CENTERS FOR DISEASE CONTROL

October 28, 1983 / Vol. 32 / No. 42

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Current Trends

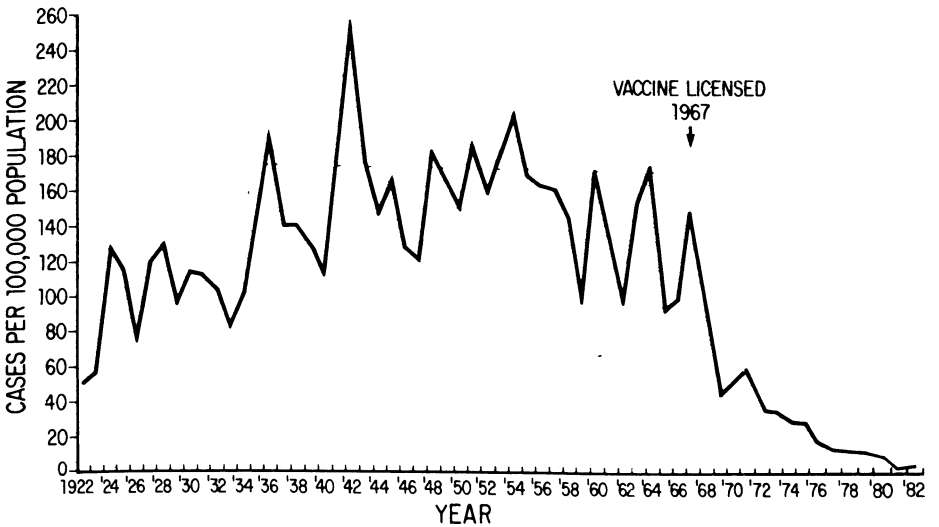
Mumps — United States, 1980-1983

As of October 22 (week 42), 1983, 2,683 mumps cases were reported to CDC, which represents a 41% decrease in mumps activity overall, compared to the same period in 1982, and a record low for reports in this period. Twenty-seven reporting areas show decreased numbers of cases for 1983. In 1980, all states reported some mumps activity; whereas in 1981, one state reported no mumps. To date in 1983, four areas are reported free of mumps, compared to three areas in the same period of 1982.

In 1982, 5,270 cases of mumps were reported to CDC, for an incidence rate of 2.3 cases per 100,000 population (Figure 1). This is 7% higher than the 1981 total of 4,941 cases, the lowest reported incidence since mumps became a nationally notifiable disease in 1968.* The small increase in 1982 was principally due to increased mumps disease in Ohio, which does not require mumps vaccination for school attendance. Ohio had almost three times as many cases in 1982 (1,775 cases) as in 1981 (687). The number of reported cases in other states decreased 17.8% between 1981 and 1982.

*Data prior to 1968 were submitted voluntarily by states to CDC.

FIGURE 1. Incidence rates of mumps — United States, 1922-1982*



*CDC provisional data.

Mumps — Continued

Age-specific data were available for 3,913 (74%) of the cases reported for 1982 (Table 1). Approximately three-fourths of mumps cases occurred among individuals under 15 years of age. The reported age-specific incidence rate in this age group decreased by 45% between 1980 (13.9/100,000) and 1982 (7.7/100,000). However, the reported incidence rate for 10- to 14-year-olds increased by 37% between 1981 and 1982, reflecting the Ohio outbreak in junior high and high school students. In contrast to 1980 and 1981, when the highest reported age-specific incidence rate occurred in 5- to 9-year-olds, in 1982, the highest rate occurred in 10- to 14-year-olds, who alone accounted for almost 40% of all patients of known age. Children 5-9 years of age had the next highest rate and accounted for 27% of cases.

The reported rate for persons 15 years of age or older also decreased between 1980 and 1982 by 13% (0.8/100,000 in 1980, compared with 0.7/100,000 in 1982) (Table 1). The small decrease was due to opposing trends in the 15- to 19-year age group versus the 20-year-and-older group. The rate in the former increased 20%, while that in the latter decreased by 40%.

The increased incidence among children 10-19 years of age between 1981 and 1982 is largely due to cases reported from Ohio, which accounted for almost one-half of all cases in this age group.

Marked declines have also been observed in the number of mumps-associated encephalitis and aseptic meningitis cases and deaths, the only complications of mumps officially reportable to CDC. There were 849 mumps-associated encephalitis cases in 1967, and seven in 1981; there were 53 mumps-associated aseptic meningitis cases in 1969, and eight in 1979[†]; and there were 43 mumps-associated deaths in 1966, and two in 1980.[§] The in-

[†]Reporting of aseptic meningitis cases to CDC began in 1969 and was discontinued after 1979.

[§]The latest year for which data are available.

TABLE 1. Percentage distribution of reported mumps cases and estimated incidence rate,* by age group — United States, 1980-1982

Age group (years)	1980 No. cases	1980 % Distribution	1980 Incidence rate	1981 No. cases	1981 % Distribution	1981 Incidence rate	1982 No. cases	1982 % Distribution	1982 Incidence rate	% Decrease in incidence 1980-1982
< 5	720	17.5	9.2	452	14.4	4.2	366	9.4	2.9	-68.5
5-9	1,454	36.0	18.5	1,043	33.2	10.2	1,058	27.0	8.9	-51.9
10-14	1,198	29.6	13.9	956	30.5	8.3	1,523	38.9	11.4	-18.0
15-19	347	8.6	3.5	311	9.9	2.4	611	15.6	4.2	+20.0
≥20	337	8.3	0.5	377	12.0	0.4	355	9.1	0.3	-40.0
Total with known age	4,056	47.3	—	3,139	63.5	—	3,913	74.3	—	—
Total with unknown age	4,520	52.7	—	1,802	36.5	—	1,357	25.7	—	—
Total cases reported	8,576	100.0	3.7	4,941	100.0	2.2	5,270	100.0	2.3	-37.3

*Cases per 100,000 population (1980 census data for 1980 and projected census data for other years) extrapolated from the age distribution of cases with known age.

Mumps — Continued

creased proportion of reported cases in older persons is also reflected in the available age-specific data on mumps-associated complications. For example, while 59% (118/200) of mumps-associated deaths occurred in persons 10 years of age or older in 1966-1975, 85% (17/20) of deaths occurred in this age group in 1976-1980 (*2*).

Reported by Div of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: Since mumps vaccine licensure in December 1967, more than 59 million doses of vaccine have been distributed in the United States, with an accompanying 97% decrease in reported cases (185,691 cases in 1967 versus 5,270 in 1982). Although age-specific data were available for less than 30% of U.S. cases during the first few years after vaccine licensure, trends noted in California, Massachusetts, and New York City illustrate that incidence rates have declined in all age groups by more than 90%. During 1967-1976, the highest reported rate occurred in 5- to 9-year-olds, followed by that in children under 5 years old. Together, these two groups accounted for over 70% of all reported cases. However, over the last 5 years (1978-1982), they accounted for only slightly more than 50% of reported cases. During this period, the risk of infection for 10- to 14-year-olds surpassed that for children under 5 years old. National data for 1982 indicate that the risk of infection for 10- to 14-year-olds was higher than that for any other age group.

The age-specific changes in mumps epidemiology observed since vaccine licensure are similar to those noted for measles and rubella and result from a vaccination policy oriented toward preschool and elementary schoolchildren (*3*). Individuals who are neither vaccinated nor infected at a young age eventually are exposed at an older age and subsequently account for the majority of reported cases. An analysis of vaccine efficacy during an Ohio outbreak confirmed that mumps vaccine is effective in preventing disease and that it does not lose its protective effect over time (*4*). While 95% (range 69%-99%) of school enterers in a 1982-1983 nationwide survey were found to be immunized against mumps, older children (junior and senior high school), such as those involved in a recent Ohio outbreak (*4*), represent the unvaccinated cohorts that still exist in many areas.

The Ohio experience illustrates the remaining susceptibility of older individuals, who are at higher risk for mumps-associated complications (*1*). It also demonstrates the direct and indirect costs of mumps illness—the cost associated with the 110 cases exceeded $20,000 (*4*). Finally, it exemplifies the twofold higher incidence rate of mumps in the 19 states (including Ohio) that do not require proof of mumps immunity for school entry, as compared to those that have such a law (34.7, compared with 17.5 cases per million population) (*4*).

Since mumps vaccine was licensed, it has continued to be shown to be safe and effective. A recent benefit-cost analysis noted that a mumps vaccination program, in which mumps was given as part of a measles-mumps-rubella (MMR) combination, would reduce costs associated with mumps by more than 86%, with a benefit-cost ratio of 7:1, using reported incidence rates. The program has a benefit-cost ratio of 39:1 when estimations of actual mumps incidence (to correct for underreporting) are used in the analysis (*5*). Since the potential for outbreaks will continue in unvaccinated cohorts, considerable medical and economic savings can be realized by including mumps immunization as part of state compulsory school immunization laws.

References

1. CDC. Mumps surveillance report. 1978.
2. CDC. Mumps surveillance report, 1977-1983 (in preparation).
3. Immunization Practices Advisory Committee. Mumps vaccine. MMWR 1982;31:617-20,625.
4. CDC. Efficacy of mumps vaccine—Ohio. MMWR 1983;32:391-2,397-8.
5. Koplan JP, Preblud SR. A benefit-cost analysis of mumps vaccine. Am J Dis Child 1982;136:362-4.

Epidemiologic Notes and Reports

Brucellosis — Texas

On April 7, 1983, a case of possible brucellosis was reported to the city of Houston, Texas, Health Department's Bureau of Epidemiology. Three weeks later, 12 suspected cases had been reported, and by July 19, 29 cases were identified. Six of the cases were reported by physicians and nurses, and the remainder were discovered during epidemiologic investigation in the community.

The patients ranged in age from 2 to 81 years. All were Mexican emigrants living in northeast Houston. Twenty-eight of the 29 patients reported eating goat cheese ("queso blanco") before the onset of symptoms. Twenty-three patients reported purchasing cheese from neighborhood weekend vendors selling the product from their motor vehicles.

None of the patients interviewed had any leftover cheese, but one was able to purchase additional cheese for analysis from a vendor in his neighborhood. The cheese was reportedly

(Continued on page 553)

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

Disease	42nd Week Ending			Cumulative, 42nd Week Ending		
	October 22, 1983	October 23, 1982	Median 1978-1982	October 22, 1983	October 23, 1982	Median 1978-1982
Aseptic meningitis	357	340	277	9,599	7,454	6,597
Encephalitis: Primary (arthropod-borne & unspec.)	51	52	38	1,391	1,266	981
Post-infectious	1	-	3	63	64	173
Gonorrhea: Civilian	18,946	19,846	19,960	723,176	777,116	807,241
Military	512	501	501	19,617	21,686	22,390
Hepatitis: Type A	454	484	558	17,312	18,353	22,604
Type B	430	506	319	18,350	17,403	14,349
Non A, Non B	70	57	N	2,703	1,931	N
Unspecified	193	168	191	6,370	7,012	8,309
Legionellosis	16	12	N	553	494	N
Leprosy	5	8	3	198	168	168
Malaria	11	27	27	660	889	889
Measles: Total*	23	59	59	1,339	1,437	12,435
Indigenous	5	N	N	1,085	N	N
Imported	18	N	N	254	N	N
Meningococcal infections: Total	33	51	39	2,252	2,467	2,199
Civilian	33	51	39	2,237	2,453	2,183
Military	-	-	-	15	14	16
Mumps	52	78	102	2,683	4,515	7,461
Pertussis	46	36	36	1,903	1,282	1,282
Rubella (German measles)	6	30	30	826	2,095	3,417
Syphilis (Primary & Secondary): Civilian	691	694	601	26,060	26,625	21,470
Military	8	8	5	323	352	256
Toxic-shock syndrome	2	N	N	319	N	N
Tuberculosis	449	536	536	18,845	20,489	21,853
Tularemia	3	5	3	255	214	183
Typhoid fever	31	13	14	372	327	420
Typhus fever, tick-borne (RMSF)	11	20	8	1,107	919	990
Rabies, animal	103	95	105	4,970	5,170	5,170

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1983		Cum. 1983
Anthrax	-	Plague	36
Botulism: Foodborne	13	Poliomyelitis: Total	5
Infant	47	Paralytic	5
Other	-	Psittacosis (Calif. 2)	102
Brucellosis (Ky. 1)	153	Rabies, human	2
Cholera	1	Tetanus	63
Congenital rubella syndrome (Calif. 1)	19	Trichinosis	28
Diphtheria	3	Typhus fever, flea-borne (endemic, murine)	42
Leptospirosis (Hawaii 1)	39		

*Two of the 23 reported cases for this week were imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending October 22, 1983 and October 23, 1982 (42nd week)

Reporting Area	Aseptic Menin-gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel-losis	Leprosy	Malaria
		Primary	Post-in-fectious			A	B	NA,NB	Unspeci-fied			
	1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1982	1983	1983	1983	1983	1983	Cum. 1983	Cum. 1983
UNITED STATES	357	1,391	63	723,176	777,116	454	430	70	193	16	198	660
NEW ENGLAND	12	57	-	19,062	18,706	8	25	-	9	3	3	31
Maine	-	-	-	912	963	-	-	-	-	-	-	1
N.H.	-	5	-	600	637	-	1	-	-	-	2	2
Vt.	1	1	-	365	353	2	-	-	-	-	-	1
Mass.	4	28	-	7,939	8,422	5	8	-	9	1	-	14
R.I.	-	1	-	1,034	1,233	-	-	-	-	-	-	4
Conn.	7	22	-	8,212	7,098	1	16	-	-	2	1	9
MID ATLANTIC	36	107	5	91,485	97,470	49	50	4	10	8	25	89
Upstate N.Y.	8	27	-	14,792	15,853	3	5	-	-	-	-	26
N.Y. City	6	10	-	36,238	39,959	14	1	-	7	1	24	21
N.J.	4	17	-	16,982	17,895	12	24	3	3	-	-	24
Pa.	18	53	5	23,473	23,763	20	20	1	-	7	1	18
E.N. CENTRAL	98	503	20	101,981	111,781	26	32	4	8	1	6	51
Ohio	54	170	9	27,699	30,108	8	19	1	6	-	1	8
Ind.	8	174	1	10,454	13,551	10	2	1	1	-	-	7
Ill.	-	17	7	26,437	31,738	1	1	1	1	-	2	16
Mich.	36	103	-	28,080	26,574	7	10	1	-	1	3	15
Wis.	-	39	3	9,311	9,810	-	-	-	-	-	-	5
W.N. CENTRAL	26	122	9	33,803	36,657	7	19	-	2	1	6	25
Minn.	-	33	1	4,745	5,314	-	4	-	-	-	4	7
Iowa	4	53	-	3,783	3,865	3	2	-	1	-	-	3
Mo.	20	29	-	16,184	17,470	2	11	-	-	1	1	5
N. Dak.	1	-	-	371	479	-	-	-	-	-	-	2
S. Dak.	-	1	2	878	973	2	-	-	-	-	-	1
Nebr.	-	4	-	2,236	2,193	-	-	-	1	-	-	1
Kans.	1	2	6	5,606	6,363	-	2	-	-	-	1	6
S. ATLANTIC	49	192	15	187,429	203,313	39	83	16	23	1	12	110
Del.	-	1	-	3,441	3,368	-	-	-	2	-	-	1
Md.	3	20	-	24,024	25,254	4	9	4	1	-	1	23
D.C.	1	-	-	12,896	12,037	1	-	-	-	-	-	15
Va.	19	44	2	17,209	16,121	5	22	2	4	1	1	26
W. Va.	2	38	-	2,096	2,293	1	2	2	-	-	-	1
N.C.	9	42	-	29,059	32,273	2	17	-	3	-	2	3
S.C.	1	4	-	17,467	19,732	5	9	1	6	-	-	5
Ga.	-	7	1	37,079	40,222	-	-	-	-	-	1	9
Fla.	14	36	12	44,158	52,013	21	24	7	7	-	7	27
E.S. CENTRAL	18	63	1	60,760	67,128	30	31	2	1	-	-	13
Ky.	5	15	-	7,169	9,084	24	7	-	1	-	-	2
Tenn.	6	17	-	24,861	26,549	2	17	2	-	-	-	-
Ala.	6	23	-	18,821	19,535	3	5	-	-	-	-	6
Miss.	1	8	1	9,909	11,960	1	2	-	-	-	-	5
W.S. CENTRAL	35	138	2	103,273	106,695	120	51	2	103	1	28	58
Ark.	2	6	-	8,010	8,774	3	3	-	1	-	-	1
La.	-	17	-	20,373	19,257	3	7	-	2	-	1	8
Okla.	3	27	1	11,894	11,671	13	5	2	2	1	-	10
Tex.	30	88	1	62,996	66,993	101	36	-	98	-	27	39
MOUNTAIN	19	63	4	23,121	26,261	38	21	5	3	-	12	25
Mont.	-	2	-	959	1,094	-	-	-	-	-	-	-
Idaho	1	1	-	1,031	1,277	10	-	-	-	-	-	2
Wyo.	-	2	-	617	762	-	-	-	-	-	-	1
Colo.	14	37	-	6,465	7,061	6	8	2	2	-	2	9
N. Mex.	1	2	-	2,818	3,569	6	-	-	-	-	-	5
Ariz.	-	9	4	6,566	6,860	11	9	2	1	-	9	5
Utah	2	10	-	1,109	1,294	3	1	-	-	-	1	3
Nev.	1	-	-	3,556	4,344	2	3	1	-	-	-	-
PACIFIC	64	146	7	102,262	109,105	137	118	37	34	1	106	258
Wash.	1	13	1	7,799	9,231	2	8	5	1	1	15	12
Oreg.	-	-	3	5,462	6,478	18	4	2	-	-	1	11
Calif.	46	125	3	84,344	88,591	116	105	29	33	-	60	234
Alaska	1	-	-	2,693	2,742	-	-	-	-	-	-	-
Hawaii	16	8	-	1,964	2,063	1	1	1	-	-	30	1
Guam	U	-	-	90	115	U	U	U	U	U	-	2
P.R.	5	1	1	1,893	2,207	7	13	-	7	-	-	2
V.I.	U	-	-	212	227	U	U	U	U	U	-	-
Pac. Trust Terr.	U	-	-	-	375	U	U	U	U	U	-	-

N: Not notifiable U: Unavailable

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending October 22, 1983 and October 23, 1982 (42nd week)

Reporting Area	Measles (Rubeola)					Menin-gococcal Infections	Mumps			Pertussis			Rubella		
	Indigenous		Imported*		Total										
	1983	Cum. 1983	1983	Cum. 1983	Cum. 1982	Cum. 1983	1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982	1983	Cum. 1983	Cum. 1982
UNITED STATES	5	1,085	18	254	1,437	2,252	52	2,683	4,515	46	1,903	1,282	6	826	2,095
NEW ENGLAND	-	3	-	14	14	116	5	118	170	-	61	49	-	15	17
Maine	-	-	-	-	-	8	1	19	41	-	4	4	-	-	-
N.H.	-	-	-	3	3	4	-	21	16	-	9	4	-	4	10
Vt.	-	-	-	-	2	9	1	15	7	-	8	2	-	5	-
Mass.	-	3	-	3	3	39	3	33	72	-	34	23	-	6	2
R.I.	-	-	-	-	-	9	-	14	15	-	5	11	-	-	1
Conn.	-	-	-	8	6	47	-	16	19	-	1	5	-	-	4
MID ATLANTIC	1	72	-	40	162	369	5	221	285	3	339	262	-	138	102
Upstate N.Y.	1	3	-	10	112	115	1	85	71	2	110	102	-	29	49
N.Y. City	-	43	-	26	42	68	-	33	47	1	52	37	-	86	34
N.J.	-	26	-	1	4	61	1	38	42	-	19	21	-	3	18
Pa.	-	-	-	3	4	125	3	65	125	-	158	102	-	20	1
E.N. CENTRAL	-	635	2	58	77	410	13	1,239	2,338	10	394	289	1	114	186
Ohio	-	72	2 †	15	1	121	1	542	1,592	9	136	81	-	2	-
Ind.	-	402	-	4	2	48	-	38	37	1	53	19	-	23	28
Ill.	-	159	-	33	24	123	7	142	269	-	113	128	1	49	68
Mich.	-	2	-	5	50	74	5	445	323	-	37	23	-	16	49
Wis.	-	-	-	1	-	44	-	72	117	-	55	38	-	24	41
W.N. CENTRAL	-	1	-	7	49	131	4	150	576	1	116	65	-	39	59
Minn.	-	1	-	-	-	20	-	27	442	-	41	25	-	8	5
Iowa	-	-	-	-	-	15	2	39	34	-	6	8	-	-	-
Mo.	-	-	-	1	2	64	-	21	11	-	15	14	-	-	38
N. Dak.	-	-	-	-	-	4	-	1	-	-	2	-	-	-	-
S. Dak.	-	-	-	-	-	4	-	-	1	1	8	5	-	-	1
Nebr.	-	-	-	-	3	4	-	2	-	-	2	1	-	-	-
Kans.	-	-	-	6	44	20	2	60	88	-	42	12	-	31	15
S. ATLANTIC	1	173	-	31	81	468	3	185	272	1	217	230	-	94	83
Del.	-	-	-	-	-	11	-	8	12	-	5	6	-	-	1
Md.	-	6	-	4	3	46	1	34	29	-	17	51	-	3	34
D.C.	-	-	-	-	1	5	-	-	-	-	-	1	-	-	-
Va.	-	10	-	13	14	69	-	31	37	-	50	26	-	3	12
W. Va.	-	-	-	-	3	2	2	47	95	-	9	9	-	-	2
N.C.	-	-	-	1	1	95	-	12	16	-	27	42	-	10	1
S.C.	-	-	-	4	-	47	-	10	17	-	13	16	-	1	1
Ga.	-	8	-	-	-	74	-	43	20	-	56	38	-	11	14
Fla.	1	149	-	9	59	119	N	-	46	1	40	41	-	66	18
E.S. CENTRAL	-	1	-	5	9	133	2	52	52	1	32	49	-	16	46
Ky.	-	-	-	1	1	27	-	21	18	-	13	5	-	15	28
Tenn.	-	-	-	-	6	45	1	25	19	-	8	26	-	-	2
Ala.	-	1	-	4	2	39	-	2	9	-	5	5	-	1	-
Miss.	-	-	-	-	-	22	1	4	6	1	6	13	-	-	16
W.S. CENTRAL	-	39	-	35	149	241	5	225	208	16	413	90	2	115	111
Ark.	-	5	-	8	-	19	-	2	7	-	19	3	-	-	1
La.	-	-	-	25	2	45	-	45	6	2	10	21	-	10	1
Okla.	-	1	-	-	30	30	N	-	-	8	297	5	-	-	3
Tex.	-	33	-	2	117	147	5	178	195	6	87	61	2	105	106
MOUNTAIN	-	-	3	16	24	96	7	139	100	10	212	61	-	33	78
Mont.	-	-	-	3	-	21	2	5	3	-	1	1	-	6	5
Idaho	-	-	3 §	10	-	6	2	8	4	-	15	11	-	8	6
Wyo.	-	-	-	-	1	2	-	2	2	-	6	3	-	4	7
Colo.	-	-	-	2	8	34	2	36	17	9	132	17	-	1	6
N. Mex.	-	-	-	-	-	7	N	-	-	1	14	7	-	-	6
Ariz.	-	-	-	1	15	16	1	77	47	-	22	21	-	6	14
Utah	-	-	-	-	-	9	-	6	20	-	22	1	-	7	22
Nev.	-	-	-	-	-	1	-	5	7	-	-	-	-	1	12
PACIFIC	3	161	13	48	872	288	8	354	514	4	119	187	3	262	1,413
Wash.	-	1	13 §	17	41	43	1	43	66	-	16	27	-	12	38
Oreg.	-	8	-	2	16	46	N	-	-	-	8	27	-	13	6
Calif.	3	151	-	27	809	190	6	279	422	4	88	105	3	235	1,357
Alaska	-	-	-	2	1	2	1	14	10	-	4	-	-	1	5
Hawaii	-	1	-	-	5	7	-	18	16	-	3	28	-	1	7
Guam	U	1	U	1	6	1	U	1	5	U	-	-	U	-	2
P.R.	-	94	-	-	128	11	2	121	88	2	13	21	-	5	11
V.I.	U	-	U	5	-	-	U	-	4	U	-	-	U	2	1
Pac. Trust Terr.	U	-	U	-	1	-	U	-	6	U	-	-	U	-	-

*For measles only, imported cases includes both out-of-state and international importations. U: Unavailable †International §Out-of-state

TABLE III. (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending October 22, 1983 and October 23, 1982 (42nd week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1983	Cum. 1982	1983	1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1983	Cum. 1983
UNITED STATES	26,060	26,625	2	449	18,845	255	372	1,107	4,970
NEW ENGLAND	556	479	-	10	559	4	15	6	30
Maine	18	4	-	1	32	-	-	-	8
N.H.	18	5	-	-	31	-	-	1	4
Vt.	2	2	-	-	10	-	-	-	1
Mass.	353	320	-	8	294	3	12	2	11
R.I.	17	20	-	-	45	1	-	-	-
Conn.	148	128	-	1	147	-	3	3	6
MID ATLANTIC	3,359	3,606	-	95	3,398	1	64	26	213
Upstate N.Y.	244	385	-	14	573	1	7	6	70
N.Y. City	2,002	2,141	-	36	1,332	-	23	2	-
N.J.	656	499	-	30	721	-	28	8	24
Pa.	457	581	-	15	772	-	6	10	119
E.N. CENTRAL	1,309	1,594	-	72	2,547	3	54	79	428
Ohio	372	259	-	5	397	-	16	42	58
Ind.	95	167	-	4	283	-	3	14	29
Ill.	575	852	-	40	1,110	1	25	14	220
Mich.	195	239	-	19	626	1	10	7	19
Wis.	72	77	-	4	131	1	-	2	102
W.N. CENTRAL	322	452	1	11	584	79	10	56	696
Minn.	123	104	-	4	131	-	2	-	122
Iowa	20	26	-	2	52	-	-	-	170
Mo.	116	256	-	2	284	55	7	29	93
N. Dak.	2	7	-	-	6	-	-	1	73
S. Dak.	11	2	-	2	34	8	-	5	107
Nebr.	15	11	-	-	20	8	-	3	60
Kans.	35	46	1	1	57	8	1	18	71
S. ATLANTIC	7,085	7,264	-	73	3,825	13	54	464	1,791
Del.	31	20	-	1	54	-	-	4	5
Md.	481	395	-	5	303	5	8	39	659
D.C.	302	390	-	6	158	-	3	-	133
Va.	483	496	-	8	396	1	15	64	557
W. Va.	21	25	-	1	114	-	2	12	108
N.C.	688	584	-	11	575	6	4	196	26
S.C.	439	446	-	16	353	-	2	80	29
Ga.	1,252	1,525	-	7	706	1	2	65	179
Fla.	3,388	3,383	-	18	1,166	-	18	4	95
E.S. CENTRAL	1,784	1,830	1	42	1,683	17	9	102	326
Ky.	144	110	1	7	437	1	3	22	72
Tenn.	480	524	-	11	498	11	1	48	175
Ala.	703	676	-	18	437	-	2	24	79
Miss.	457	520	-	6	311	5	3	8	-
W.S. CENTRAL	6,771	6,943	-	54	2,236	106	52	359	906
Ark.	159	170	-	8	272	65	2	40	149
La.	1,393	1,547	-	-	298	3	3	1	27
Okla.	163	147	-	-	209	30	2	226	95
Tex.	5,056	5,079	-	46	1,457	8	45	92	635
MOUNTAIN	554	681	-	16	501	26	18	13	216
Mont.	7	5	-	-	42	5	1	6	66
Idaho	7	24	-	-	23	2	-	2	16
Wyo.	10	16	-	-	11	5	-	2	11
Colo.	136	182	-	5	68	5	1	-	23
N. Mex.	149	153	-	4	95	3	1	-	13
Ariz.	141	183	-	6	204	1	13	1	34
Utah	20	20	-	1	33	4	1	1	10
Nev.	84	98	-	-	25	1	1	1	43
PACIFIC	4,320	3,776	-	76	3,512	6	96	2	364
Wash.	143	137	-	4	197	2	3	-	2
Oreg.	119	91	-	4	150	2	3	-	1
Calif.	3,984	3,444	-	64	2,917	2	87	2	346
Alaska	12	14	-	-	56	-	-	-	15
Hawaii	62	90	-	4	192	-	3	-	-
Guam	-	1	U	U	5	-	-	-	-
P.R.	648	647	-	-	385	-	-	-	46
V.I.	17	25	U	U	2	-	-	-	-
Pac. Trust Terr.	-	-	U	U	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending October 22, 1983 (42nd week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	611	415	128	38	13	17	46
Boston, Mass.	166	85	51	14	8	8	15
Bridgeport, Conn.	33	25	5	3	-	-	4
Cambridge, Mass.	25	19	5	1	-	-	2
Fall River, Mass.	22	20	2	-	-	-	-
Hartford, Conn.	63	43	13	6	1	-	2
Lowell, Mass.	20	14	4	1	1	-	1
Lynn, Mass.	13	10	3	-	-	-	-
New Bedford, Mass.	29	23	2	3	-	1	-
New Haven, Conn.	26	19	5	1	1	-	-
Providence, R.I.	65	42	13	3	1	6	5
Somerville, Mass.	11	7	4	-	-	-	-
Springfield, Mass.	44	34	5	3	-	2	3
Waterbury, Conn.	26	19	6	1	-	-	3
Worcester, Mass.	68	55	10	2	1	-	11
MID. ATLANTIC	2,590	1,670	581	193	67	79	102
Albany, N.Y.	45	34	7	2	-	2	1
Allentown, Pa.	12	3	8	-	1	-	-
Buffalo, N.Y.	119	77	23	10	1	8	13
Camden, N.J.	37	24	7	2	2	2	4
Elizabeth, N.J.	26	16	8	2	-	-	1
Erie, Pa.†	35	23	9	1	2	-	4
Jersey City, N.J.	44	35	7	2	-	-	-
N.Y. City, N.Y.	1,390	892	302	125	36	35	32
Newark, N.J.	87	36	26	10	5	10	5
Paterson, N.J.	28	21	4	2	-	1	-
Philadelphia, Pa.†	293	184	66	23	8	12	14
Pittsburgh, Pa.†	63	38	20	1	1	3	4
Reading, Pa.	37	31	5	-	-	1	2
Rochester, N.Y.	134	95	30	3	4	2	13
Schenectady, N.Y.	35	29	5	-	1	-	3
Scranton, Pa.†	27	19	6	1	1	-	-
Syracuse, N.Y.	91	59	24	4	3	1	4
Trenton, N.J.	40	18	16	4	1	1	-
Utica, N.Y.	17	11	4	1	1	-	-
Yonkers, N.Y.	30	25	4	-	-	1	2
E.N. CENTRAL	2,249	1,425	550	131	66	77	81
Akron, Ohio	68	44	14	4	1	5	-
Canton, Ohio	45	32	9	2	-	2	4
Chicago, Ill	480	298	115	35	10	22	7
Cincinnati, Ohio	152	95	37	11	4	5	13
Cleveland, Ohio	183	95	61	14	5	8	4
Columbus, Ohio	122	81	24	7	7	3	1
Dayton, Ohio	118	70	38	8	-	2	7
Detroit, Mich.	256	145	75	16	10	10	3
Evansville, Ind.	67	45	14	4	3	1	3
Fort Wayne, Ind.	38	27	9	-	1	1	1
Gary, Ind.	16	8	4	2	2	-	1
Grand Rapids, Mich.	62	46	8	2	3	3	4
Indianapolis, Ind.	178	109	47	7	8	7	5
Madison, Wis.	32	23	6	-	2	1	3
Milwaukee, Wis.	126	91	30	2	2	1	10
Peoria, Ill.	58	40	12	3	1	2	7
Rockford, Ill.	45	29	10	4	2	-	4
South Bend, Ind.	36	25	6	3	-	2	2
Toledo, Ohio	101	67	22	7	4	1	2
Youngstown, Ohio	66	55	9	-	1	1	-
W.N. CENTRAL	710	479	142	45	16	27	31
Des Moines, Iowa	54	43	8	2	-	1	2
Duluth, Minn.	30	19	5	5	-	1	-
Kansas City, Kans.	40	27	7	4	2	-	4
Kansas City, Mo.	105	75	24	1	4	1	3
Lincoln, Nebr.	42	33	4	2	1	2	4
Minneapolis, Minn.	86	60	9	4	1	12	2
Omaha, Nebr.	79	51	20	3	2	2	3
St. Louis, Mo.	155	100	38	12	4	1	7
St. Paul, Minn.	55	37	9	8	-	1	-
Wichita, Kans.	64	34	18	4	2	6	6

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,192	727	291	78	39	57	41
Atlanta, Ga.	147	77	41	15	8	6	4
Baltimore, Md.	183	112	50	16	4	1	4
Charlotte, N.C.	81	54	11	8	4	4	2
Jacksonville, Fla.	94	66	20	3	1	4	7
Miami, Fla.	116	65	34	10	2	5	-
Norfolk, Va.	60	33	15	4	1	7	2
Richmond, Va.	84	45	25	6	5	3	5
Savannah, Ga.	34	18	10	1	3	2	4
St. Petersburg, Fla.	99	89	8	-	2	-	2
Tampa, Fla.	65	45	13	1	-	6	6
Washington, D.C.	174	94	47	13	7	13	4
Wilmington, Del.	55	29	17	1	2	6	1
E.S. CENTRAL	760	494	191	44	14	17	29
Birmingham, Ala.	114	75	22	8	6	3	1
Chattanooga, Tenn.	63	48	11	3	-	1	4
Knoxville, Tenn.	77	60	11	5	1	-	-
Louisville, Ky.	107	52	44	2	1	8	5
Memphis, Tenn.	150	104	38	6	2	-	13
Mobile, Ala.	42	30	8	3	1	-	1
Montgomery, Ala.	60	38	14	5	-	3	-
Nashville, Tenn.	147	87	43	12	3	2	5
W.S. CENTRAL	1,539	862	400	140	74	62	51
Austin, Tex.	47	29	11	5	2	-	1
Baton Rouge, La.	24	14	9	-	-	1	2
Corpus Christi, Tex.	55	28	15	5	3	4	-
Dallas, Tex.	209	122	53	17	7	10	3
El Paso, Tex.	70	40	14	7	5	3	6
Fort Worth, Tex.	108	68	22	13	3	2	7
Houston, Tex.	483	239	142	49	35	18	9
Little Rock, Ark.	88	46	25	9	3	5	3
New Orleans, La.	113	67	30	10	1	5	-
San Antonio, Tex.	175	100	43	18	8	6	11
Shreveport, La.	65	42	16	2	2	3	1
Tulsa, Okla.	102	67	20	5	5	5	8
MOUNTAIN	615	375	124	52	29	35	32
Albuquerque, N.Mex.	68	44	12	7	2	3	6
Colo. Springs, Colo.	32	22	3	5	1	1	5
Denver, Colo.	128	75	33	5	4	11	5
Las Vegas, Nev.	92	45	19	18	7	3	2
Ogden, Utah	15	13	2	-	-	-	2
Phoenix, Ariz.	130	71	35	8	7	9	7
Pueblo, Colo.	21	15	5	1	-	-	-
Salt Lake City, Utah	52	29	9	3	6	5	2
Tucson, Ariz.	77	61	6	5	2	3	3
PACIFIC	1,781	1,210	342	94	75	58	88
Berkeley, Calif.	14	13	-	-	1	-	1
Fresno, Calif.	69	42	8	7	8	4	2
Glendale, Calif.	32	23	6	1	1	1	-
Honolulu, Hawaii	79	46	24	5	3	1	7
Long Beach, Calif.	107	72	25	5	2	3	4
Los Angeles, Calif.	411	293	75	17	21	5	8
Oakland, Calif.	87	62	14	5	2	4	7
Pasadena, Calif.	36	30	3	2	1	-	3
Portland, Oreg.	145	95	29	8	6	7	9
Sacramento, Calif.	61	37	12	5	3	4	3
San Diego, Calif.	125	77	25	7	8	7	15
San Francisco, Calif.	144	103	27	11	1	2	3
San Jose, Calif.	191	113	50	10	9	8	15
Seattle, Wash.	137	98	22	4	5	8	3
Spokane, Wash.	67	52	8	3	2	2	2
Tacoma, Wash.	76	54	14	4	2	2	6
TOTAL	12,047††	7,657	2,749	815	393	429	501

* 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 4 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.

Brucellosis – Continued

produced in Linares, Mexico, and laboratory analysis determined that it was unpasteurized; all attempts to isolate *Brucella* sp. from the cheese were unsuccessful. On May 6, a news release was circulated to the media, and the public was made aware of the potential dangers of purchasing cheese from unlicensed food vendors. Since that time, neighborhood contacts reportedly have not seen the street vendors.

As of this report, 19 of the 29 patients have had blood cultures positive for *B. melitensis*, and one had *B. melitensis* isolated from blood and bone marrow. Three additional cases were confirmed by a fourfold rise or fall in agglutinating titer. Seven patients with presumptive diagnoses displayed clinical symptoms compatible with brucellosis in addition to agglutinating titers of > 1:160.

Reported by P Perkins, MPH, A Rogers, M Key, MD, V Pappas, R Wende, DrPH, City of Houston Health Dept, J Epstein, MD, Houston, M Thapar, MD, Ripley Clinic, Houston, F Jensen, MD, Harris County Health Dept, TL Gustafson, MD, Acting State Epidemiologist, Texas State Dept of Health; E Young, MD, Veterans Administration Hospital, Houston; Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

Editorial Note: In the 14-year period 1965-1978, 3,316 cases of brucellosis were reported to CDC by state health departments. Unpasteurized (raw) dairy products accounted for 268 (8%) of these cases; 127 (47%) of the 268 cases were associated with raw dairy products from Mexico, predominantly fresh cheese made from unpasteurized goat milk, as in the present outbreak. Similar outbreaks have been reported previously from Colorado (*1*) and Texas (*2*).

An additional 50 (19%) of the 268 raw dairy product-associated cases were traced to ingestion of products from countries in the Mediterranean basin, Far East, Middle East, and South America. Most were sporadic events involving individual American travelers or foreign visitors to the United States who consumed dairy products acquired abroad; however, outbreaks of multiple cases have occurred among members of tour groups to countries bordering the Mediterranean Sea (*3*). Because these individuals frequently have no vocational or avocational exposure to *Brucella* spp., other more common causes of fever are generally ruled out before a diagnosis of brucellosis is entertained, thereby delaying appropriate therapy. Countries reporting more than 1,000 human cases of brucellosis per year in their indigenous populations include Argentina, Greece, Iran, Italy, Mexico, Peru, and Spain (*4*). The remaining 91 (34%) raw dairy product-associated human brucellosis cases were linked to unpasteurized milk or cheese produced in the United States.

Unpasteurized dairy products have been associated with Group C streptococcal infections in New Mexico (*5*). Raw milk cheese contaminated with staphylococcal enterotoxin is reported to be widespread (*6, 7*). In addition, salmonellae, which are readily killed by pasteurization, have been shown repeatedly to survive the cheese-making process (*6*). Other organisms that have caused cheese-associated diseases or have been shown to survive the cheese-making process include *Escherichia coli, Mycobacterium tuberculosis*, and *Campylobacter jejuni*.

References

1. Eckman MR. Brucellosis linked to Mexican cheese. JAMA 1975;232:636-7.
2. Young EJ, Suvannoparrat U. Brucellosis outbreak attributed to ingestion of unpasteurized goat cheese. Arch Intern Med 1975;135:240-3.
3. Arnow PM. Brucellosis in a tour group. JAMA (in press).
4. Kaufmann AF, Martone WJ. Brucellosis. In: JM Last, ed. Maxcy-Rosenau public health and preventive medicine. 11th ed. New York: Appleton-Century-Crofts. 1980:419-22.
5. CDC. Group C streptococcal infections associated with eating homemade cheese—New Mexico. MMWR 1983;32:510,515-6.
6. Keogh BP. Reviews of the progress of dairy science. Section B. The survival of pathogens in cheese and milk powder. J Dairy Res 1971;38:91-111.
7. Bryan FL. Epidemiology of milk-borne diseases. J Food Protection 1983;46:637-49.

Lead Poisoning from Mexican Folk Remedies — California

In May 1982, a 15-month-old California child and his 3-year-old sibling were treated in Mexico with multiple doses of azarcon (lead tetroxide) for chronic diarrhea that had been unsuccessfully treated with ampicillin. In June, the children were taken to a San Diego hospital where the younger child was found to have a blood lead level measurement of 124 μg/dl; the 3-year-old expired with seizures. It was not known whether an autopsy was performed, but azarcon-induced lead encephalopathy was suspected as a cause of death.

Because of these cases, in June 1982, the Los Angeles County Department of Health Services surveyed residents of six predominantly Hispanic, geographically representative census tracts in an attempt to estimate exposure to and knowledge of azarcon and greta (lead oxide). A total of 545 systematically selected households were included. Familiarity with the substances was greatest among Mexican-Hispanics, and prior use was exclusive to this group. Respondents in approximately one-quarter of Mexican-Hispanic households were familiar with one or both of the substances by means other than media announcements. An estimated 7.2%-12.1% of Mexican-Hispanic families admitted prior use from "years ago" to within the past month. One respondent provided interviewers with azarcon from the family medicine cabinet. Since investigators noted a reluctance to admit using azarcon or greta, the incidence of ingestion might have been greater than results of the survey indicated.

A Colorado survey in June-September 1982 among Texas farm workers showed that 7.0% of 100 migrant children under 12 years of age had been treated with substances called azarcon or greta at some time for gastrointestinal illness. Other states with migrant populations, such as Arizona, New Mexico, and Texas, are presently investigating the problem.

Reported by T Sankury, MD, Northridge, D Cooper, MD, R Bradley, Los Angeles County-USC Medical Center, S Fong-Huie, MPH, A Guzman, L Habel, MPH, W Janer, L Lieb, MPH, A Martinez, MPH, L Portigal, MS, G Ramirez, F Sorvillo, MPH, B Weiss, MPH, Los Angeles County Dept of Health Svcs, D Dassey, MD, Riverside County Health Dept, T Kearney, PharmD, Regional Poison Center, M Ginsberg, MD, San Diego County Health Dept, R Schlag, R Murray, DrPh, J Chin, MD, State Epidemiologist, California Dept of Health Svcs; A Ackerman, PhD, Sunrise Community Health Center, Colorado; W Meister, MD, West Michigan Poison Control Center, J Miller, Migrant and Rural Health Association, Michigan; V Boersma, MD, D Bol, Holland Migrant Health Clinic, L Truskowski, K Higgins, A Scheit, L del Rio, Kenosha Health Dept, Wisconsin; R Trotter, PhD, Pan American University, IG Gosset, MD, Pan American Health Organization, El Paso, Texas; HF Newman, MD, US Food and Drug Administration, Texas; R Tyler, Women and Infant Care Program, Dept of Health and Human Svcs, Chicago, Illinois.

Editorial Note: In summer 1981, the first cases of lead poisoning associated with the Mexican folk remedy, azarcon, were identified in Los Angeles, California, and Colorado (*1,2*). Since that time, nine additional confirmed cases associated with the ingestion of azarcon or the related remedy, greta, have been reported in California. In addition, five cases have been reported from Michigan and Wisconsin.

Greta and azarcon are fine powders with total lead contents varying from 70% to greater than 90%. As powder, they provide a large surface area for potential absorption. These remedies apparently are most often administered to infants and children, who are the most susceptible in terms of clinical impact and the capacity to absorb lead.

With the identification of multiple cases of lead poisoning and indication of significant exposure, major media efforts publicizing the dangers of azarcon and greta have been directed at Hispanic communities in California. Until recently, these substances were available at herb shops and from folk healers on both sides of the Mexican-American border. The U.S. Food and Drug Administration (FDA) has initiated a national recall of greta, and a reported 25 pounds of the substance was recently seized in southern Texas. The FDA is currently investigating the sale of greta in the Yakima Valley of Washington State. Mexican health authorities have reportedly instituted recall efforts in Baja California, Mexico.

Lead Poisoning — Continued

Health professionals are urged to report cases of azarcon- or greta-associated lead poisonings and to promote educational programs in their Hispanic communities regarding the dangers of these folk remedies. Health education material in Spanish and English is available from the State of California and Los Angeles County Departments of Health Services and from the Sunrise Community Health Center, P.O. Box 245, Greely, Colorado 80632.

References

1. CDC. Use of lead tetroxide as a folk remedy for gastrointestinal illness. MMWR 1981;30:546-7.
2. CDC. Lead poisoning from lead tetroxide used as a folk remedy--Colorado. MMWR 1981;30:647-8.

Folk Remedy-Associated Lead Poisoning in Hmong Children — Minnesota

Between January 1, and June 30, 1983, 35 children with lead toxicity* were identified through routine screening by the St. Paul, Minnesota, Division of Public Health. Of these, 24 (69%) were Hmong refugees from Northern Laos. This represents a twofold to threefold increase in the number of Hmong children found to have lead toxicity in St. Paul compared with previous years. One source of lead poisoning appears to be a Hmong folk remedy used for treating infants and children with fevers. A case report follows:

On May 3, 1983, a 6-month-old Hmong girl was found to have lead poisoning (blood lead [BL] 60 μg/dl, erythrocyte protoporphyrin [EP] 263 μg/dl, hematocrit 38%) during screening for well-baby care. She was asymptomatic at the time. Her physical examination was unremarkable. X-ray films of the wrists and knees revealed dense provisional zones of calcification suggestive of lead deposits. No environmental sources of lead, such as paint, could be identified after a thorough investigation of the family's home. After detailed questioning by the child's pediatrician, the parents admitted giving red and orange powders to the baby as a cure for high fever. Laboratory analysis of the red powder showed a lead concentration of 8%. The infant was given ethylene diamine tetraacetic acid (EDTA) chelation therapy as an outpatient.

Officials have been unable to obtain samples of the folk remedy from the parents of other Hmong children with lead poisoning. The remedy, generally refered to as "pay-loo-ah," consists of red and orange powders, the composition and source of which often vary; therefore, a more exact description of the material remains difficult. Believed to have originated in China or Southeast Asia, pay-loo-ah is fed to children as a cure for fever or rash. Samples of folk remedies were obtained from several Hmong households in the community, and the U.S. Food and Drug Administration confirmed that two contained lead (1% and 90%). Arsenic was found in three samples at concentrations of 70%-80%. These folk remedies were in wide use and were easily available through local Asian food stores or Hmong peddlers. To date, no cases of arsenic poisoning in the Hmong children have been reported.

Reported by C Levitt, MD, Children's Hospital, St. Paul, D Paulson, MD, K Duvall, MPH, J Godes, MPH, St. Paul Div of Public Health, AG Dean, MD, State Epidemiologist, Minnesota State Dept of Health; J Roberts, J Egenberger, Minneapolis District, US Food and Drug Administration; Special Studies Br, Chronic Diseases Div, Center for Environmental Health, CDC.

Editorial Note: Folk remedies have been known to cause lead poisoning. A Mexican folk medicine, azarcon, has been reported to cause lead poisoning in Mexican children in a number of southwestern states (*1,2*). Hmong refugees, who have emigrated from North Laos, have

*Blood lead ≥ 30 μg/dl and erythrocyte protoporphyrin (EP) ≥ 60 μg/dl, determined by hematofluorometer. The St. Paul Division of Public Health considers EP of 60 μg/dl elevated instead of the CDC recommendation of 50 μg/dl because of the differences in calibration of their hematofluorometer.

Lead Poisoning — Continued

an estimated total population over 50,000 and live in many parts of the United States, with the largest concentrations in Fresno, Stockton, and San Diego, California, in addition to St. Paul.

Health-care providers for Hmong and Southeast Asians should be aware of this unusual lead source. Screening for elevated blood lead levels is necessary to identify additional cases, because symptoms of lead toxicity generally have not been reported by the Hmong. Reporting of cases to local or state health departments is recommended. Appropriate health education will be necessary to inform the Hmong of the health consequences associated with this folk remedy.

Lead poisoning resulting from folk remedies exemplifies the need to continue screening young children for lead toxicity. CDC recommends routine screening of EP of all children between 6 months and 5 years of age. An EP level of over the CDC recommendation of 50 μg/dl indicates either iron deficiency anemia or lead toxicity (*3*). Lead toxicity should then be confirmed by a blood lead level.

References

1. Bose A, Vashistha K, O'Loughlin BJ. *Azarcón por Empacho*—another cause of lead toxicity. Pediatrics 1983;72:106-8.
2. CDC. Lead poisoning from lead tetroxide used as a folk remedy—Colorado. MMWR 1982;30:647-8.
3. CDC. Preventing lead poisoning in young children: a statement by the Center for Disease Control. April 1978, page 4.

The *Morbidity and Mortality Weekly Report* is prepared by the Centers for Disease Control, Atlanta, Georgia, and available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

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

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE / CENTERS FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333
OFFICIAL BUSINESS

Postage and Fees Paid
U.S. Department of HHS
HHS 396

U.S.MAIL

S 6FCRH3MCDJ73 8129 X
JOSEPH MC DADE PHD
LEGIONNAIRE ACTIVITY
LEPROSY & RICKETTSIAL BR
VIROLOGY DIV, CID
7-85

HHS Publication No. (CDC) 83-8017