceptible women elected to terminate their pregnancies (Table 3). Products of conception were available for viral isolation studies from 19 such women and from two women who had miscarriages. Rubella virus has now been isolated from the products of conception in one (3%) of 34 cases involving susceptible women (21 cases reported to CDC and 13 reported in the medical literature) (*1-3*).

Reported by Surveillance, Investigations, and Research Br, Div of Immunization, Center for Prevention Svcs, CDC.

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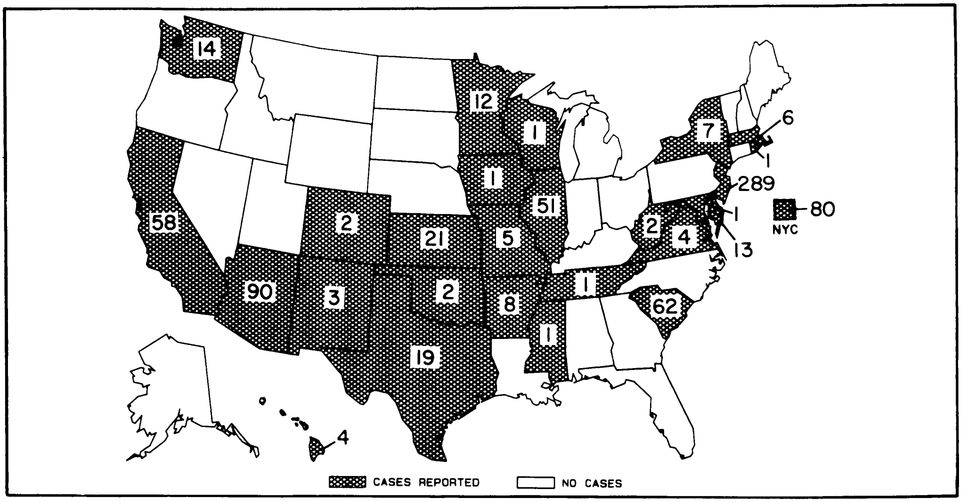
FIGURE I. Reported measles cases — United States, weeks 15-18, 1986



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The data in this report 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.

The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: ATTN: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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