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Epidemiologic Notes and Reports

Outbreak of Viral Gastroenteritis — Pennsylvania and Delaware

Within 48 hours of the University of Pennsylvania-Cornell University football game in Philadelphia on September 19, 1987, 158 students with symptoms of gastrointestinal illness visited the university health service. Band members from both universities, Cornell football players, and spectators, including visiting students and university staff and faculty, had similar symptoms.

Ninety-nine percent of the 158 students visiting the university health service reported nausea; 75% reported vomiting; 48%, diarrhea; 22%, headache; 17%, fever; 18%, chills; and 14%, myalgia. The mean incubation period was 36 hours; symptoms lasted 12 to 48 hours. Ninety-two percent of the students had purchased soda with ice from the stadium concessionaire.

None of the Pennsylvania football team members were affected until September 24 and 25, when 55 became ill. The Pennsylvania football team had used ice from a different source at the September 19 game. However, during practice on September 23, the team used ice supplied by the distributor that had provided the stadium concessionaire's ice on September 19.

On September 21, a physician notified the Delaware Department of Health and Social Services of another outbreak of gastroenteritis among 750 people who attended a museum fund-raiser in Wilmington, Delaware. Attendees were served food and iced drinks, most of which contained alcohol. The ice was traced to the same manufacturer that had supplied the concessionaire in Philadelphia.

Questionnaires were completed by University of Pennsylvania undergraduates, football players, and band members, and by participants at the Delaware fund-raiser to examine the relationship of food, drink, and ice consumption to the development of gastrointestinal illness. In each study, ice was significantly associated with illness. The attack rate for those consuming ice in the Pennsylvania outbreak was 62%, while 10% of those not consuming ice were ill (relative risk [RR] = 6.03; 95% confidence interval [CI], 4.66-7.50). In the Delaware outbreak, the attack rate was 61% for those consuming ice and 16% for those not consuming ice (RR = 3.65; 95% CI, 1.96-6.77).

The ice was traced to a manufacturer in southeastern Pennsylvania whose wells had been flooded by waters from Conestoga Creek following a torrential rainfall on September 8. Ice produced at this factory following the flood was sold to distributors serving Pennsylvania, Delaware, and New Jersey. Pennsylvania and Delaware health department laboratories found high concentrations of fecal coliforms in both the ice and the well water used to produce the ice. An increase in diarrheal illness was also

Gastroenteritis — Continued

noted among residents along Conestoga Creek who obtained their drinking water from private wells that were also flooded. No source of fecal contamination of the creek has been identified.

No bacterial pathogens were identified from any of the stool samples, but a 27-nm virus-like particle was identified in a sample from a University of Pennsylvania student. Serologic studies of several affected groups are pending.

At the request of the U.S. Food and Drug Administration, the manufacturer recalled ice produced after the flooding. Based on distribution records and the Pennsylvania attack rate, more than 5,000 people may have become ill from consumption of the 60-300 tons of ice produced in the week following the flood. Macaroni salad and gelatin prepared with ice from the manufacturer were also recalled. The manufacturer agreed to decontaminate its wells and machinery before resuming production.

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Editorial Note: Ice has rarely been implicated as a vehicle of infection. Its identification as the source in these outbreaks has raised several concerns. The high attack rates of diarrhea among people who ingested ice with alcoholic or carbonated beverages are striking because each of these beverages should have some disinfectant effect. Furthermore, since ice is not consistently controlled by any state or federal agency, jurisdiction for maintaining the quality of commercially produced ice or for recalling already distributed ice is unclear. Some of the containers of ice involved in the Pennsylvania and Delaware outbreaks did not carry labels identifying the manufacturer, and none were marked with the production date. Consequently, tracing the extent of the outbreak and determining which ice to recall was difficult.

This outbreak was characteristic of diarrheal illness caused by viruses other than rotaviruses (*1*). There were high rates of nausea, vomiting, and diarrhea; the incidence of fever was low; and incubation periods and lengths of illness were short. Stool samples contained no bacterial agents.

Norwalk agent has been identified as the causative agent in 42% of 74 past U.S. diarrhea outbreaks of nonbacterial origin, on the basis of a fourfold rise in antibody titer (*2*). Other viral agents identified in U.S. outbreaks include the Snow Mountain and Marin County agents (astrovirus-serotype 5). Viral agents associated with outbreaks in other countries, such as caliciviruses, other astroviruses, and non-group A rotaviruses, have not been known to cause outbreaks of diarrheal illness in the United States, perhaps because of current methods of specimen collection, handling, and processing.

Most stool specimens from field investigations are frozen before examination. The finding of a 27-nm virus-like particle in a freshly collected, refrigerated (+4°C) stool sample may support recent changes in thinking about collection and storage of such specimens. Although deep freezing (−70°C) maintains the viability of some viruses, it also causes a loss of definition of their structure (*3*). Examination of fresh, loose, large-volume, refrigerated specimens may be the key to identifying the causative agent in future investigations. Further laboratory studies are being conducted to characterize and identify the agent involved in these outbreaks.

Gastroenteritis — Continued

References

1. Kapikian AZ, Chanock RM. Norwalk group of viruses. In: Fields BN, ed. Virology. New York: Raven Press, 1985:1495-1517.
2. Kaplan JE, Gary GW, Baron RC, et al. Epidemiology of Norwalk gastroenteritis and the role of Norwalk virus in outbreaks of acute nonbacterial gastroenteritis. Ann Intern Med 1982;96:756-61.
3. Cubitt WD, Blacklow NR, Herrmann JE, Nowak NA, Nakata S, Chiba S. Antigenic relationships between human caliciviruses and Norwalk virus. J Infect Dis 1987;156:806-14.

Update on Influenza Activity — Worldwide

Since the end of last winter's influenza season in the Northern Hemisphere, low levels of activity of influenza A/Taiwan/1/86(H1N1)-like strains (the predominant strain last winter) have been reported in Asia and Oceania. Similar strains have been reported from outbreaks in South Africa (Table 1). An isolated infection with influenza A(H1N1) was confirmed in the United Kingdom. In the Americas, A/Taiwan/1/86-like viruses have been reported from Uruguay and Chile — the first reported spread of the 1986 A(H1N1) variant to South America following its circulation in North America.

Influenza B has been the most frequently isolated virus. In Oceania, localized outbreaks were reported in Australia and epidemic activity in New Zealand. In the Americas, influenza B was isolated from children in Guatemala during May, and localized influenza B activity was reported in Brazil during July and August. Influenza B infections were documented in the United States during summer and early fall. A child in Wisconsin became ill during June upon returning from the Philippines, where the infection was most likely acquired. Four cases were reported from Tucson, Arizona: one in July and three in October. In October, influenza B virus was also isolated from a 14-year-old in Hawaii.

TABLE 1. Influenza activity, by virus type — 1987 (through October)*

Country		Virus Type		
		A(H1N1)	A(H3N2)	B
Asia:	Hong Kong	+ Jul	+ Mar,Jun	++ Feb,Mar
	China (PRC)	+ Mar	++ Apr,May	+ Mar
	Singapore	+ Jan-Jun	+ Jun	+ Jan-Jun
	Taiwan	–	++ Jun,Jul	++ May,Jun
	Thailand	–	–	++ Mar-May
	Korea	–	–	+ Apr
	Indonesia	–	–	+ Apr,May
	India	+ Apr	–	+ Jul
	Japan	–	–	+ May
Africa:	South Africa	++	–	–
Europe:	United Kingdom	+ Aug	–	–
Oceania:	Australia	+	+ Jul	++ Mar
	New Zealand	–	+ Jul	+++ Jun,Jul
	Guam	–	+ Jul	–
Central America:	Guatemala	+ Jan	–	+ Feb,May
South America:	Brazil	+ Feb	++ Mar,May,Jun	++ Jul,Aug
	Uruguay	+ Jun	–	–
	Chile	+ Jul,Aug	–	–
North America:	United States	–	+ Aug	+ Jun,Jul,Oct

*Excludes influenza activity in the Northern Hemisphere during the traditional influenza season.
Key: + designates sporadic activity; ++ designates localized outbreak; +++ designates epidemic activity.

Influenza – Continued

Influenza A(H3N2) occurred sporadically in Australia and New Zealand, but no major outbreaks were reported. However, from April through September, an increasing number of Asian and Pacific countries including Hong Kong, Singapore, the People's Republic of China, Guam, and Taiwan reported A(H3N2) isolates. Brazil reported a localized outbreak of influenza A(H3N2) in Rio de Janeiro during May and June. In the United States, one patient, a Vermont resident, has had a serologically confirmed case of influenza A(H3N2). The patient was among a group of tourists who developed respiratory illness while on a ship off Alaska in late August (*1*).

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Editorial Note: International surveillance data confirm the continuing circulation of three antigenically distinct influenza viruses: type A(H3N2), type A(H1N1), and type B. Influenza A(H1N1) and A(H3N2) viruses are antigenically related through internal proteins, rather than through the surface glycoproteins, hemagglutinin (H) and neuraminidase (N). Whereas antibodies that recognize the outer proteins (particularly the hemagglutinin) can neutralize virus infectivity or reduce spread of virus, antibodies to the internal, cross-reactive proteins do not appear to prevent infection. However, immunity to these shared proteins may be important in terminating infection through the actions of cytotoxic T-cells and might contribute to early recovery (*4*). H3-containing viruses were responsible for the Hong Kong influenza pandemic of 1968, which spread among all age groups, and have evolved antigenic variants responsible for epidemics with associated excess mortality in the United States during seven seasons since then.

H1-containing viruses reappeared in 1977 after a 20-year absence and caused epidemics with low or no mortality during the 1978-79, 1983-84, and 1986-87 influenza seasons. Many persons born before about 1955 are sufficiently immune to H1N1 viruses evolving since 1977 that they are resistant to infection or have mild illnesses. Consequently, in recent years, early recognition of H1N1 virus has always occurred in children or young adults. However, the first recognized A(H3N2) infections in the United States usually involve adults, as they apparently did this year with the tourists in Alaska (*1*).

Influenza B viruses, which are antigenically distinct from type A viruses, were first recognized in the 1930s. Although variation occurs in the hemagglutinin of type B viruses, the strains represent a continuum, with no distinct subtypes. Despite this, from the mid-1930s until 1970, nine probable epidemics of influenza B (*2*) were associated with excess mortality. However, from 1970 to 1979, when influenza B epidemics occurred several times, infections appeared to be mainly confined to children or young adults, and no excess mortality occurred. With the appearance of the B/Singapore/79 strain in 1979, the pattern of excess mortality reemerged, and many B virus infections and associated deaths occurred among the elderly (*3*). Influenza B viruses were also responsible for major outbreaks or epidemics in the United States in 1983-84 (the B/USSR/83 variant) and in 1985-86 (the B/Ann Arbor/86 variant).

Influenza — Continued

Because the degree of spread of current influenza strains is unpredictable and because it is likely from current observations that both type A(H3N2) and type B viruses will circulate this winter, high-risk persons and those providing their care at home or in medical facilities should be encouraged, in advance of any outbreaks in their area, to receive the trivalent vaccine licensed for this year. The available antiviral agent, amantadine, is effective against all known subtypes of influenza A viruses but is ineffective against influenza B viruses. Laboratories providing support for physicians with patients requiring urgent care (e.g., hospitalized patients) should at this time be evaluating their capabilities to perform rapid viral diagnosis so as to differentiate between influenza A and B infections. Information about reagents and procedures for such diagnosis may be obtained from state health department laboratories or from CDC.

References:
1. CDC. Outbreak of influenza-like illness in a tour group—Alaska. MMWR 1987;36:697-8,704.
2. Noble GR. Epidemiological and clinical aspects of influenza. In: Beare AS, ed. Basic and applied influenza research. Boca Raton, Florida: CRC Press, 1982:11-50.
3. Nolan TF, Goodman RA, Hinman AR, Noble GR, Kendal AP, Thacker SB. Morbidity and mortality associated with influenza B in the United States, 1979-1980. A report from the Center for Disease Control. J Infect Dis 1980;142:360-2.
4. McMichael AJ, Gotch FM, Noble GR, Beare AS. Cytotoxic T-cell immunity to influenza. N Engl J Med 1983;309:13-7.

Current Trends

Use of Workers' Compensations Claims for Surveillance of Work-Related Illness — New Hampshire, January 1986-March 1987

As part of a surveillance program for occupationally related health events, the New Hampshire Division of Public Health Services (NHDPHS) routinely reviews case reports submitted by health-care providers and identifies work-related sentinel health events from death certificates (*1,2*). Despite the use of multiple data sources, however, surveillance of work-related disease remains incomplete (*3*). In a further effort to improve surveillance, the NHDPHS recently completed an epidemiologic analysis of workers' compensation claims filed in the state for the 15-month period January 1986-March 1987.

Workers' compensation claims were provided by the New Hampshire Department of Labor. Information on the sex, age, occupation, and place and town of employment of the claimant; the date of the claim; and the diagnosis were abstracted manually from all claims for disease or illness. Data were analyzed to determine the demographic characteristics of claimants and to determine the distribution of work-related illness within particular industries. The proportions of diagnoses in each industrial category were compared with the proportions observed for all claims. Statistical testing was performed using a chi-square distribution with 1 degree of freedom.

Nearly 78,000 claims were filed during the study period. Of these, 76,856 (98.6%) involved work-related injuries, and 1,103 (1.4%) involved illnesses or diseases. Fifty-two percent of illness and disease claims were filed by males. Claimants ranged in age from 16 to 76 years, with a mean of 35 years. Three hundred eighty-six (35%) of reported conditions were attributable to the inhalation of gases, fumes, or vapors; 288 (26%) were attributable to skin disorders; 226 (20%), to carpal tunnel syndrome or other repetitive trauma disorders; and 109 (10%), to exposure to an infectious agent.

Work-Related Illness — Continued

The latter claims were filed primarily by health-care workers, firefighters, and police officers, who alleged exposure to hepatitis (38%), tuberculosis (19%), pertussis (17%), chickenpox (7%), meningitis (6%), and AIDS (4%).

The distribution of diagnoses by industrial category was also analyzed. Notable findings included elevated proportions of claims due to carpal tunnel syndrome among employees working with rubber (relative risk [RR] = 2.33) and employees in retail sales (RR = 1.93); dermatitis among workers in the metals and electronics industries (RR = 1.99 and 1.42, respectively); and chemical burns resulting from the use of caustic cleaning substances by food and restaurant workers (RR = 6.80). Fewer than 1% (7) of illness claims involved chronic diseases: five cases of asbestosis, one of mesothelioma, and one of pancreatic cancer.

Comparison of the distribution of claims filed during the study period with that observed in an earlier review of 1976 claims revealed a change in the pattern of illnesses (*4*). The proportion of claims for respiratory diseases and for carpal tunnel syndrome and repetitive trauma disorders had increased markedly; it had decreased

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

Disease	43rd Week Ending			Cumulative, 43rd Week Ending		
	Oct. 31, 1987	Oct. 25, 1986	Median 1982-1986	Oct. 31, 1987	Oct. 25, 1986	Median 1982-1986
Acquired Immunodeficiency Syndrome (AIDS)	255	304	N	15,626	10,903	N
Aseptic meningitis	223	399	307	9,552	8,853	8,460
Encephalitis: Primary (arthropod-borne & unspec)	16	36	41	1,074	1,011	1,081
Post-infectious	-	1	1	87	91	91
Gonorrhea: Civilian	12,920	19,072	18,575	637,539	734,674	735,590
Military	272	400	501	13,293	13,933	17,837
Hepatitis: Type A	511	600	569	20,230	18,748	18,642
Type B	460	608	543	20,930	21,419	21,298
Non A, Non B	51	83	N	2,446	2,949	N
Unspecified	76	88	126	2,598	3,652	4,749
Legionellosis	12	35	N	714	655	N
Leprosy	3	3	3	173	211	200
Malaria	25	38	18	739	963	866
Measles: Total*	20	60	41	3,498	5,691	2,426
Indigenous	19	55	N	3,082	5,392	N
Imported	1	5	N	416	299	N
Meningococcal infections: Total	51	37	44	2,379	2,076	2,257
Civilian	51	37	44	2,378	2,074	2,249
Military	-	-	-	1	2	6
Mumps	112	188	52	11,054	4,252	2,743
Pertussis	63	278	138	2,077	3,429	2,007
Rubella (German measles)	2	5	12	314	468	654
Syphilis (Primary & Secondary): Civilian	623	736	675	29,178	21,969	23,083
Military	1	6	6	132	140	251
Toxic Shock syndrome	3	8	N	272	294	N
Tuberculosis	434	473	473	17,446	18,063	18,063
Tularemia	2	3	6	171	129	226
Typhoid Fever	3	5	5	266	266	317
Typhus fever, tick-borne (RMSF)	5	18	12	564	697	777
Rabies, animal	52	85	115	3,887	4,643	4,643

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1987		Cum. 1987
Anthrax	1	Leptospirosis (Ohio 1; Ky. 1; Hawaii 8)	32
Botulism: Foodborne	10	Plague	9
Infant (Utah 1; Wash. 1)	44	Poliomyelitis, Paralytic	-
Other (Calif. 1)	1	Psittacosis (Col. 4; Wash. 1)	73
Brucellosis (Fla. 1; Ark. 1; Tex. 1)	96	Rabies, human	-
Cholera	4	Tetanus	35
Congenital rubella syndrome	5	Trichinosis	33
Congenital Syphilis, <1 year	21	Typhus fever, flea-borne (endemic, murine)	32
Diphtheria	3		

*One of the 20 reported cases for this week was 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 31, 1987 and October 25, 1986 (43rd 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. 1987	1987	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1986	1987	1987	1987	1987	1987	Cum. 1987
UNITED STATES	15,626	223	1,074	87	637,539	734,674	511	460	51	76	12	173
NEW ENGLAND	616	11	38	2	19,723	17,987	15	41	2	3	-	12
Maine	20	-	3	-	581	708	3	3	-	-	-	-
N.H.	23	-	2	-	337	471	-	3	-	-	-	2
Vt.	9	1	5	-	186	225	1	1	-	-	-	-
Mass.	355	5	17	1	6,920	7,293	4	26	1	3	-	9
R.I.	47	4	3	1	1,790	1,504	1	-	-	-	-	-
Conn.	162	1	8	-	9,909	7,786	6	8	1	-	-	1
MID. ATLANTIC	4,504	44	125	7	97,028	125,069	39	61	6	2	1	19
Upstate N.Y.	549	26	46	3	13,862	15,136	18	26	5	-	-	-
N.Y. City	2,591	4	10	-	50,271	72,315	15	35	1	2	1	19
N.J.	914	-	8	-	13,457	15,926	-	-	-	-	-	-
Pa.	450	14	61	4	19,438	21,692	6	-	-	-	-	-
E.N. CENTRAL	989	48	310	12	97,495	99,982	40	28	4	8	3	8
Ohio	199	16	139	5	21,934	24,799	5	6	1	1	2	3
Ind.	88	16	44	-	7,485	10,344	5	5	1	3	-	-
Ill.	474	-	25	7	29,161	23,733	15	3	2	2	-	1
Mich.	146	16	68	-	30,930	30,654	15	14	-	2	1	3
Wis.	82	-	34	-	7,985	10,452	-	-	-	-	-	1
W.N. CENTRAL	340	7	70	-	26,054	31,322	29	26	1	1	2	-
Minn.	80	-	40	-	3,934	4,498	5	3	-	-	-	-
Iowa	24	1	12	-	2,513	3,174	3	3	-	1	-	-
Mo.	176	-	-	-	13,865	15,793	9	13	1	-	2	-
N. Dak.	2	-	1	-	232	274	-	-	-	-	-	-
S. Dak.	2	1	-	-	518	664	-	2	-	-	-	-
Nebr.	18	-	10	-	1,644	2,370	1	1	-	-	-	-
Kans.	38	5	7	-	3,348	4,549	11	4	-	-	-	-
S. ATLANTIC	2,768	27	148	30	168,247	190,340	44	95	3	25	2	5
Del.	20	2	4	1	2,846	3,184	-	2	-	-	-	-
Md.	353	5	18	5	19,096	22,291	7	14	-	1	-	2
D.C.	380	3	-	-	11,300	13,990	2	-	-	-	-	-
Va.	181	2	33	2	12,469	15,748	9	1	1	22	-	-
W. Va.	20	-	53	-	1,211	1,854	-	-	-	-	-	-
N.C.	141	-	24	-	24,694	29,403	1	12	-	1	-	-
S.C.	66	1	1	-	13,315	16,398	-	12	-	-	-	1
Ga.	392	4	1	-	30,087	31,507	6	27	-	-	1	-
Fla.	1,215	10	14	22	53,229	55,965	19	27	2	1	1	2
E.S. CENTRAL	214	13	54	7	48,643	58,966	11	24	4	1	-	-
Ky.	36	4	26	1	4,908	6,468	6	4	2	1	-	-
Tenn.	33	1	12	-	17,015	22,399	3	13	-	-	-	-
Ala.	124	7	16	1	15,444	17,291	1	6	2	-	-	-
Miss.	21	1	-	5	11,276	12,808	1	1	-	-	-	-
W.S. CENTRAL	1,549	21	128	4	72,831	85,474	58	47	5	11	1	4
Ark.	36	-	2	2	8,136	8,071	11	1	1	-	-	-
La.	270	2	20	-	12,512	14,821	-	3	-	-	1	-
Okla.	86	2	22	1	7,887	9,920	6	4	1	1	-	-
Tex.	1,157	17	84	1	44,296	52,662	41	39	3	10	-	4
MOUNTAIN	463	9	67	4	16,807	21,624	78	39	8	2	1	2
Mont.	3	-	1	-	472	586	2	1	-	-	-	-
Idaho	9	-	-	-	602	740	14	5	-	-	-	1
Wyo.	3	-	1	-	352	456	1	-	-	-	-	-
Colo.	192	3	38	-	3,800	5,572	3	4	4	-	-	-
N. Mex.	33	1	5	-	1,857	2,273	8	9	-	-	-	-
Ariz.	138	4	17	1	5,675	6,976	48	13	3	1	1	-
Utah	30	1	1	3	519	910	1	1	1	1	-	-
Nev.	55	-	4	-	3,530	4,111	1	6	-	-	-	1
PACIFIC	4,183	43	134	21	90,711	103,910	197	99	18	23	2	123
Wash.	254	-	11	4	7,291	7,805	37	5	-	1	1	5
Oreg.	123	-	-	-	3,391	4,414	16	14	-	-	-	-
Calif.	3,721	43	118	17	77,874	88,376	144	77	18	22	1	94
Alaska	12	-	2	-	1,446	2,258	-	2	-	-	-	1
Hawaii	73	-	3	-	709	1,057	-	1	-	-	-	23
Guam	3	-	-	-	170	172	-	-	-	-	-	-
P.R.	84	-	1	1	1,661	2,012	-	-	-	-	-	5
V.I.	-	-	-	-	230	233	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	322	410	-	-	-	-	-	46
Amer. Samoa	-	-	-	-	67	44	-	-	-	-	-	1

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending October 31, 1987 and October 25, 1986 (43rd Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986
UNITED STATES	739	19	3,082	1	416	5,691	2,379	112	11,054	63	2,077	3,429	2	314	468
NEW ENGLAND	49	-	118	-	162	102	208	8	56	11	149	144	-	1	9
Maine	2	-	3	-	-	13	12	-	1	1	28	2	-	1	-
N.H.	2	-	61	-	102	43	18	-	10	1	37	75	-	-	1
Vt.	-	-	11	-	15	-	18	-	6	-	4	3	-	-	1
Mass.	19	-	26	-	38	36	101	8	21	9	51	34	-	-	4
R.I.	8	-	1	-	1	2	14	-	2	-	3	6	-	-	2
Conn.	18	-	16	-	6	8	45	-	16	-	26	24	-	-	1
MID. ATLANTIC	101	2	524	-	57	1,719	303	7	221	3	237	180	-	11	35
Upstate N.Y.	33	-	26	-	14	100	105	4	97	2	137	116	-	9	27
N.Y. City	19	-	443	-	19	686	29	-	10	-	8	10	-	1	5
N.J.	24	-	32	-	7	909	56	-	58	-	14	17	-	1	3
Pa.	25	2	23	-	17	24	113	3	56	1	78	37	-	-	-
E.N. CENTRAL	46	13	341	-	25	1,068	357	37	6,159	12	211	351	-	35	75
Ohio	12	-	1	-	4	10	119	5	93	12	69	146	-	-	1
Ind.	4	-	-	-	-	38	37	-	923	-	16	26	-	-	-
Ill.	7	13	166	-	18	675	87	17	2,543	-	14	37	-	25	65
Mich.	17	-	29	-	-	59	91	15	954	-	46	35	-	9	8
Wis.	6	-	145	-	3	286	23	-	1,646	-	66	104	-	1	1
W.N. CENTRAL	25	-	208	-	22	339	96	-	1,366	1	128	1,072	1	2	13
Minn.	8	-	19	-	20	49	28	-	774	-	13	47	-	-	1
Iowa	5	-	-	-	-	134	3	-	412	-	55	19	-	1	1
Mo.	6	-	188	-	1	31	26	-	28	-	31	19	-	-	1
N. Dak.	-	-	1	-	-	25	1	-	6	-	11	5	-	-	1
S. Dak.	-	-	-	-	-	-	2	-	90	-	3	14	-	-	-
Nebr.	5	-	-	-	-	1	6	-	4	-	1	7	-	-	-
Kans.	1	-	-	-	1	99	30	-	52	1	14	961	1	1	9
S. ATLANTIC	124	2	147	-	12	746	387	6	273	4	296	722	-	18	8
Del.	1	-	32	-	-	1	5	-	-	-	5	227	-	2	-
Md.	28	-	6	-	2	35	39	-	26	-	17	163	-	3	-
D.C.	17	-	-	-	1	2	9	-	1	-	-	-	-	1	-
Va.	24	-	1	-	-	60	62	-	73	-	49	36	-	1	-
W. Va.	2	-	-	-	-	2	3	-	36	-	50	23	-	-	-
N.C.	11	-	2	-	3	4	46	-	25	1	117	68	-	1	-
S.C.	6	-	2	-	-	301	37	1	17	-	-	18	-	-	-
Ga.	4	-	8	-	1	93	78	-	40	-	23	129	-	2	-
Fla.	31	2	96	-	5	248	108	5	55	3	35	58	-	8	8
E.S. CENTRAL	13	-	3	-	3	67	124	1	1,263	1	42	49	-	3	4
Ky.	1	-	-	-	-	6	21	-	220	-	2	5	-	2	4
Tenn.	1	-	-	-	-	56	55	1	983	-	12	18	-	1	-
Ala.	5	-	1	-	3	2	40	-	60	1	22	25	-	-	-
Miss.	6	-	2	-	-	3	8	N	N	-	6	1	-	-	-
W.S. CENTRAL	50	-	444	-	4	685	168	31	1,110	2	261	230	-	11	63
Ark.	1	-	-	-	-	283	20	-	290	-	12	18	-	2	-
La.	1	-	-	-	-	4	22	26	563	2	49	13	-	-	-
Okla.	4	-	3	-	1	39	22	N	N	-	149	116	-	5	-
Tex.	44	-	441	-	3	359	104	5	256	-	51	83	-	4	63
MOUNTAIN	36	-	480	-	19	329	80	4	214	7	169	243	-	24	23
Mont.	1	-	127	-	1	8	4	-	6	-	6	14	-	8	2
Idaho	2	-	-	-	-	1	5	-	5	4	50	41	-	1	-
Wyo.	1	-	-	-	2	-	-	-	-	-	5	4	-	1	1
Colo.	9	-	5	-	4	10	27	-	28	2	58	65	-	-	1
N. Mex.	2	-	312	-	9	38	5	N	N	1	12	21	-	-	-
Ariz.	17	-	34	-	1	258	26	4	159	-	30	56	-	4	2
Utah	1	-	-	-	1	12	9	-	12	-	8	38	-	10	14
Nev.	3	-	2	-	1	2	4	-	4	-	-	4	-	-	3
PACIFIC	295	2	817	1	112	636	656	18	392	22	584	438	1	209	238
Wash.	24	-	34	-	10	167	72	3	50	6	87	142	-	2	17
Oreg.	5	-	11	-	80	12	26	N	N	5	70	12	-	2	4
Calif.	262	2	772	-	17	429	543	15	320	6	207	271	-	133	212
Alaska	3	-	-	1†	1	-	5	-	7	-	5	2	-	2	-
Hawaii	1	-	-	-	4	28	10	-	15	5	215	14	1	70	5
Guam	-	-	2	-	-	5	5	-	5	-	-	-	-	1	4
P.R.	1	-	755	-	-	36	5	-	12	-	16	19	-	3	62
V.I.	-	-	-	-	-	-	-	-	13	-	-	-	-	1	-
Pac. Trust Terr.	-	-	1	-	-	-	1	-	5	-	1	-	-	1	2
Amer. Samoa	-	-	1	-	-	2	-	-	6	-	-	-	-	-	1

*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 31, 1987 and October 25, 1986 (43rd Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1987
UNITED STATES	29,178	21,969	3	17,446	18,063	171	266	564	3,887
NEW ENGLAND	506	395	-	537	579	1	27	7	7
Maine	1	17	-	22	34	-	1	-	3
N.H.	3	10	-	18	28	-	-	-	-
Vt.	2	8	-	10	15	-	1	-	-
Mass.	238	210	-	300	317	1	15	4	-
R.I.	10	19	-	51	41	-	3	-	1
Conn.	252	131	-	136	144	-	7	3	3
MID. ATLANTIC	5,392	3,111	-	3,097	3,583	1	29	24	340
Upstate N.Y.	210	166	-	424	507	1	8	11	52
N.Y. City	3,997	1,755	-	1,481	1,884	-	3	5	-
N.J.	562	550	-	553	602	-	18	1	15
Pa.	623	640	-	639	590	-	-	7	273
E.N. CENTRAL	759	740	-	1,947	2,139	3	30	45	145
Ohio	90	103	-	357	383	1	9	29	14
Ind.	52	95	-	192	237	-	4	1	17
Ill.	401	363	-	843	906	-	9	7	44
Mich.	160	143	-	470	514	-	5	5	27
Wis.	56	36	-	85	99	2	3	3	43
W.N. CENTRAL	153	178	-	501	531	60	11	53	816
Minn.	15	29	-	98	124	-	5	-	201
Iowa	25	7	-	35	44	4	2	1	231
Mo.	72	93	-	272	261	38	3	18	52
N. Dak.	-	6	-	8	10	1	-	-	94
S. Dak.	11	9	-	23	23	9	-	1	184
Nebr.	10	12	-	23	13	2	-	3	16
Kans.	20	22	-	42	56	6	1	30	38
S. ATLANTIC	10,022	6,645	1	3,752	3,601	5	28	211	1,077
Del.	63	52	-	36	40	1	-	2	-
Md.	528	375	-	337	272	-	4	45	365
D.C.	326	250	-	135	128	-	2	-	40
Va.	269	298	-	372	293	2	6	19	298
W. Va.	10	19	1	84	104	-	1	7	58
N.C.	583	432	-	424	488	2	3	75	8
S.C.	633	581	-	390	463	-	-	33	49
Ga.	1,406	1,246	-	657	613	-	-	28	177
Fla.	6,204	3,392	-	1,317	1,200	-	12	2	82
E.S. CENTRAL	1,609	1,436	-	1,569	1,597	8	4	94	279
Ky.	19	60	-	347	360	3	2	11	124
Tenn.	639	504	-	468	464	1	1	58	75
Ala.	418	445	-	466	506	1	1	15	73
Miss.	533	427	-	288	267	3	-	10	7
W.S. CENTRAL	3,643	4,398	1	2,061	2,276	65	23	115	522
Ark.	214	215	-	250	318	33	2	12	111
La.	678	759	-	235	376	3	-	-	13
Okla.	138	118	1	194	210	26	5	86	31
Tex.	2,613	3,306	-	1,382	1,372	3	16	17	367
MOUNTAIN	565	489	1	422	444	16	15	12	324
Mont.	9	6	-	11	21	2	-	10	144
Idaho	5	13	-	17	20	1	-	-	9
Wyo.	3	2	-	-	-	-	-	1	67
Colo.	101	113	-	40	52	5	-	-	7
N. Mex.	50	54	-	78	83	1	10	-	3
Ariz.	264	204	1	223	206	3	4	-	74
Utah	22	16	-	24	29	2	-	1	7
Nev.	111	81	-	29	33	2	1	-	13
PACIFIC	6,529	4,577	-	3,560	3,313	12	99	3	377
Wash.	120	145	-	204	173	4	7	-	-
Oreg.	258	99	-	100	109	5	2	1	-
Calif.	6,135	4,302	-	3,035	2,837	2	83	2	374
Alaska	4	-	-	58	46	1	-	-	3
Hawaii	12	31	-	163	148	-	7	-	-
Guam	2	1	-	26	34	-	-	-	-
P.R.	774	736	-	266	288	-	-	-	60
V.I.	9	1	-	2	1	-	-	-	-
Pac. Trust Terr.	190	216	-	141	62	-	19	-	-
Amer. Samoa	2	-	-	1	5	-	1	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending October 31, 1987 (43rd Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	624	416	122	50	15	21	41
Boston, Mass.	177	99	44	17	4	13	20
Bridgeport, Conn.	49	31	14	3	1	-	3
Cambridge, Mass.	25	23	1	-	1	-	1
Fall River, Mass.	32	23	8	-	1	-	1
Hartford, Conn.	64	42	8	8	2	4	1
Lowell, Mass.	24	20	2	-	2	-	1
Lynn, Mass.	18	14	3	1	-	-	3
New Bedford, Mass.	29	23	3	2	1	-	1
New Haven, Conn.	16	11	3	2	-	-	1
Providence, R.I.	59	38	10	7	-	4	3
Somerville, Mass.	8	4	2	2	-	-	-
Springfield, Mass.	48	34	9	4	1	-	6
Waterbury, Conn.	19	14	5	-	-	-	-
Worcester, Mass.	56	40	10	4	2	-	-
MID. ATLANTIC	3,008	1,999	592	275	63	79	150
Albany, N.Y.	45	35	8	1	-	1	-
Allentown, Pa.	19	12	3	3	1	-	-
Buffalo, N.Y.§	106	79	19	6	1	1	8
Camden, N.J.	41	23	11	4	2	1	-
Elizabeth, N.J.§	18	13	2	2	1	-	-
Erie, Pa.†	47	40	6	1	-	-	4
Jersey City, N.J.§	53	37	8	6	1	1	2
N.Y. City, N.Y.	1,689	1,085	343	179	34	48	88
Newark, N.J.§	70	34	16	17	1	2	3
Paterson, N.J.	20	10	4	2	2	2	-
Philadelphia, Pa.§	396	270	79	30	8	9	14
Pittsburgh, Pa.†	96	64	18	5	4	5	5
Reading, Pa.	34	31	-	-	3	-	5
Rochester, N.Y.	126	90	22	6	3	5	11
Schenectady, N.Y.	28	23	4	1	-	-	-
Scranton, Pa.†	30	25	4	1	-	-	-
Syracuse, N.Y.	90	66	18	3	1	2	3
Trenton, N.J.	47	21	17	6	1	2	3
Utica, N.Y.	21	14	6	1	-	-	2
Yonkers, N.Y.§	32	27	4	1	-	-	2
E.N. CENTRAL	2,368	1,564	500	165	63	74	95
Akron, Ohio	54	41	10	1	-	2	-
Canton, Ohio	32	22	8	2	-	-	2
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	129	76	36	8	4	5	10
Cleveland, Ohio	182	120	41	9	6	6	3
Columbus, Ohio	131	84	23	14	1	7	-
Dayton, Ohio	101	68	21	6	4	2	11
Detroit, Mich.	256	160	59	23	7	7	7
Evansville, Ind.	38	28	7	1	1	1	1
Fort Wayne, Ind.	61	40	12	6	3	-	3
Gary, Ind.	17	10	4	3	-	-	-
Grand Rapids, Mich.	72	58	9	2	2	1	9
Indianapolis, Ind.	203	124	46	15	9	9	5
Madison, Wis.	35	23	3	3	4	2	2
Milwaukee, Wis.	132	89	29	9	2	3	9
Peoria, Ill.	63	45	9	5	1	3	6
Rockford, Ill.	44	26	10	4	3	1	4
South Bend, Ind.	55	45	7	2	1	-	1
Toledo, Ohio	103	71	24	-	5	3	5
Youngstown, Ohio	96	72	17	7	-	-	1
W.N. CENTRAL	772	565	143	32	16	16	38
Des Moines, Iowa	66	55	7	3	-	1	2
Duluth, Minn.	20	13	5	-	-	2	-
Kansas City, Kans.	40	25	11	-	3	1	-
Kansas City, Mo.	113	75	26	6	4	2	5
Lincoln, Nebr.	37	32	3	1	-	1	3
Minneapolis, Minn.	98	71	18	5	1	3	6
Omaha, Nebr.	97	74	17	5	1	-	5
St. Louis, Mo.	136	86	34	7	4	5	10
St. Paul, Minn.	86	71	10	3	2	-	3
Wichita, Kans.	79	63	12	2	1	1	4

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-84	25-44	1-24	<1	Total
S. ATLANTIC	1,247	755	269	137	39	47	42
Atlanta, Ga.	141	79	28	29	2	3	7
Baltimore, Md.	175	98	49	17	5	6	2
Charlotte, N.C.	77	49	16	7	1	4	3
Jacksonville, Fla.	93	67	13	8	2	3	1
Miami, Fla.	154	79	40	22	7	6	1
Norfolk, Va.	39	21	11	4	2	1	1
Richmond, Va.	91	57	22	6	6	-	8
Savannah, Ga.	48	34	10	1	1	2	4
St. Petersburg, Fla.	81	57	11	4	2	7	2
Tampa, Fla.	69	44	15	5	1	4	3
Washington, D.C.	253	153	52	29	8	11	9
Wilmington, Del.	26	17	2	5	2	-	1
E.S. CENTRAL	813	536	182	45	26	24	68
Birmingham, Ala.	110	68	29	9	3	1	1
Chattanooga, Tenn.	54	42	9	1	-	2	5
Knoxville, Tenn.	86	53	20	8	2	3	11
Louisville, Ky.	136	92	28	6	5	5	13
Memphis, Tenn.	173	109	48	6	6	4	23
Mobile, Ala.	56	39	9	4	3	1	3
Montgomery, Ala.	60	42	8	3	3	4	4
Nashville, Tenn.	138	91	31	8	4	4	8
W.S. CENTRAL	1,341	805	304	131	53	48	52
Austin, Tex.	53	35	13	4	1	-	4
Baton Rouge, La.	18	12	3	2	-	1	1
Corpus Christi, Tex.	57	39	8	6	2	2	-
Dallas, Tex.	217	121	44	23	16	13	6
El Paso, Tex.	65	45	13	2	1	4	-
Fort Worth, Tex	100	60	21	11	4	4	3
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	63	38	18	5	-	2	4
New Orleans, La.	135	90	22	18	4	1	-
San Antonio, Tex.	193	102	60	17	8	6	9
Shreveport, La.	39	25	9	4	-	1	7
Tulsa, Okla.	93	62	19	5	4	3	11
MOUNTAIN	690	432	171	47	26	13	42
Albuquerque, N. Mex.	89	53	23	6	4	2	6
Colo. Springs, Colo.	35	21	8	4	1	1	3
Denver, Colo.	118	67	35	8	3	5	4
Las Vegas, Nev.	80	47	26	6	-	1	5
Ogden, Utah	28	19	4	3	1	1	6
Phoenix, Ariz.	168	110	41	6	10	1	9
Pueblo, Colo.	22	18	3	1	-	-	1
Salt Lake City, Utah	53	37	5	6	4	1	3
Tucson, Ariz.	97	60	26	7	3	1	5
PACIFIC	1,981	1,342	352	174	47	61	114
Berkeley, Calif.	18	14	4	-	-	-	2
Fresno, Calif.	92	69	10	6	4	3	11
Glendale, Calif.	22	17	3	1	-	1	-
Honolulu, Hawaii	63	36	16	5	4	2	7
Long Beach, Calif.	104	64	24	4	1	11	11
Los Angeles Calif.	590	406	90	64	13	12	20
Oakland, Calif.	53	29	11	7	5	1	4
Pasadena, Calif.	27	21	4	1	-	1	3
Portland, Oreg.	125	85	25	6	4	5	10
Sacramento, Calif.	128	89	23	8	2	6	5
San Diego, Calif.	134	79	28	15	6	6	11
San Francisco, Calif.	179	100	39	32	3	5	4
San Jose, Calif.	182	128	39	11	-	4	13
Seattle, Wash.	147	110	22	10	2	3	6
Spokane, Wash.	69	55	8	2	3	1	7
Tacoma, Wash.	48	40	6	2	-	-	-
TOTAL	12,844††	8,414	2,635	1,056	348	383	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 4 weeks.

Work-Related Illness — Continued

considerably for skin disorders (Table 1). Similar nationwide changes have been reported by the Bureau of Labor Statistics (*5*).

Reported by: E Schwartz, MD, MPH, State Epidemiologist, and staff, New Hampshire Dept of Health and Welfare. Office of the Director, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Surveillance of occupationally related diseases provides critical data necessary for targeting and evaluating prevention and control activities. State-based surveillance often relies on the analysis of data derived from multiple sources, including physician reports, death certificates, hospital discharge records, and workers' compensation claims. Because each data set has different inherent limitations, many states use complementary sources of data to estimate the occurrence of occupational disease more accurately.

Workers' compensation systems vary widely among states in eligibility but commonly are administered by state labor departments to provide no-fault insurance for work-related injuries (*6*). The New Hampshire law covers occupational diseases as well as injuries and applies to all workers except federal employees, longshoremen, railroad workers, and agricultural workers. Members of certain other exempted groups, such as the self-employed, may participate on a voluntary basis (*7*). Despite an estimated 8 million claims filed annually in the United States, fewer than 20% of workers who thought they had been severely disabled because of their jobs have ever applied for workers' compensation (*8,9*). In New Hampshire, as in most states, nearly all claims involve work-related traumatic injuries (*10*). This pattern occurs partly because the causal association between workplace exposure and a resulting illness is often obscured by 1) the often multicausal nature of many chronic diseases, 2) the generally long latent period between first exposure to workplace agents and the time a chronic condition becomes clinically apparent, and 3) physicians' failure to recognize and diagnose occupational disease. Since workers' compensation claims contain allegations of injury, illness, or disease that may be subject to dispute, cases identified through compensation claims may be considered suspected rather than confirmed. Even so, as with infectious disease, suspected cases can be valuable for surveillance purposes.

Despite these limitations in workers' compensation claims, the New Hampshire data suggest that ongoing analysis of such data may be a useful method for surveillance of trends in occupational illness, as demonstrated by the shift in the distribution of claims from 1976 to 1986. Some of this shift may indicate a true change in the incidence of these conditions, but the magnitude of the increases in claims for respiratory and repetitive trauma disorders suggests that much of the shift can be attributed to improved physician recognition and reporting of these conditions as

TABLE 1. Distribution of workers' compensation claims, by diagnosis — New Hampshire, 1976 compared with 1986

	1976		1986	
Diagnosis	**No.**	**%**	**No.**	**%**
Skin disorders	441	51.2	288	26.1
Respiratory disorders	75	8.7	386	35.0
Carpal tunnel, repetitive trauma disorders	111	12.9	226	20.5
Others	235	27.3	203	18.4
Total	**862**	**~100.0**	**1,103**	**100.0**

Work-Related Illness — Continued

work-related. In addition, because 10% of disease claims in New Hampshire alleged exposure to an infectious agent, analysis of these claims could enhance surveillance of occupationally related communicable disease as well. Furthermore, epidemiologic surveillance of workers' compensation claims offers an opportunity to identify companies and industries with unusual patterns of work-related illness or injury. Such identification can provide a basis for targeting industrial hygiene evaluations and for more thorough epidemiologic investigations that will lead to interventions. In addition to the use of workers' compensation records for surveillance, the National Institute for Occupational Safety and Health continues to recommend that states develop primary intervention and prevention activities based also upon targeted provider-based case reporting and analyses of other data sources.

References

1. CDC. Use of death certificates for surveillance of work-related illnesses—New Hampshire. MMWR 1986;35:537-40.
2. Rutstein DD, Mullan RJ, Frazier TM, Halperin WE, Melius JM, Sestito JP. Sentinel health events (occupational): a basis for physician recognition and public health surveillance. Am J Public Health 1983;73:1054-62.
3. Sundin DS, Pedersen DH, Frazier TM. Occupational hazard and health surveillance. Am J Public Health 1986;76:1083-4.
4. New Hampshire Department of Labor. New Hampshire—Occupational Injuries and Illnesses Survey, 1976. Concord, New Hampshire: New Hampshire Department of Labor, 1978.
5. Bureau of Labor Statistics. Towards improved measurement and reporting of occupational illness and disease. Washington, DC: US Department of Labor, Bureau of Labor Statistics, 1987:78.
6. Larson A. Workmen's compensation for occupational injuries and deaths. New York: Matthew Bender, 1985.
7. New Hampshire Revised Statutes Annotated 281; Workers' compensation law. (Supp. 1986).
8. Shor GM. Workers' compensation: subsidies for occupational disease. J Public Health Policy 1980;1:328-41.
9. US Department of Labor. An interim report to Congress on occupational diseases. Washington, DC: US Department of Labor, 1980:66.
10. Barth PS, Hunt HA. Workers' compensation and work-related illnesses and diseases. Cambridge, Massachusetts: MIT Press, 1980:256.

Perspectives in Disease Prevention and Health Promotion

Status of the 1990 Objectives on Misuse of Alcohol and Drugs

Nineteen of the 226 health objectives for the nation published in 1980 (*1,2*) concern alcohol and drug misuse. As part of an ongoing series of Public Health Service progress reviews, the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) and representatives of collaborating agencies recently reported on the status of the 13 high-priority objectives in this area.

Progress toward achieving these objectives is encouraging, although results of the 1986 survey of high school seniors (*3*) revealed some areas of concern. Trends in students' self-reported use of marijuana, amphetamines, heroin, and sedatives have continued downward (Table 1). Despite this generally positive trend, however, special efforts are needed to reduce cocaine use, alcohol consumption, cigarette smoking, and binge drinking among students. In addition, continued attention to alcohol and drug problems among adults is necessary to further reduce the incidence of fetal alcohol syndrome (FAS), prescription drug abuse, and cirrhosis mortality.

Objectives — Continued

ADAMHA reviewers identified three areas that need improvement if the 1990 objectives on alcohol and drug misuse are to be met: 1) the conversion of attitudes and beliefs into behavioral changes, 2) the improvement and expansion of surveillance systems and epidemiologic studies to identify populations at greatest risk, and 3) the ability to identify and monitor the introduction of new substances such as crack and controlled substance analogues and to determine their consequences quickly.

At present, five of the 13 objectives are likely to be achieved by 1990. Three of the remaining eight are progressing, but may not be achieved by 1990. National data are inadequate to predict the outcome for two of the objectives, and three are unlikely to be met. All 13 objectives are presented below, along with a status report:

Reduce annual fatalities from alcohol-related motor vehicle crashes to less than 9.5 per 100,000 U.S. population. In 1977, there were 11.5 such fatalities per 100,000 population. By 1984 and 1985, there were 9.5 per 100,000. This objective has been met. ADAMHA continues to work closely with the National Highway Traffic Safety Administration to increase national awareness of risks associated with driving after drinking. The midcourse review issued by the Office of Disease Prevention and Health Promotion (*4*) also recommends intervention programs for impaired drivers who could become repeat offenders.

Reduce the annual cirrhosis mortality rate to 12 per 100,000 population. In 1978, the cirrhosis mortality rate was 13.5 per 100,000 population. By 1984, the rate had declined to 11.6 per 100,000. This objective has been met, largely because of the recent decline in per capita consumption of alcoholic beverages. However, cirrhosis

TABLE 1. Trends in annual prevalence of drug use among high school seniors, by drug type — National High School Senior Survey conducted by the National Institute on Drug Abuse, 1975, 1980, 1985, 1986

	Student Drug Use* (%)				
Drug Type	Class of 1975	Class of 1980	Class of 1985	Class of 1986	1985-1986 Rate Change
Marijuana/hashish	40.0	48.8	40.6	38.8	−1.8
Inhalants	NA	4.6	5.7	6.1	+0.4
Inhalants adjusted	NA	7.9	7.5	8.9	+1.4 †
Amyl & butyl nitrites	NA	5.7	4.0	4.7	+0.7
Hallucinogens	11.2	9.3	6.3	6.0	−0.3
Hallucinogens adjusted	NA	10.4	7.6	7.6	0.0
LSD	7.2	6.5	4.4	4.5	+0.1
PCP	NA	4.4	2.9	2.4	−0.5
Cocaine	5.6	12.3	13.1	12.7	−0.4
Heroin	1.0	0.5	0.6	0.5	−0.1
Other opiates	5.7	6.3	5.9	5.2	−0.7 †
Stimulants	16.2	20.8	NA	NA	NA
Stimulants adjusted	NA	NA	15.8	13.4	−2.4 §
Sedatives	11.7	10.3	5.8	5.2	−0.6
Barbiturates	10.7	6.8	4.6	4.2	−0.4
Methaqualone	5.1	7.2	2.8	2.1	−0.7 †
Tranquilizers	10.6	8.7	6.1	5.8	−0.3
Alcohol	84.8	87.9	85.6	84.5	−1.1
Approx N =	(9,400)	(15,900)	(16,000)	(15,200)	

*Reports drug use for previous 12-month period; NA indicates data not available.
†Level of significance of difference between 1985 and 1986 is 0.05.
§Level of significance of difference between 1985 and 1986 is 0.001.

Objectives — Continued

rates for races other than white are substantially above those for whites, and it is unlikely that these rates will drop to 12 per 100,000 by 1990.

Per capita alcohol consumption should not exceed current levels. In 1978, absolute alcohol was consumed at 2.71 gallons per person by those 14 years of age or older. By 1984, absolute alcohol was being consumed by this age group at 2.65 gallons per person. This objective is currently being achieved for a variety of reasons, including changing lifestyles and heightened awareness of the health- and safety-related risks of alcohol consumption.

More than 90% of women of childbearing age should be aware of risks associated with drinking during pregnancy, in particular, the fetal alcohol syndrome. In 1979, 73.0% of such women were aware of these risks. In 1985, 88.0% were aware. Achievement is likely by 1990. ADAMHA has launched a public and professional education campaign, beginning with FAS Awareness Week.

Proportion of workers in major firms providing an employee assistance program (EAP) for substance abuse should exceed 70%. In 1976, 50.0% of a sample of Fortune 500 firms provided such EAPs. By 1979, the number of firms offering EAPs increased to 57%. According to knowledgeable professionals, most Fortune 500 firms are realizing the benefits of EAPs and worksite wellness programs.

The proportion of 12- to 17-year-olds who abstain from alcohol or other drug use should not fall below 1977 levels. In 1977, 69.0% of persons in this age group reported abstaining from alcohol; 83.9% reported abstaining from marijuana; and 99.9%, from heroin. In 1982, 73.1% reported abstaining from alcohol; 88.5%, from marijuana; and 99.5%, from heroin. In 1985, 69.0% reported abstaining from alcohol. There has been progress in discouraging marijuana use; however, stronger public education and prevention efforts are needed to improve the rates of abstinence from alcohol.

The proportion of 18- to 25-year-olds reporting frequent use of nonalcoholic drugs should not exceed the 1977 level. In 1977, 18.7% of persons in this age group used marijuana frequently; less than 1.0% used other drugs frequently. In 1985, 10.5% reported using marijuana frequently, and 1.8% reported frequent use of other drugs. The increase in the proportion of those using other drugs probably reflects the concentration of cocaine users in this age group. The National Institute on Drug Abuse has initiated a program designed to prevent the progression from early drug use to cocaine use.

The proportion of 12- to 17-year-olds reporting frequent use of nonalcoholic drugs should not exceed the 1977 level. In 1977, 9.0% of persons in this age group reported using marijuana frequently; less than 1.0% reported using other drugs frequently. In 1985, 4.4% reported using marijuana frequently, and 1.2% reported frequent use of other drugs. Although progress has been made in reducing marijuana use, introduction of other substances such as crack and controlled substance analogues makes it difficult to assure achievement of this objective. Federal initiatives and campaigns are under way to improve public awareness of the dangers of any illicit drug use.

More than 75% of adults should be aware of the added risk of head and neck cancers associated with excessive alcohol use. Baseline data were not available; however, in 1985, 48.0% of adults were aware of the added risk of cancers associated with excessive alcohol use. To date, few public health campaigns have included explicit messages related to alcohol consumption and cancer risk. Achievement of this objective by 1990 is unlikely.

Reduce the incidence of fetal alcohol syndrome (FAS) by 25%. In 1977, the estimated incidence of FAS was 1 per 2,000 births. Currently, no national surveillance

Objectives — Continued

system tracks this objective. With an International Classification of Diseases Code now available for FAS and with the increasing awareness of physicians, the apparent incidence of FAS may increase, even though the actual number of cases may decrease. Awareness efforts noted in the midcourse review include the "Healthy Mothers, Healthy Babies Coalition."

Reduce drug-related mortality to 2 per 100,000 per year. In 1978, there were 2.7 such deaths per 100,000. By 1984, drugs other than alcohol were responsible for 3.3 deaths per 100,000. Current data are too inclusive to meaningfully reflect the results of education and intervention efforts. However, data from the Drug Abuse Warning Network, which is based on hospital emergency room and medical examiner reports from 26 major U.S. cities, suggest that prevention efforts should focus on cocaine use and on the use of alcohol in combination with other drugs.

The proportion of 14- to 17-year-olds reporting acute drinking-related problems in the past year should be reduced to below 17%. In 1978, an estimated 19.0% of adolescents reported such problems. In 1985 and 1986, 37.0% of high school seniors reported consuming five or more drinks at a time at least once in the 2 weeks before the survey. Widespread acceptance of alcohol use and related availability restricts substantial progress on this objective, and achievement is unlikely.

Eighty percent of high school seniors should say they perceive great risk associated with frequent, regular cigarette smoking; marijuana use; barbiturate use; or alcohol intoxication. In 1979, 63.0% of high school seniors perceived great risk in smoking one to two packs of cigarettes daily; 42.0% perceived great risk in daily use of marijuana; 71.6%, in daily barbiturate use; and 35.0%, in alcohol intoxication. In 1986, 66.0% of high school seniors perceived great risk in smoking one or two packs of cigarettes daily; 71.3% perceived great risk in daily use of marijuana; 67.2%, in daily barbiturate use; and 39.1%, in alcohol intoxication. Achievement of this objective by 1990 is unlikely. To increase awareness of the risks associated with alcohol intoxication, ADAMHA has initiated the "Be Smart, Don't Start—Just Say No" campaign aimed at 8- to 12-year-olds.

Reported by: MM Silverman, MD, R Denniston, Alcohol, Drug Abuse, and Mental Health Administration. Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Public Health Svc, DHHS. Div of Environmental Hazards and Health Effects, Center for Environmental Health and Injury Control, CDC.

References

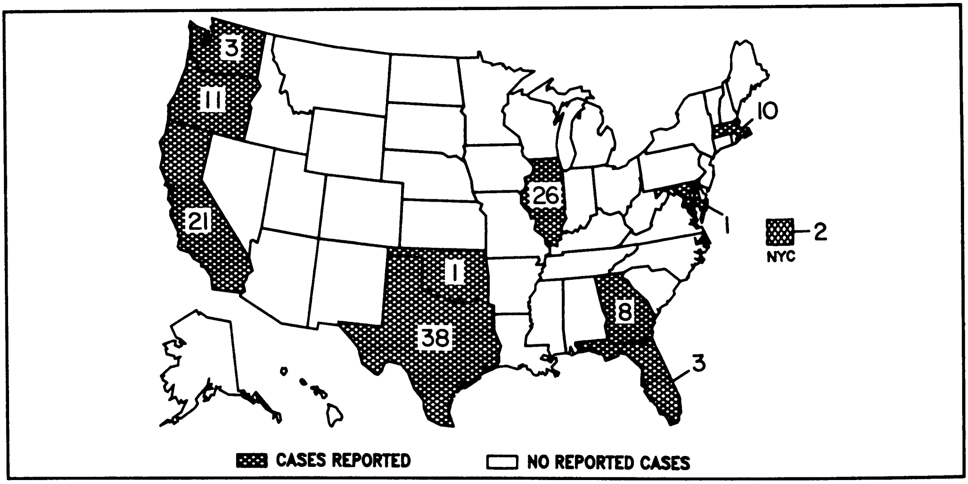
1. Public Health Service. Healthy people: the Surgeon General's report on health promotion and disease prevention. Washington, DC: US Department of Health, Education, and Welfare, Public Health Service, 1979; DHEW publication no. (PHS)79-55071.
2. Public Health Service. Promoting health/preventing disease: objectives for the nation. Washington, DC: US Department of Health and Human Services, Public Health Service, 1980.
3. National Institute on Drug Abuse. High School Senior Drug Use Survey, 1986. Rockville, Maryland: US Department of Health and Human Services, Public Health Service, 1987.
4. Public Health Service. The 1990 health objectives for the nation: a midcourse review. Washington, DC: US Department of Health and Human Services, Public Health Service, 1986.

Notice to Readers

Delay in Printing of *MMWR*

Because of the Veterans' Day holiday, *MMWR*, Volume 36, Number 44, dated November 13, 1987, will be printed on November 12 instead of November 11. Distribution will be delayed one day.

FIGURE I. Reported measles cases — United States, Weeks 39-42, 1987



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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: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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