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MORBIDITY AND MORTALITY WEEKLY REPORT

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Current Trends

Pregnant Adolescent Group for Education and Support — Illinois

Based on data indicating that 30% of all births in North Chicago were to teenagers (*1*), staff from the Nursing Division of the Lake County Health Department, together with a North Chicago High School social worker, developed and implemented a program called Pregnant Adolescent Group for Education and Support (PAGES). Initiated during the 1982-83 school year, PAGES was designed as a school-based program to reduce some of the problems associated with teenage pregnancy, such as lower levels of educational achievement, low birthweight infants, and increased potential for child abuse and neglect. The PAGES model combines educational and social support strategies with the goal of increasing the likelihood that teens will deliver healthy babies and remain in school.

Pregnant students participate in the PAGES program during the regular school day. Over the course of the program, PAGES staff give 21 presentations on topics that include labor and delivery, nutrition, antepartum and postpartum care, infant bonding and stimulation, and early child care. These presentations are supplemented with weekly group sessions designed to build feelings of support and self-esteem. In addition, each PAGES participant is visited at home by a Community Health Nurse, who reinforces the PAGES learning process and offers individual support and referrals to the teenager and, if indicated, to her family. Participants are required to receive concomitant medical care through either a private physician or the county prenatal clinic.

When PAGES was first initiated in North Chicago, 12 students participated in the program. Eleven of these students either remained in school during and after their pregnancy or returned to school after giving birth. During the 1985-86 school year, a total of 48 students in North Chicago participated in PAGES. Forty-seven of these returned to or remained in school after childbirth. Thus, while some studies indicate that two-thirds of pregnant teens drop out of high school (*2*), the school retention rate for PAGES was approximately 93%.

In 1985, Waukegan, Illinois, adopted the North Chicago PAGES program. Waukegan has a disproportionately high number of teen births (16% of all births, compared with 13% in the county and 9% in the state, as of 1984) (*3*). The Waukegan PAGES program began during the 1985-86 school year and served a total of 25 students. The

Pregnant Adolescent Group — Continued

program added 24 more pregnant teens during the 1986-87 school year. As of February 1987, all 49 participants (100%) had remained in or returned to school.

The program expanded during the 1986-87 school year to a third community, Zion, Illinois, where 15 additional pregnant teens were enrolled. This expansion, plus the addition of seven more teens in North Chicago, brings the total number of pregnant teenagers who have been served or are currently being served by PAGES to 119. Sixty percent of these are black, 25% are Hispanic, and 15% are of other races. The percentage of all participants remaining in school rose from 92% for the 1982-83 and 1983-84 school years to 100% from 1984-85 through 1986-87. Since 1984, only one (2%) of 65 babies has had a low birthweight. The expected rate of low birthweight babies in North Chicago is 8.7%.

Further information on the development and implementation of the PAGES program can be obtained by writing The PAGES Program, c/o Karla E. Smith, Maternal Health Supervisor, Lake County Health Department, 3010 Grand Avenue, Waukegan, Illinois 60085.

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Editorial Note: This preliminary analysis of the effects of PAGES suggests that a program which combines educational strategies, social support, and preventive care can reduce problems typically associated with teen pregnancies.

The acceptance of PAGES by local school personnel is attributable to the growing recognition within local communities of the fiscal and social costs of teenage pregnancy. The flexibility with which each school is approached gives school personnel a measure of ownership and control of the program and may partially account for the attractiveness of PAGES. Initial discussions with school personnel are based on the individual characteristics and needs of each school. The relatively low cost of the program is particularly appealing. New staff have been hired and priorities have been reordered within the Lake County Health Department to allow for adequate PAGES staff support. PAGES relies on the known problems of teen pregnancy—lost educational opportunities; low lifetime economic potential; increased risk of child abuse and neglect; and increased health risks, such as low birthweight and prematurity among infants and prolonged labor among pregnant women (*4,5*)—as the guide for program and curriculum development and program marketing.

In recognition of its achievements, the Lake County Health Department was one of 56 health programs receiving the 1986 Secretary's Award for Excellence in Community Health Promotion from the Department of Health and Human Services.

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Epidemiologic Notes and Reports

Imported and Indigenous Dengue Fever — United States, 1986

In 1986, 233 cases of dengue-like illness were reported to CDC from 32 states (Table 1). Adequate blood samples were received on 120 cases, 33 (27%) of which

TABLE 1. Suspected and confirmed cases of dengue — United States, 1986

State	Cases				Travel History of Patients Positive for Dengue
	Positive	Negative	Not Classified*	Total	
Alabama	0	12	7	19	
Arizona	0	1	0	1	
Arkansas	0	15	0	15	
California	1	1	1	3	Nicaragua
Connecticut	0	2	6	8	
Washington, DC	3	0	1	4	Bangladesh, Madagascar, Nepal
Delaware	0	0	1	1	
Georgia	3	2	5	10	India, Haiti
Illinois	1	1	1	3	St. Vincent
Indiana	1	0	0	1	Puerto Rico
Kansas	0	1	2	3	
Kentucky	0	18	8	26	
Massachusetts	6	4	2	12	Haiti, Puerto Rico, Thailand
Michigan	1	2	2	5	Colombia
Minnesota	0	1	3	4	
Mississippi	0	1	0	1	
Missouri	0	1	0	1	
New Jersey	0	0	2	2	
New York	1	5	6	12	Trinidad, Venezuela
Nevada	0	0	1	1	
North Carolina	0	0	1	1	
Oklahoma	0	1	2	3	
Ohio	1	1	1	3	
Oregon	0	1	0	1	
Pennsylvania	1	1	1	3	Dominican Republic
Tennessee	0	6	10	16	
Texas	14	6	47	67	Mexico
Utah	0	2	0	2	
Vermont	0	1	0	1	
Virginia	0	1	0	1	
Wisconsin	0	0	1	1	
Washington	0	0	2	2	
Totals	**33**	**87**	**113**	**233**	

*Only single samples received; no interpretation possible.

Dengue Fever — Continued

were confirmed as dengue infection. These 33 confirmed cases were reported from 10 states and the District of Columbia (Figure 1).

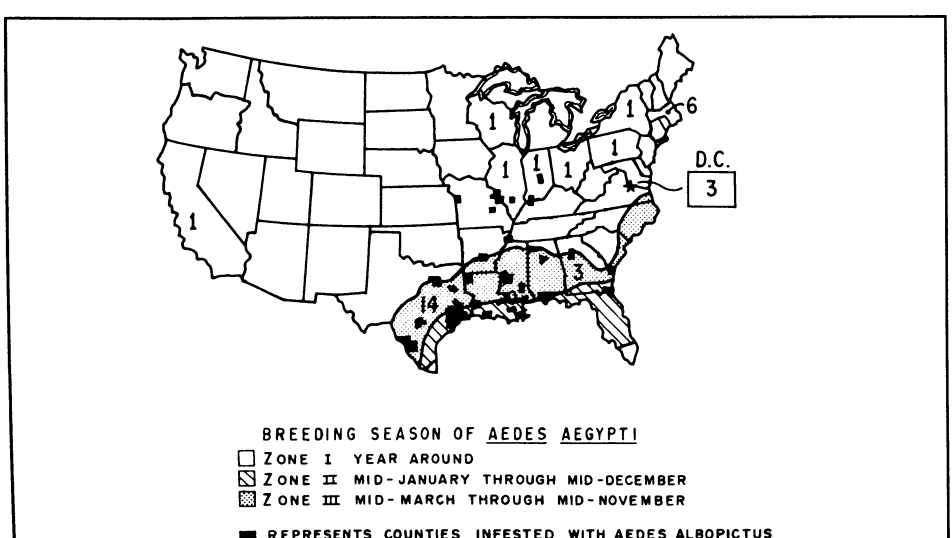
Virologic or serologic evidence indicated that three serotypes, DEN-1, DEN-2, and DEN-4, were imported into the United States in 1986. Seventeen (52%) of the confirmed cases were reported from two states (Texas and Georgia) where *Aedes aegypti* may be found during most of the year. Twenty cases (61%) occurred in five states where an exotic mosquito species, *Aedes albopictus*, has recently become established (Illinois, Indiana, Ohio, Texas, and Georgia).

In 1986, Texas had the first known indigenous transmission of dengue in the United States in 6 years. The last known indigenous transmission had also occurred in Texas. Five of the 14 cases from Texas that were confirmed by CDC were probably imported. Nine of the patients, however, had no history of travel outside of Texas, suggesting that the infections were acquired locally (Laredo, 2 cases; Corpus Christi, 3 cases; and Brownsville, 4 cases). Two DEN-1 viruses were isolated, one from an individual without travel history outside of Texas and the other from a patient who had traveled to Monterrey, Mexico, just prior to onset of illness. Three blood samples (0.9%) from a random sample of 315 patients from venereal disease clinics in southern Texas were positive for dengue-specific IgM antibodies, indicating dengue infection within the previous 2-3 months.

Although the majority of imported dengue cases were reported as dengue fever without hemorrhagic manifestations, one patient, who had traveled to the Dominican Republic, required hospitalization with petechiae, purpura, and thrombocytopenia. As in previous years, travel histories of persons with confirmed dengue showed that most cases were imported from Caribbean basin and Asian countries (Table 1).

Reported by: Holy Redeemer Hospital, Meadowbrook, Pennsylvania. Georgia Dept of Human Resources, Atlanta, Georgia. Illinois Dept of Public Health, Chicago. Indiana State Board of Health, Bur of Laboratories, Indianapolis. Michigan Dept of Public Health, Lansing. Minnesota

FIGURE 1. Number of confirmed cases of dengue, by state, and distribution of *Aedes aegypti* and *Aedes albopictus* — United States, 1986



Dengue Fever — Continued

Dept of Health, Minneapolis. New York Dept of Health, New York. Office of Medical Svcs, Dept of State, Washington, DC. Ohio Dept of Health, Columbus. State of California Dept of Health Svcs, Berkeley. State Laboratory Institute, Jamaica Plain, Massachusetts. Texas Dept of Health, Austin. Dengue Br, Div of Vector-Borne Viral Diseases, Center for Infectious Diseases, CDC.

Editorial Note: Since 1977, 1,561 suspected dengue cases have been reported to CDC; 327 were positive for dengue (Table 2). Since 1981, all four dengue virus serotypes have been imported (*1*). The annual number of reported and confirmed cases of dengue imported into the United States varies with the amount of dengue activity occurring in the tropics, especially the Caribbean (*2*). The number of reported dengue cases in 1986 was the highest in recent years and coincided with increased dengue activity throughout the Americas.

Transmission in 1986 was of particular concern for two reasons. First, indigenous transmission occurred in Texas for the second time in 6 years—the last previous transmission prior to 1980 had occurred in 1945 (*2*). Second, confirmed dengue cases were reported in areas where *Ae. aegypti* and *Ae. albopictus*, two efficient vectors of dengue, occur. The recent introduction of *Ae. albopictus* into the United States is of special concern because this species is an exceptionally efficient host for dengue viruses and is capable of transmitting both horizontally (human to human) and vertically (from infected female to her offspring) (*3,4*). Moreover, *Ae. albopictus* has become established in northern as well as southern states (*5*). The presence of this species increases the potential for more widely distributed secondary transmission and for the maintenance of dengue viruses in the United States. CDC is currently collaborating with state health departments to improve surveillance for both the introduction of dengue virus and for the presence of the mosquito vectors.

Dengue should be considered in the differential diagnosis of acutely ill persons returning to the United States from any tropical region of the world. It should also be

TABLE 2. Number of reported and confirmed imported cases of dengue — United States, 1977-1986

	Cases Reported to CDC			States		
Year	Total	No. positive	Dengue serotype	No. with reported cases	No. with positive cases	No. with positive cases and *Aedes aegypti*
1977	189	57	*	†		
1978	144	52	*	†		
1979	85	10	*	†		
1980[§]	343	45	*	†		
1981	201	44	1,4	34	14[¶]	3
1982	144	45	1,2,4	28	14	8
1983	107	27	1,2,3,4	26	14	1
1984	67	6	1,3	30	6	1
1985	48	8	1,4	19	7	2
1986[§]	233	33	1,2,4	32	11[¶]	5**
Total	**1,561**	**327**		**169**	**66**	**20**

*Serotype unknown.
†No state-specific data available.
§Year with indigenous transmission (special surveillance system initiated by Texas).
¶Includes the District of Columbia.
***Aedes albopictus* also present.

Dengue Fever — Continued

remembered that dengue can be clinically similar to measles and should be considered when patients test negative for measles. Blood samples should be obtained from such patients during both the acute and convalescent stages of illness and should be submitted without delay to appropriate state or local public health laboratories for serologic and virologic diagnostic studies. In addition, a clinical summary with dates of onset of illness and blood collection, a detailed travel history with dates of travel, and other epidemiologic data should be included.

References

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

Disease	33rd Week Ending			Cumulative, 33rd Week Ending		
	August 22, 1987	August 16, 1986	Median 1982-1986	August 22, 1987	August 16, 1986	Median 1982-1986
Acquired ImmunodeficiencySyndrome (AIDS)	125	310	N	11,778	7,949	N
Aseptic meningitis	565	397	397	5,612	4,820	4,241
Encephalitis: Primary (arthropod-borne & unspec)	49	38	39	679	616	657
Post-infectious	2	1	1	75	74	74
Gonorrhea: Civilian	11,605	19,454	18,903	489,534	551,018	551,018
Military	196	362	437	10,419	10,457	13,601
Hepatitis: Type A	309	371	416	15,281	13,834	13,645
Type B	416	481	481	16,186	16,413	15,920
Non A, Non B	38	71	N	1,939	2,312	N
Unspecified	48	71	110	1,953	2,915	3,605
Legionellosis	15	36	N	534	419	N
Leprosy	3	1	7	119	176	161
Malaria	20	19	22	512	635	635
Measles: Total*	24	150	25	3,167	5,161	2,197
Indigenous	22	147	N	2,793	4,897	N
Imported	2	3	N	374	258	N
Meningococcal infections: Total	26	17	28	1,988	1,750	1,931
Civilian	26	17	28	1,987	1,748	1,916
Military	-	-	-	1	2	6
Mumps	32	61	28	9,951	3,248	2,360
Pertussis	83	73	73	1,331	1,893	1,403
Rubella (German measles)	1	11	10	273	402	496
Syphilis (Primary & Secondary): Civilian	498	400	594	21,743	16,315	17,526
Military	8	4	4	103	115	216
Toxic Shock syndrome	7	12	N	197	232	N
Tuberculosis	324	370	476	12,960	13,572	13,572
Tularemia	6	2	8	123	82	146
Typhoid Fever	5	4	11	183	183	217
Typhus fever, tick-borne (RMSF)	35	29	35	429	469	570
Rabies, animal	56	144	140	3,041	3,530	3,530

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1987		Cum. 1987
Anthrax	-	Leptospirosis	13
Botulism: Foodborne	5	Plague	6
Infant	36	Poliomyelitis, Paralytic	-
Other	-	Psittacosis (Wash. 1)	58
Brucellosis (Tex. 2)	72	Rabies, human	-
Cholera	2	Tetanus (Idaho 1)	24
Congenital rubella syndrome	4	Trichinosis	28
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine)	21
Diphtheria	1	(Tex. 2)	

*There were no cases of internationally imported measles reported for this week.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending August 22, 1987 and August 16, 1986 (33rd Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis(Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1987	1987	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1986	1987	1987	1987	1987	1987	Cum. 1987
UNITED STATES	11,778	565	679	75	489,534	551,018	309	416	38	48	15	119
NEW ENGLAND	468	30	27	2	14,957	12,906	18	29	1	6	1	11
Maine	14	1	1	-	430	570	-	2	-	-	-	-
N.H.	13	7	2	-	261	344	-	-	-	-	-	2
Vt.	4	2	4	-	128	162	-	2	-	-	-	-
Mass.	287	7	12	1	5,446	5,441	6	23	1	6	1	8
R.I.	40	3	3	1	1,300	1,092	6	2	-	-	-	-
Conn.	110	10	5	-	7,392	5,297	6	-	-	-	-	1
MID. ATLANTIC	3,405	149	84	5	80,131	93,673	19	40	7	8	1	6
Upstate N.Y.	464	38	35	3	10,754	10,959	11	4	1	-	1	-
N.Y. City	1,965	16	7	-	42,079	54,689	1	11	-	4	-	6
N.J.	626	47	7	-	10,441	11,887	5	9	1	4	-	-
Pa.	350	48	35	2	16,857	16,138	2	16	5	-	-	-
E.N. CENTRAL	802	141	203	12	72,280	76,759	29	57	1	3	7	5
Ohio	154	49	81	5	16,046	18,435	-	9	-	-	6	2
Ind.	67	21	25	-	5,826	7,670	9	19	-	2	1	-
Ill.	389	1	25	7	22,334	20,473	9	9	-	-	-	1
Mich.	132	70	54	-	22,125	22,382	11	20	1	1	-	1
Wis.	60	-	18	-	5,949	7,799	-	-	-	-	-	1
W.N. CENTRAL	251	20	28	-	20,076	23,563	18	19	2	-	-	-
Minn.	66	-	18	-	3,078	3,345	5	1	-	-	-	-
Iowa	18	4	3	-	1,925	2,386	1	4	-	-	-	-
Mo.	119	4	-	-	10,685	11,860	7	8	1	-	-	-
N. Dak.	1	-	-	-	174	210	-	-	-	-	-	-
S. Dak.	2	2	-	-	369	480	-	1	-	-	-	-
Nebr.	14	6	5	-	1,236	1,793	-	4	-	-	-	-
Kans.	31	4	2	-	2,609	3,489	5	1	1	-	-	-
S. ATLANTIC	1,836	114	91	26	128,276	141,640	37	110	9	5	5	5
Del.	15	3	3	1	2,089	2,252	3	-	-	-	-	-
Md.	193	20	15	5	14,628	16,582	1	16	2	-	-	2
D.C.	241	3	-	-	8,514	10,412	2	1	-	-	-	-
Va.	132	25	24	2	9,310	11,681	7	23	1	3	2	-
W. Va.	15	9	21	-	963	1,414	1	1	-	-	-	-
N.C.	100	27	15	-	18,942	21,666	7	16	-	-	-	-
S.C.	47	-	-	-	10,634	12,312	1	6	-	-	-	1
Ga.	267	11	-	-	22,019	24,057	6	21	2	-	-	-
Fla.	826	16	13	18	41,177	41,264	9	26	4	2	3	2
E.S. CENTRAL	138	36	39	6	37,316	44,591	2	48	2	-	-	-
Ky.	22	13	19	1	3,752	4,923	-	3	-	-	-	-
Tenn.	25	8	9	-	13,069	17,198	1	25	-	-	-	-
Ala.	76	14	11	1	11,972	12,782	-	17	1	-	-	-
Miss.	15	1	-	4	8,523	9,688	1	3	1	-	-	-
W.S. CENTRAL	1,158	47	82	4	56,068	65,378	46	51	4	19	1	4
Ark.	22	-	-	2	6,119	6,206	6	-	-	-	-	-
La.	145	7	14	-	9,995	11,742	-	-	-	-	-	-
Okla.	63	11	13	1	6,167	7,370	2	3	3	-	1	-
Tex.	928	29	55	1	33,787	40,060	38	48	1	19	-	4
MOUNTAIN	314	21	21	3	12,981	16,039	60	34	8	6	-	1
Mont.	2	-	-	-	363	449	2	1	-	-	-	-
Idaho	4	-	-	-	464	531	11	-	-	-	-	-
Wyo.	3	-	-	-	289	357	-	1	-	-	-	-
Colo.	130	12	5	-	2,770	4,193	12	4	3	6	-	-
N. Mex.	21	1	4	-	1,410	1,620	3	11	1	-	-	-
Ariz.	100	8	10	1	4,482	5,218	27	16	3	-	-	-
Utah	19	-	-	2	401	696	2	1	-	-	-	-
Nev.	35	-	2	-	2,802	2,975	3	-	1	-	-	1
PACIFIC	3,406	7	104	17	67,449	76,469	80	28	4	1	-	87
Wash.	140	-	10	3	5,030	5,912	31	6	3	-	-	3
Oreg.	81	-	-	-	2,636	3,171	33	14	1	-	-	-
Calif.	3,114	-	89	14	58,144	64,770	-	-	-	-	-	65
Alaska	12	6	2	-	1,086	1,757	16	6	-	1	-	-
Hawaii	59	1	3	-	553	859	-	2	-	-	-	19
Guam	-	-	-	-	144	113	-	1	-	-	-	-
P.R.	84	-	1	1	1,372	1,483	1	5	-	1	-	5
V.I.	-	-	-	-	162	177	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	281	283	7	-	-	-	-	44
Amer. Samoa	-	-	-	-	58	30	1	4	-	-	-	-

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending August 22, 1987 and August 16, 1986 (33rd 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	512	22	2,793	2	374	5,161	1,988	32	9,951	83	1,331	1,893	1	273	402
NEW ENGLAND	35	1	103	-	150	85	170	1	34	2	62	111	-	1	9
Maine	-	-	3	-	-	10	10	-	-	1	8	2	-	1	-
N.H.	1	1	53	-	101	42	16	-	8	1	13	57	-	-	1
Vt.	-	-	10	-	15	-	12	-	3	-	4	3	-	-	1
Mass.	12	-	21	-	27	28	83	1	9	-	24	28	-	-	4
R.I.	7	-	1	-	1	2	14	-	2	-	1	4	-	-	2
Conn.	15	-	15	-	6	3	35	-	12	-	12	17	-	-	1
MID. ATLANTIC	58	3	510	-	48	1,580	243	-	170	9	152	129	-	11	31
Upstate N.Y.	22	-	26	-	13	81	83	-	79	2	107	82	-	9	23
N.Y. City	5	3	431	-	15	572	20	-	10	-	-	3	-	1	5
N.J.	15	-	32	-	3	905	48	-	39	-	8	11	-	1	3
Pa.	16	-	21	-	17	22	92	-	42	7	37	33	-	-	-
E.N. CENTRAL	32	-	274	-	24	1,006	293	10	5,814	17	150	267	1	32	63
Ohio	10	-	1	-	4	10	97	-	81	11	51	103	-	-	1
Ind.	4	-	-	-	-	11	33	-	866	-	13	22	-	-	-
Ill.	6	-	108	-	18	641	71	3	2,451	1	9	30	1	24	54
Mich.	11	-	29	-	-	53	77	7	851	5	39	24	-	8	7
Wis.	1	-	136	-	2	286	15	-	1,565	-	38	88	-	-	1
W.N. CENTRAL	18	6	208	-	22	338	89	6	1,296	17	86	148	-	1	10
Minn.	6	-	19	-	20	49	25	2	755	1	11	39	-	-	-
Iowa	4	-	-	-	-	133	3	3	378	15	31	13	-	1	1
Mo.	4	6	188	-	1	31	25	-	22	1	24	12	-	-	1
N. Dak.	-	-	1	-	-	25	1	-	6	-	4	4	-	-	1
S. Dak.	-	-	-	-	-	-	2	-	87	-	3	14	-	-	-
Nebr.	3	-	-	-	-	1	5	-	3	-	1	5	-	-	-
Kans.	1	-	-	-	1	99	28	1	45	-	12	61	-	-	7
S. ATLANTIC	84	-	118	-	11	584	328	2	229	7	231	613	-	13	4
Del.	1	-	32	-	-	1	5	-	-	-	5	222	-	2	-
Md.	20	-	3	-	2	31	31	1	22	2	8	156	-	2	-
D.C.	9	-	-	-	1	2	5	-	1	-	-	-	-	-	-
Va.	15	-	1	-	-	59	56	1	68	-	44	30	-	1	-
W. Va.	2	-	-	-	-	2	1	-	30	-	44	20	-	-	-
N.C.	9	-	2	-	3	3	42	-	16	4	90	41	-	1	-
S.C.	4	-	2	-	-	301	32	-	12	-	-	13	-	-	-
Ga.	3	-	-	-	1	93	62	-	40	1	23	95	-	1	-
Fla.	21	-	78	-	4	92	94	-	40	-	17	36	-	6	4
E.S. CENTRAL	10	3	5	-	-	64	93	2	1,221	3	27	38	-	3	4
Ky.	1	-	-	-	-	6	16	-	212	-	1	5	-	2	4
Tenn.	1	-	-	-	-	55	35	2	950	2	8	13	-	1	-
Ala.	3	3	3	-	-	1	34	-	59	1	13	20	-	-	-
Miss.	5	-	2	-	-	2	8	N	N	-	5	-	-	-	-
W.S. CENTRAL	33	9	403	-	4	624	135	4	710	5	122	135	-	10	55
Ark.	1	-	-	-	-	283	17	-	278	1	9	8	-	2	-
La.	-	-	-	-	-	4	10	-	207	1	29	8	-	-	-
Okla.	4	-	2	-	1	39	17	N	N	3	84	89	-	5	-
Tex.	28	9	401	-	3	298	91	4	225	-	-	30	-	3	55
MOUNTAIN	23	-	462	-	19	319	69	3	185	12	122	184	-	24	21
Mont.	-	-	127	-	1	8	3	-	4	-	6	8	-	8	2
Idaho	2	-	-	-	-	1	5	1	4	7	35	33	-	1	-
Wyo.	1	-	-	-	2	-	-	-	-	-	5	1	-	1	-
Colo.	7	-	5	-	4	7	20	-	28	4	43	51	-	-	1
N. Mex.	1	-	298	-	9	37	5	N	N	-	8	17	-	-	-
Ariz.	9	-	30	-	1	258	23	2	138	-	23	46	-	4	2
Utah	1	-	-	-	1	7	9	-	8	1	2	25	-	10	13
Nev.	2	-	2	-	1	1	4	-	3	-	-	3	-	-	3
PACIFIC	219	-	710	2	96	561	568	4	292	11	379	268	-	178	205
Wash.	17	-	34	2 §	7	155	69	3	44	1	63	81	-	1	14
Oreg.	5	-	2	-	73	8	25	N	N	4	53	10	-	2	1
Calif.	193	-	674	-	12	377	461	-	227	-	131	169	-	112	186
Alaska	3	-	-	-	-	-	4	1	7	3	10	2	-	2	-
Hawaii	1	-	-	-	4	21	9	-	14	3	122	6	-	61	4
Guam	-	-	2	-	-	5	4	-	5	-	-	-	-	1	3
P.R.	1	11	720	-	-	33	5	1	8	1	15	12	-	2	58
V.I.	-	-	-	-	-	-	-	1	11	-	-	-	-	-	
Pac. Trust Terr.	-	-	1	-	-	-	1	-	5	-	1	-	-	1	2
Amer. Samoa	-	-	-	-	-	2	-	-	3	-	-	-	-	-	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 August 22, 1987 and August 16, 1986 (33rd 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	21,743	16,315	7	12,960	13,572	123	183	429	3,041
NEW ENGLAND	361	301	-	408	422	-	21	5	5
Maine	1	15	-	18	31	-	1	-	2
N.H.	3	10	-	12	14	-	-	-	-
Vt.	1	7	-	9	13	-	1	-	-
Mass.	169	163	-	226	214	-	11	3	-
R.I.	8	16	-	35	27	-	3	-	1
Conn.	179	90	-	108	123	-	5	2	2
MID. ATLANTIC	4,148	2,369	1	2,255	2,782	-	20	11	254
Upstate N.Y.	140	113	-	334	400	-	7	7	39
N.Y. City	3,027	1,351	1	1,079	1,452	-	1	-	-
N.J.	438	422	-	404	480	-	12	1	12
Pa.	543	483	-	438	450	-	-	3	203
E.N. CENTRAL	578	655	4	1,554	1,600	2	22	43	112
Ohio	70	85	3	289	285	1	6	31	10
Ind.	42	77	-	144	174	-	4	-	13
Ill.	311	351	-	679	708	-	8	5	34
Mich.	109	113	1	375	354	-	2	5	18
Wis.	46	29	-	67	79	1	2	2	37
W.N. CENTRAL	106	147	-	401	398	42	9	44	682
Minn.	13	26	-	81	98	-	4	-	168
Iowa	19	6	-	27	32	3	2	-	189
Mo.	55	78	-	222	200	28	3	16	38
N. Dak.	-	5	-	5	5	1	-	-	86
S. Dak.	8	3	-	21	16	5	-	1	151
Nebr.	7	12	-	16	7	2	-	1	16
Kans.	4	17	-	29	40	3	-	26	34
S. ATLANTIC	7,435	4,944	-	2,818	2,607	4	16	156	823
Del.	48	32	-	29	29	1	-	1	-
Md.	382	282	-	258	192	-	3	36	266
D.C.	220	198	-	92	87	-	-	-	34
Va.	189	242	-	285	217	2	1	12	253
W. Va.	6	14	-	72	74	-	1	5	38
N.C.	405	329	-	315	350	1	2	53	14
S.C.	492	423	-	289	342	-	-	31	36
Ga.	1,015	956	-	431	398	-	-	17	127
Fla.	4,678	2,468	-	1,047	918	-	9	1	55
E.S. CENTRAL	1,203	1,065	1	1,062	1,157	5	2	60	227
Ky.	12	51	-	275	276	1	1	7	111
Tenn.	479	380	-	254	333	1	1	40	57
Ala.	312	352	1	344	365	-	-	10	59
Miss.	400	282	-	189	183	3	-	3	-
W.S. CENTRAL	2,673	3,295	-	1,559	1,742	47	11	96	429
Ark.	163	166	-	184	232	22	1	10	88
La.	470	554	-	180	279	3	-	-	11
Okla.	92	85	-	149	166	20	2	75	24
Tex.	1,948	2,490	-	1,046	1,065	2	8	11	306
MOUNTAIN	442	383	-	315	320	12	12	12	245
Mont.	8	6	-	9	17	1	-	10	115
Idaho	5	9	-	17	12	1	-	-	5
Wyo.	1	-	-	-	-	-	-	1	52
Colo.	74	96	-	40	32	3	-	-	6
N. Mex.	35	45	-	61	67	1	9	-	2
Ariz.	220	156	-	153	154	3	3	-	53
Utah	18	11	-	16	21	1	-	1	4
Nev.	81	60	-	19	17	2	-	-	8
PACIFIC	4,797	3,156	1	2,588	2,544	11	70	2	264
Wash.	73	105	-	167	121	4	5	-	-
Oreg.	187	74	-	64	87	4	1	-	-
Calif.	4,525	2,952	-	2,198	2,176	2	60	2	261
Alaska	3	-	-	34	37	1	-	-	3
Hawaii	9	25	1	125	123	-	4	-	-
Guam	2	1	-	25	33	-	-	-	-
P.R.	611	564	-	195	198	-	-	-	48
V.I.	3	-	-	2	1	-	-	-	-
Pac. Trust Terr.	124	170	-	120	40	-	16	-	-
Amer. Samoa	2	-	-	-	3	-	1	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending August 22, 1987 (33rd Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	614	429	114	40	18	13	53
Boston, Mass.	183	114	33	16	10	10	28
Bridgeport, Conn.	37	24	11	2	-	-	2
Cambridge, Mass.	21	21	-	-	-	-	3
Fall River, Mass.	28	23	2	3	-	-	-
Hartford, Conn.	40	20	15	4	1	-	1
Lowell, Mass.	22	18	3	1	-	-	1
Lynn, Mass.	18	14	4	-	-	-	2
New Bedford, Mass.	36	27	6	1	2	-	-
New Haven, Conn.	33	25	8	-	-	-	-
Providence, R.I.	45	32	7	4	-	2	4
Somerville, Mass.	5	5	-	-	-	-	-
Springfield, Mass.	45	33	9	2	1	-	5
Waterbury, Conn.	40	29	6	3	2	-	3
Worcester, Mass.	61	44	10	4	2	1	4
MID. ATLANTIC	2,587	1,686	492	248	85	67	115
Albany, N.Y.	43	25	14	-	4	-	-
Allentown, Pa.	25	20	1	2	2	-	1
Buffalo, N.Y.	104	71	21	8	2	2	6
Camden, N.J.	23	11	10	2	-	-	-
Elizabeth, N.J.	21	18	2	1	-	-	3
Erie, Pa.†	30	24	4	2	-	-	4
Jersey City, N.J.	48	31	9	4	-	4	1
N.Y. City, N.Y.	1,362	879	260	151	41	31	43
Newark, N.J.	48	22	9	12	2	3	3
Paterson, N.J.	28	12	4	1	1	1	-
Philadelphia, Pa.	406	258	81	34	17	16	21
Pittsburgh, Pa.†	61	40	12	6	2	1	2
Reading, Pa.	23	19	1	3	-	-	4
Rochester, N.Y.	121	88	18	6	3	6	13
Schenectady, N.Y.	22	17	4	-	1	-	1
Scranton, Pa.†	25	17	6	1	-	1	-
Syracuse, N.Y.	105	62	23	10	8	2	4
Trenton, N.J.	41	30	6	4	1	-	3
Utica, N.Y.	19	16	3	-	-	-	1
Yonkers, N.Y.	32	26	4	1	1	-	5
E.N. CENTRAL	2,196	1,418	476	163	63	76	79
Akron, Ohio	53	36	12	3	1	1	-
Canton, Ohio	46	33	9	2	2	-	2
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	117	70	29	9	5	4	12
Cleveland, Ohio	122	73	29	10	3	7	1
Columbus, Ohio	128	80	33	10	1	4	-
Dayton, Ohio	117	84	22	6	3	2	2
Detroit, Mich.	259	143	60	33	18	5	10
Evansville, Ind.	43	30	7	1	2	3	-
Fort Wayne, Ind.	58	36	12	6	3	1	1
Gary, Ind.	19	11	4	2	1	1	-
Grand Rapids, Mich.	50	32	11	3	2	2	4
Indianapolis, Ind.	153	101	31	13	2	6	3
Madison, Wis.	31	15	10	1	1	4	4
Milwaukee, Wis.	141	101	22	10	1	7	5
Peoria, Ill.	40	30	7	-	1	2	7
Rockford, Ill.	49	37	10	1	-	1	2
South Bend, Ind.	34	22	7	3	1	1	2
Toledo, Ohio	106	74	23	4	4	1	7
Youngstown, Ohio	66	48	13	1	2	2	1
W.N. CENTRAL	704	489	131	42	23	19	42
Des Moines, Iowa	50	37	6	4	2	1	-
Duluth, Minn.	24	19	5	-	-	-	-
Kansas City, Kans.	32	22	5	1	4	-	1
Kansas City, Mo.	123	74	28	17	2	2	6
Lincoln, Nebr.	20	12	7	-	1	-	3
Minneapolis, Minn.	114	88	15	5	2	4	9
Omaha, Nebr.	101	76	18	1	4	2	3
St. Louis, Mo.	131	77	33	9	5	7	16
St. Paul, Minn.	57	41	8	4	3	1	1
Wichita, Kans.	52	43	6	1	-	2	3

ReportingArea	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-84	25-44	1-24	<1	Total
S. ATLANTIC	1,216	747	278	111	41	35	31
Atlanta, Ga.	121	81	25	12	2	1	2
Baltimore, Md.	226	129	55	24	12	6	5
Charlotte, N.C.	100	65	23	6	3	3	8
Jacksonville, Fla.	121	73	31	10	7	-	2
Miami, Fla.	90	58	17	12	3	-	-
Norfolk, Va.	53	34	15	2	-	2	3
Richmond, Va.	78	44	20	8	3	3	4
Savannah, Ga.	36	25	9	2	-	-	3
St. Petersburg, Fla.	89	69	11	5	1	3	4
Tampa, Fla.	66	34	19	3	1	5	-
Washington, D.C.	199	110	44	26	7	12	-
Wilmington, Del.	37	25	9	1	2	-	-
E.S. CENTRAL	669	430	149	41	24	25	39
Birmingham, Ala.	105	62	25	10	4	4	5
Chattanooga, Tenn.	69	49	13	4	2	1	3
Knoxville, Tenn.	70	45	14	5	4	2	4
Louisville, Ky.	96	60	22	7	7	-	2
Memphis, Tenn.	133	77	32	8	5	11	13
Mobile, Ala.	64	50	9	2	-	3	4
Montgomery, Ala.	35	19	10	3	-	3	1
Nashville, Tenn.	97	68	24	2	2	1	7
W.S. CENTRAL	1,306	804	301	112	45	44	58
Austin, Tex.	44	29	12	1	2	-	2
Baton Rouge, La.	44	28	12	2	1	1	4
Corpus Christi, Tex.§	48	32	12	2	1	1	2
Dallas, Tex.	186	108	38	20	10	10	3
El Paso, Tex.	70	41	18	7	2	2	4
Fort Worth, Tex	113	79	24	2	6	2	10
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	86	60	15	4	2	5	9
New Orleans, La.	103	58	26	14	3	2	-
San Antonio, Tex.	163	96	42	16	2	7	12
Shreveport, La.	51	34	13	4	-	-	1
Tulsa, Okla.	90	63	15	6	3	3	4
MOUNTAIN	620	372	133	53	29	32	21
Albuquerque, N. Mex.	67	42	13	10	1	1	-
Colo. Springs, Colo.	32	19	7	3	2	1	2
Denver, Colo.	118	73	22	9	5	9	5
Las Vegas, Nev.	95	44	36	7	5	3	6
Ogden, Utah	20	16	2	-	1	1	3
Phoenix, Ariz.	107	62	23	8	6	8	1
Pueblo, Colo.	21	17	2	2	-	-	2
Salt Lake City, Utah	59	32	9	5	3	9	-
Tucson, Ariz.	101	67	19	9	6	-	2
PACIFIC	1,778	1,136	351	172	67	47	90
Berkeley, Calif.	9	9	-	-	-	-	1
Fresno, Calif.	58	41	8	6	1	2	4
Glendale, Calif.	26	19	6	1	-	-	3
Honolulu, Hawaii	59	42	10	4	-	3	16
Long Beach, Calif.	79	54	11	9	1	4	-
Los Angeles Calif.	524	337	109	46	19	9	13
Oakland, Calif.	40	26	4	5	2	2	4
Pasadena, Calif.	30	20	8	2	-	-	1
Portland, Oreg.	140	91	28	14	6	1	5
Sacramento, Calif.	123	67	29	12	8	7	8
San Diego, Calif.	143	84	30	18	7	4	9
San Francisco, Calif.	137	75	31	21	7	3	2
San Jose, Calif.	154	92	34	13	7	8	9
Seattle, Wash.	158	105	30	16	5	2	5
Spokane, Wash.	50	38	6	2	2	2	8
Tacoma, Wash.	48	36	7	3	2	-	2
TOTAL	11,690††	7,511	2,425	982	395	358	528

*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.

Meningococcal Disease Among Travelers Returning From Saudi Arabia

Since August 9, 1987, two definite and three probable cases of meningococcal disease caused by *Neisseria meningitidis* serogroup A have been reported among the 1,250 pilgrims returning to the United States from Mecca and Medina, Saudi Arabia. Onset of symptoms has been within 4 days of return to the United States. An additional traveler, who was not a pilgrim, was hospitalized recently with serogroup A meningococcal meningitis 4 days after her return to the United States. This woman had not traveled to Mecca or Medina, but had spent 5 weeks in Jedda, where she had reportedly had some contact with pilgrims. Pilgrims returning on all recent direct flights from Jedda to New York (August 18, 20, and 25) received prophylaxis with rifampin at the New York airport.

Reported by: HR Ragazzoni, DVM, New Jersey State Dept of Health. New York Quarantine Station; S Schultz, MD, New York City Dept of Health. Div of Field Svcs, Epidemiology Program Office; Div of Quarantine, Center for Prevention Svcs; Meningitis and Special Pathogens Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: An estimated 3,000 cases of invasive meningococcal disease occur in the United States each year. Two to three percent of these are caused by *N. meningitidis* serogroup A. No large serogroup A meningococcal epidemics have occurred in the United States since 1946, and it is unlikely that serogroup A carriers returning from Saudi Arabia will have an impact on the rate of disease among the general U.S. population.

Pilgrims returning from Saudi Arabia following this year's pilgrimage should receive rifampin chemoprophylaxis. Since the risk of disease rapidly decreases as the time following exposure increases, rifampin is recommended only if it can be given within 1 week of a person's leaving Saudi Arabia. Rifampin is not recommended for other travelers, unless they have been in close contact with a patient with meningococcal meningitis.

This year's pilgrimage is now over, and associated crowded conditions have subsided. However, while the potential risk to persons now traveling to Saudi Arabia is not known, it is likely that the serogroup A strain is circulating in the population. Therefore, it would be prudent for future travelers to Saudi Arabia to receive the meningococcal vaccine at least 10 days prior to departure. The only vaccine licensed in the United States is manufactured by Connaught Laboratories; it is quadrivalent and contains serogroups A, C, Y, and W-135 (*1*). If local distributors are not able to supply the vaccine, Connaught Laboratories may be contacted at 1-800-VACCINE.

Physicians are encouraged to report additional cases among returning travelers from Saudi Arabia to their state and local health departments and to forward the meningococcal isolates to CDC through their state public health laboratories.

References

1. Immunization Practices Advisory Committee. Meningococcal vaccines. MMWR 1985;34: 255-9.

Perspectives in Disease Prevention and Health Promotion

San Jose Nutrition Education Project — California

The San Jose Nutrition Education Project (SJNEP), initiated in the San Jose Unified School District in 1976, provides education on nutrition, with emphasis on healthful dietary plans and lifestyle habits, to children from all socioeconomic backgrounds in grades K through 4.

Nutrition — Continued

SJNEP attempts to develop an understanding of nutrition, foster positive food habits, and improve the overall nutritional status. In 1982, SJNEP was disseminated nationally through the National Diffusion Network of the U.S. Department of Education. More than 68 school districts from 10 states adopted the project. Independent evaluations conducted at initial project sites from 1977 to 1981 and at sites that adopted the project from 1983 to 1985 indicated significant gains among participating students in both knowledge of nutrition and eating habits.

The SJNEP uses a team approach in which a registered dietician, teachers, food service staff, and parents promote nutritional awareness through a classroom curriculum of lessons and games, cafeteria displays, awards for appropriate mealtime behavior, and taste-tests. Student worksheets are available in Spanish and English. The project emphasizes innovative teaching techniques to enhance students' knowledge of nutrition and their food consumption habits. Techniques include strategies for integrating instruction about nutrition into classrooms with regular classroom subjects and into the school food service program. Parents volunteer during classroom activities and receive monthly newsletters that provide nutritional facts, games, and recipes.

SJNEP's impact on children's nutritional knowledge was evaluated by administering nutritional tests before and after the project to participating children and to equivalent comparison groups. A separate set of 16 to 22 multiple choice questions was given at each grade level. For example, one test question asked kindergarteners to point to one of four pictures that best illustrated how to clean one's hands. Another question asked 4th graders how they could make the school lunch area a nicer place to eat. Although both project participants and comparison groups gained in knowledge about nutrition, participating students at each grade level gained significantly over students in nonparticipating classes (by 11.1 to 19.3 percentage points in original sites and by 6.7 to 13.6 percentage points in adopting sites) (Table 1). The project's effect on children's behavior was determined by comparing school lunch-plate waste (consumption) rates for participants and demographically equivalent comparison groups. Participants at original and adopting sites consumed a significantly greater percentage of the food from each of six food categories than did children in comparison groups (Table 2).

Further information on how to implement the project can be obtained by writing San Jose Nutrition Education Project, Food Services Division, San Jose Unified School District, 250 Stockton Avenue, San Jose, California 95126.

TABLE 1. Mean post-test gain in nutritional knowledge, by grade — San Jose Nutrition Education Project

	Original Sites*		Adopting Sites†	
Grade	Project Particants (%)	Controls (%)	Project Particants (%)	Controls (%)
K	28.3	9	11.7	5
1	22.9	6	14.2	5.9
2	22.8	7.8	13.9	6.3
3	18.7	7.6	20.4	7.1
4	19.4	1.8	15.6	2

*California, 1977-1981.
†California and New Hampshire, 1983-1985.

Nutrition – Continued

TABLE 2. Average percentage of food eaten, by food type for Federal Type A lunch – San Jose Nutrition Education Project

	Original Sites*		Adopting Sites†	
Food Type	Project Participants (%)	Controls (%)	Project Participants (%)	Controls (%)
Meat/Meat Substitute	71	55	71	60
Vegetable	76	47	66	39
Salad	33	20	58	30
Bread	70	55	72	62
Fruit/Dessert	60	42	76	55
Milk	69	50	65	54

*California, 1977-1981.
†California and New Hampshire, 1983-1985.

Reported by: C Johnson, Health Education-Risk Reduction Program, California Dept of Health Svcs. Behavioral Epidemiology and Evaluation Br, Div of Health Education, Center for Health Promotion and Education, CDC.

Editorial Note: The San Jose Nutrition Education Project provides an excellent model for other nutritional programs. Evaluation at original implementation sites and at sites that later adopted the project indicate that health promotion programs of excellence can produce similar results in different locations.

The primary goal of the National Diffusion Network of the Department of Education is to help local school districts, intermediate service agencies, state departments of education, and postsecondary institutions in their continuing efforts to improve educational opportunities and achievements. To promote the transfer of successful programs from the development sites, this nationwide system helps those involved in education acquire materials and incorporate improved practices into their own programs.

In recognition of its achievements, the San Jose Nutrition Education Project was one of 56 health programs receiving the 1986 Secretary's Award for Excellence in Community Health Promotion from the Department of Health and Human Services.

Epidemiologic Notes and Reports

Cryptosporidiosis – New Mexico, 1986

Between July 1 and October 1, 1986, 78 laboratory-confirmed cases of cryptosporidiosis were reported to the Office of Epidemiology at the New Mexico Health and Environment Department. Because the source of infection in these cases was unclear, investigators conducted a case-control study to establish risk factors for infection.

For study purposes, a patient was defined as a Bernalillo County resident with laboratory-confirmed cryptosporidiosis reported to the Office of Epidemiology from July 1 through October 1, 1986. If more than one laboratory-confirmed case occurred in a household or day-care group, only the person with the earliest onset of symptoms was included in the study.

Fifty-eight (74%) of the 78 patients with cryptosporidiosis lived in Bernalillo County, which includes the city of Albuquerque. Twenty-four of these patients were

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included in the study. Thirty-two of the remaining patients were household or day-care contacts of these patients, and two were lost to follow-up.

The 24 patients included in the study were matched with 46 controls by age, sex, and neighborhood of residence. Using a questionnaire administered by telephone to both patients and controls, investigators gathered information on household size; day-care-center attendance, employment, or other principal sources of contact; travel; surface-water exposure; pet and domestic animal exposure; and the source of water to the home.

Patients' dates of onset of symptoms ranged from May 28 through September 2, 1986. Symptoms lasted from 5 to 60 days, with a median of 21 days. Ninety-six percent of the patients reported watery, nonbloody diarrhea; 79% reported flatulence; 67%, abdominal pain; 58%, nausea; and 54%, low-grade fever.

Patients ranged in age from 4 months to 44 years, with a median age of 3 years. Seventeen (71%) were <10 years of age. Seventeen (71%) of the patients were female, and seven (29%) were male. Thirteen (77%) of the patients <10 years of age and four (57%) of those >10 were female.

Univariate analysis suggested that drinking untreated surface water and attending a day-care center where other children were ill with diarrhea were possible risk factors for this infection. There was a strong statistical association between drinking surface water and illness (odds ratio [OR] incalculable, $p = 0.0016$). None of the five patients who drank surface water had treated it in any way. One of these five patients attended a day-care center, the others had no other risk factors for cryptosporidiosis. None of the 46 controls had drunk surface water.

There may have been an increased risk of illness among those who had swum in surface water (OR = 3.7; 95% confidence interval [CI], 0.71 to 12.6). Exposure to surface water (either through drinking or swimming) had occurred in New Mexico, southern Colorado, and Mexico. If the two patients exposed to surface water in Mexico and their controls are eliminated from the analysis, drinking surface water is still significantly associated with illness (OR incalculable, $p = 0.014$). The time between exposure to surface water and illness ranged from 4 to 21 days, with a median of 7 days. The average incubation period of cryptosporidiosis is 2 to 10 days. Fourteen (82%) of the 17 household members with exposures to surface water similar to the patients' became ill with diarrhea within 2 to 7 days.

There was no statistically significant difference between patients and controls in attendance at day-care centers or in employment. However, patients were more likely than controls to attend a day-care center reported by a parent as having other children ill with diarrhea (OR = 5; 95% CI, 1.4 to 26.3). A patient was also more likely to be a household contact of a day-care-center attendee or employee, but this did not reach statistical significance (OR = 3.7, 95% CI, 0.95 to 14.2).

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Editorial Note: *Cryptosporidium* sp. was recognized as a human pathogen in 1976. The illness is associated with significant morbidity, including diarrhea, which is often prolonged and which can be accompanied by severe weight loss. In immunodeficient persons, cryptosporidiosis can cause life-threatening dehydration. There is no known effective therapy.

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Previous outbreaks of cryptosporidiosis have occurred among animal handlers, through direct contact with animal feces (*1*), and in day-care centers, through person-to-person contact (*2,3*). An outbreak has also been reported from a Texas community where a common water well became contaminated (*4*).

Although surface water has not been previously recognized as a source of infection with *Cryptosporidium*, this study demonstrates that it may be. Further evidence was provided in January 1987 when a major waterborne outbreak of cryptosporidiosis in Georgia was traced to a river serving as the municipal water supply (CDC, unpublished data). *Cryptosporidium* sp. has been isolated from a broad variety of animals, including cattle, sheep, dogs, cats, deer, mice, rabbits, and snakes. *Cryptosporidium* sp. found in cattle have been shown to be transmitted to humans (*1*). Surface water might become contaminated through direct deposit of feces into water or by surface runoff that washes feces into water. The seasonal distribution of cryptosporidiosis, which occurs primarily in the summer and early fall (*1,5*), could be partially explained by the increased outdoor activity during that time of year.

Cryptosporidium species are known to be resistant to most chemical disinfectants, such as chlorine and iodine. Physicians should consider cryptosporidiosis in the differential diagnosis of persons with diarrhea who have a history of drinking surface water that is untreated or treated by chemical means alone.

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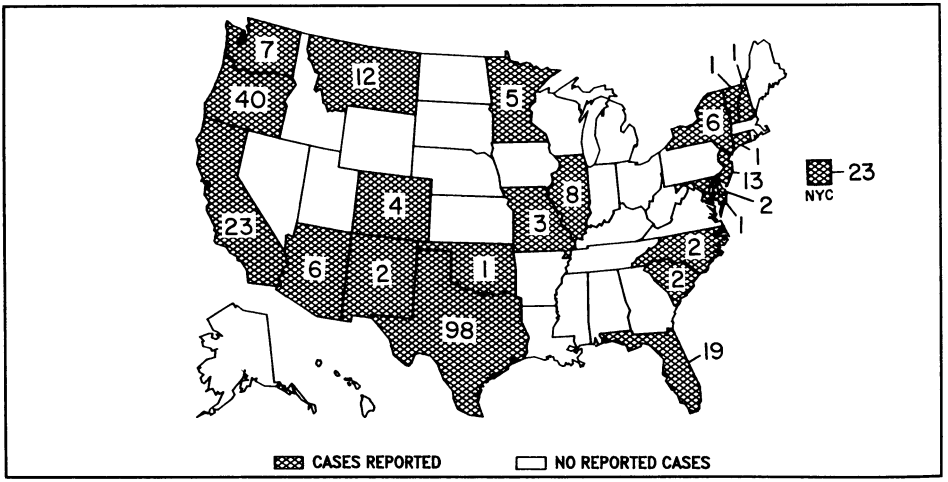
FIGURE I. Reported measles cases — United States, weeks 29-32



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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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