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International Notes

Population-Based Mortality Assessment — Baidoa and Afgoi, Somalia, 1992

Since 1990, Somalia has been the site of an intense civil war that has disrupted health-care services and food delivery to a substantial part of the country. A regional drought, in combination with the ongoing civil disturbances, has further resulted in widespread famine. Multiple international government- and nongovernment-aid agencies are involved in the relief effort for Somalia. However, security problems in most areas of Somalia have prevented recent, systematic population-based assessments of the health and nutritional status of local Somali populations for use in directing relief efforts. To characterize the mortality of various Somali populations and to provide data on major population centers outside of the capital (Mogadishu), CDC, in collaboration with the United Nations Children's Fund (UNICEF) and the U.S. Agency for International Development, conducted a survey (*1*) of urban populations in a central region of Somalia (Figure 1). This report describes two pilot assessments performed during November 20–25 and December 5–6, 1992, in the towns of Baidoa and Afgoi.

Baidoa

Baidoa is a regional center of the Bay Region of Somalia. Formal census data on this city were not available, and population estimates were provided by nongovernment-aid agencies. In early August 1992, the estimated population of Baidoa was 37,000 persons; by November 20, the town population had decreased to an estimated 21,000. On November 20, based on hut counts, the displaced population at two major camps for displaced persons (DPs) in Baidoa was approximately 5200 persons. An additional unknown number of DPs resided in the town itself.

For this mortality assessment, the DP-camp population was divided into seven areas of approximately equal populations (i.e., clusters), and survey starting points were randomly chosen in each of the seven areas. From the random starting point, residents in approximately seven consecutive huts in each cluster were selected to be interviewed. Interviewees were asked questions regarding deaths that occurred in the family (i.e., parents, spouse, or children) from the first day following the Moslem holi-

Somalia — Continued

day Ramadan (April 3, 1992) to the day of the interview and deaths that occurred during the 30 days preceding the interview.

Mortality data were collected for 349 DPs who were alive on April 3 (Table 1). From April 3 through November 21, 137 (39%) persons were reported to have died, resulting in an average daily crude mortality rate (CMR) of 16.9 deaths per 10,000 population. Among 63 displaced children aged <5 years, 44 (70%) died from April 3 through November 21 (aged <5 years mortality rate [<5MR]=30.1 deaths daily per 10,000

FIGURE 1. Locations of pilot mortality assessments — Somalia, 1992

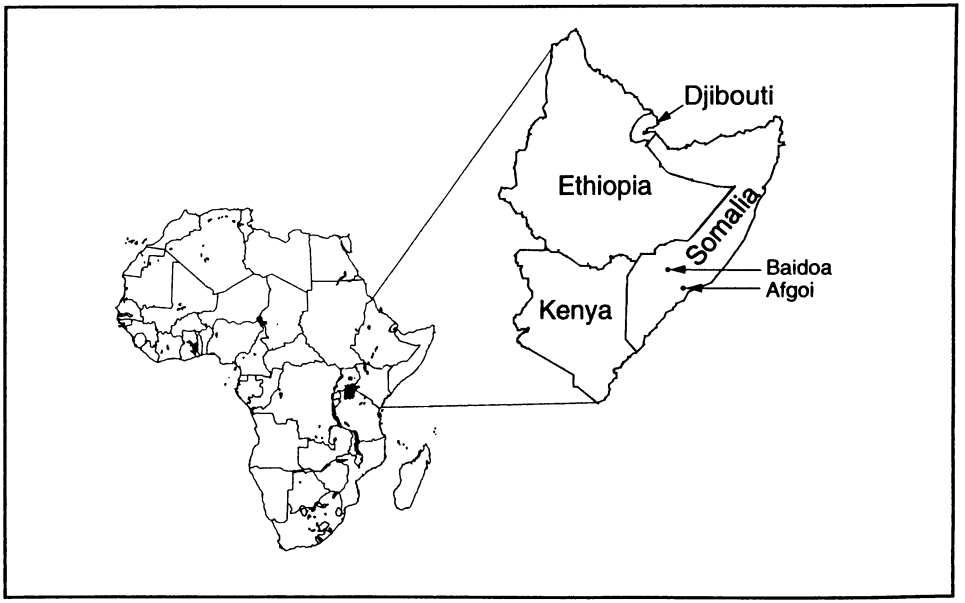


TABLE 1. Number of deaths and mortality rate,* by age group, for the 30 days preceding the surveys (November/December 1992) and for April–October 1992 for displaced persons (DPs) in Baidoa and Afgoi and resident populations in Afgoi — Somalia, 1992

Area	Survey population		Deaths					
			April–October 1992		November/December 1992		8-Month total	
	April 1992	November 1992	No.	Rate	No.	Rate	No.	Rate
Baidoa								
DPs								
All ages	349	212	121	17.2	16	23.4	137	16.9
Aged <5 yrs	63	19	39	30.6	5	69.4	44	30.1
Afgoi								
DPs								
All ages	237	206	27	5.6	4	6.3	31	5.5
Aged <5 yrs	56	39	14	12.7	3	23.8	17	12.8
Residents								
All ages	767	704	55	3.5	8	3.7	63	3.5
Aged <5 yrs	147	119	25	8.4	3	8.2	28	8.0

*Deaths per 10,000 population per day.

Somalia — Continued

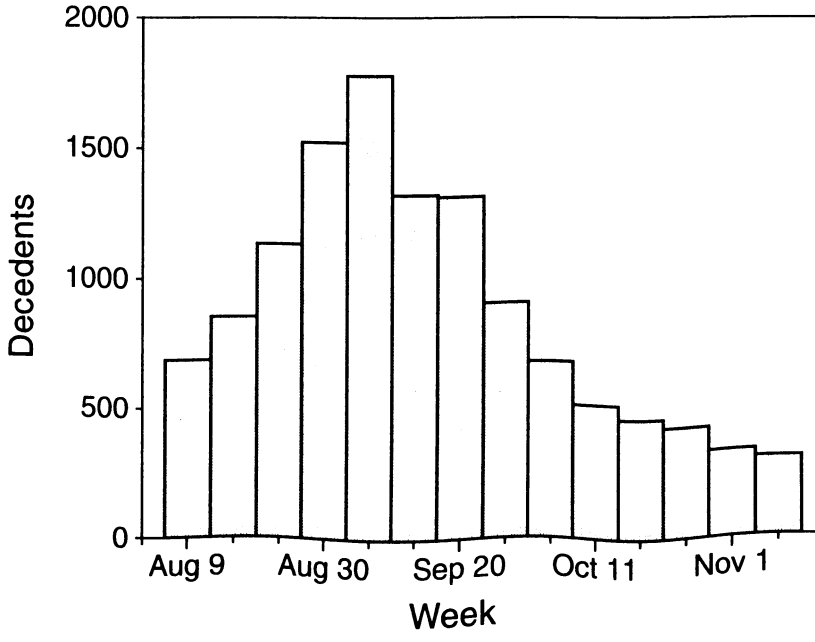
population aged <5 years). For all age groups, the most common reported causes of death based on a structured verbal autopsy were diarrhea (56% [9.4 deaths daily per 10,000]) and measles (23% [3.8 deaths daily per 10,000]). During the 30 days preceding the survey, 16 (7%) of 228 persons died (average CMR=23.4 deaths daily per 10,000), and among children aged <5 years, five (21%) of 24 died (<5MR=69.4 deaths daily per 10,000). Of the sample population alive on November 20, 9% were children aged <5 years.

To measure mortality for the entire town of Baidoa, mortality surveillance data collected by the International Committee of the Red Cross and the Somali Red Crescent Society were used. Each morning, dead persons found in the city were counted after they were transported by truck for burial. From August 9 through November 14, 12,255 dead persons were transported for burial (37% of the estimated August 9 Baidoa population). During this period, an additional 3700 (10%) persons may have emigrated or have died and been buried without being counted. Deaths peaked in early September during concurrent epidemics of measles and multidrug-resistant *Shigella dysenteriae* (Figure 2).

Afgoi

Afgoi is a town of approximately 35,000 persons that straddles the Shabelle River 19 miles (30 km) west of Mogadishu. To characterize health and mortality patterns in this town, 19 cluster survey starting points were randomly chosen. On November 24–25 and December 5–6, eight consecutive huts or houses were visited in each

FIGURE 2. Number of decedents counted and transported by truck for burial, by week — Baidoa, Somalia, August 9–November 7, 1992



Source: Somali Red Crescent Society

Somalia — Continued

cluster. However, this survey was curtailed before the target number of clusters were visited because of security concerns.

Mortality data were collected from 152 households for 1004 persons who were alive on April 3. Of the 767 long-term residents of Afgoi and 237 persons displaced from other areas who were included in the sample, 94 (9%) persons died from April 3 through December 6 (average CMR=4.0 deaths daily per 10,000). The most commonly reported causes of death based on a structured verbal autopsy were measles (28% [1.1 deaths daily per 10,000]) and diarrhea (22% [0.9 deaths daily per 10,000]).

DPs were more than 1.5 times as likely to die than were residents during this period (DP average CMR=5.5 deaths daily per 10,000; resident average CMR=3.5 deaths daily per 10,000). As in Baidoa, children aged <5 years were at highest risk for death (<5MR=9.4 deaths daily per 10,000); moreover, during this period, mortality rates for displaced children aged <5 years reached 12.8 deaths daily per 10,000.

CMRs during the 30 days preceding the survey remained elevated (DPs=6.3 deaths daily per 10,000; residents=3.7 deaths daily per 10,000) compared with the average daily CMRs for the preceding 7 months (DPs=5.6 deaths daily per 10,000; residents=3.5 deaths daily per 10,000) (Table 1).

Reported by: United Nations Children's Fund, Mogadishu, Somalia. Disaster Assistance Response Team, US Agency for International Development, Nairobi, Kenya. Div of Field Epidemiology, Epidemiology Program Office; Div of Vector-Borne Infectious Diseases, National Center for Infectious Diseases; Div of Environmental Hazards and Health Effects, National Center for Environmental Health; International Health Program Office, CDC.

Editorial Note: Extreme mortality rates commonly occur in famine-affected, internally displaced, and refugee populations (*1*). During the 1984–85 famine in the Horn of Africa, average CMRs exceeded 20 deaths daily per 10,000 persons (*1*). By comparison, the reported annual CMRs in the Horn of Africa during nonfamine times ranged from 20 to 24 deaths per 1000, which is equivalent to daily CMRs of 0.55–0.65 deaths per 10,000 persons (*2*). The findings in these investigations of mortality among DPs in Baidoa and both displaced and resident populations in Afgoi suggest that health conditions are considerably worse in Somalia than they were during peak mortality periods of the 1984–85 famine in Ethiopia and Sudan. The CMRs reported in these villages in Somalia are among the highest ever documented by a population survey among famine-affected civilians.

Because of two important limitations in these studies, the findings cannot be generalized to the entire population of Somalia. First, although these studies were designed as cluster sample-population surveys to assess nutritional status and vaccination coverage among children aged 6–59 months, too few children were present in the sampled households to permit precise estimates of the prevalence of malnutrition in these populations. Second, the Baidoa survey characterized the mortality history only of displaced persons, and the Afgoi survey results may not have characterized all sections of the town because the survey was interrupted.

Despite these limitations, these findings are a measure of the magnitude of the famine-related disaster in Somalia. These findings are also consistent with assessments of previous emergencies that have documented that children aged <5 years and DPs are at highest risk for dying. One indicator of the intensity of this disaster is that only 9% of the sample population in the Baidoa study were aged <5 years compared with 20%–25% for most developing-nation populations.

Somalia — Continued

Although the surveillance data based on body counts in Baidoa suggest a gradual improvement in mortality rates, the mortality rates derived from surveys of Afgoi and DPs in Baidoa may not have decreased during the 30 days preceding the survey, despite the massive relief efforts. The CMR in Afgoi is more than two times higher than the rate recorded for the nearby towns of Merca and Qorioley from April 1991 through April 1992 (*3*). Anecdotal reports from other regions of Somalia (e.g., Bardera and Saco Uen) suggest that local mortality rates may be higher than in Baidoa or Afgoi.

Measles, diarrhea, dysentery, acute respiratory infections, and malaria are common but preventable causes of mortality among famine-affected populations. Feeding programs are critical for reducing protein-energy malnutrition; however, community health programs that focus on the prevention of these infections can also have a major impact on mortality. Community-based measles vaccination and oral rehydration programs should be given high priority during famine-related emergencies. In addition, routine vitamin A supplementation for all children aged <5 years (and older children if malnutrition rates are high in older age groups) may also reduce child mortality, especially measles-related mortality (*4*). Surveillance efforts should include monitoring of trends in morbidity and mortality and evaluation of relief efforts.

References

1. CDC. Famine-affected, refugee, and displaced populations: recommendations for public health issues. MMWR 1992;41(no. RR-13).
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Update: Poliomyelitis Outbreak — Netherlands, 1992

The outbreak in the Netherlands of poliomyelitis among unvaccinated persons who are members of religious groups that generally do not accept vaccination is continuing (*1*). From September 17 through December 5, 1992, 54 cases of poliomyelitis were reported to the Netherlands' Office of the Chief Medical Officer of Health (Figure 1). Of the 54 patients, 41 (76%) had paralytic manifestations of this illness; one neonate died, and 12 patients had aseptic meningitis. Fifty-one (94%) of the cases have been laboratory confirmed: 40 patients had wild poliovirus type 3 isolated from stool, and 11 had IgM-specific antibody to poliovirus type 3 suggestive of recent infection. All of the reported cases have occurred among unvaccinated (n=53) or inadequately vaccinated (n=1) persons belonging to a religious denomination that routinely does not accept vaccination. Patients ranged in age from <1 month to 56 years (mean age: 18.9 years). Of the 12 provinces in the Netherlands, seven have reported cases of poliomyelitis; the most severely affected provinces are South Holland and Gelderland.

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Poliomyelitis — Continued

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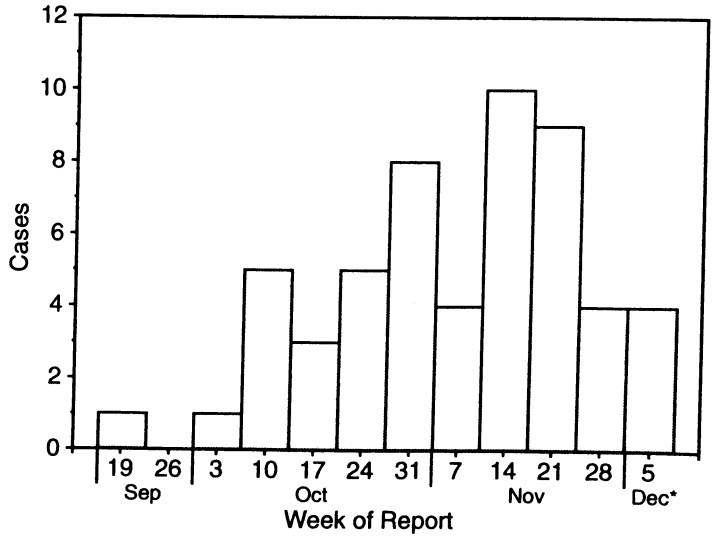
Editorial Note: The poliomyelitis epidemic in the Netherlands continues despite control measures initiated by the Dutch health authorities, including offering oral poliovirus vaccine to all previously unvaccinated persons belonging to affected religious groups and to other previously unvaccinated persons aged <41 years and offering one dose of enhanced-potency inactivated poliovirus vaccine to persons who are incompletely vaccinated. Based on the ratio of cases of asymptomatic infection to paralytic disease for persons infected with poliovirus type 3 (at least 1000:1) (*2*), an estimated 54,000 persons in the Netherlands may have been infected with wild poliovirus type 3 during this outbreak. Therefore, the risk for infection may be greater than previously assumed for unvaccinated or inadequately vaccinated travelers to the Netherlands. In addition, the potential for spread of this poliovirus to other areas (including the North American continent) by asymptomatically infected travelers from the Netherlands—even if not directly linked to a clinical case—also may be higher than previously assumed.

To prevent transmission of imported polioviruses and cases of paralytic disease in the United States, increased efforts are necessary to vaccinate all unvaccinated or inadequately vaccinated persons in the United States in accordance with recommendations of the Advisory Committee on Immunization Practices (*3,4*). Public health agencies and health-care providers should intensify outreach, especially to unvaccinated persons in these religious communities who do not routinely accept vaccination.

FIGURE 1. Number of poliomyelitis cases, by week of report — Netherlands, weeks ending September 19–December 5, 1992



*Reporting may be incomplete.

Poliomyelitis — Continued

The risk for acquiring poliomyelitis while in the Netherlands is considered small because of the excellent sanitation in the country and because transmission of the poliovirus has been limited primarily to unvaccinated religious groups. Nonetheless, the polio immunity of travelers to the Netherlands should be evaluated, and persons with inadequate protection should complete a primary vaccination series with three doses of poliovirus vaccine before departure. For travelers with a completed primary series of poliovirus vaccine, it may be prudent to obtain one dose of poliovirus vaccine before departure, especially if extensive travel in the Netherlands or contact with persons in the affected religious groups is anticipated.

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Effectiveness in Disease and Injury Prevention

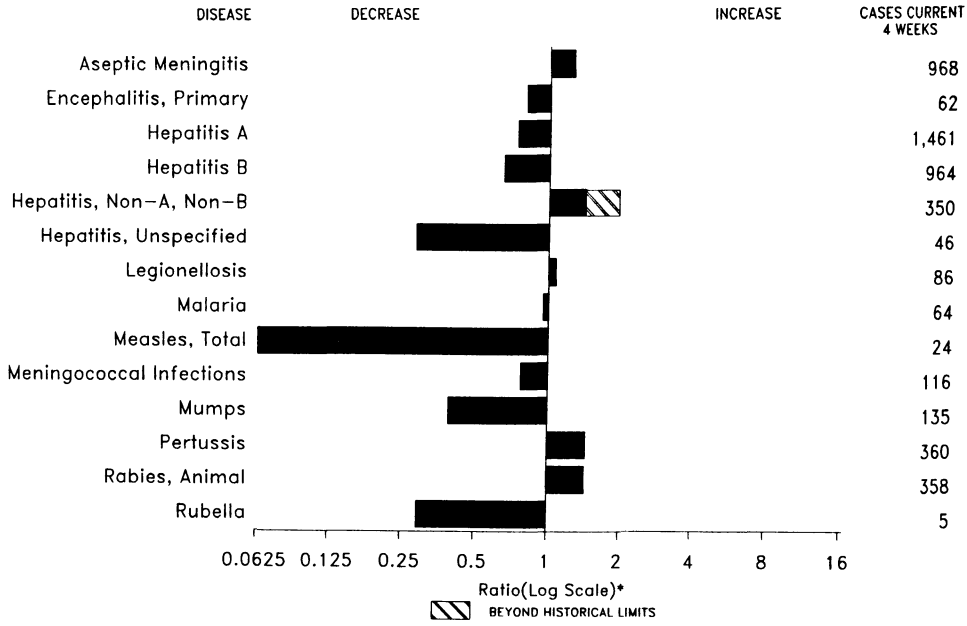
Knowledge of the Purpose of Community Water Fluoridation — United States, 1990

Expansion of water-fluoridation programs in the United States has been based on the clear documentation of the caries-preventive benefits of fluoride (*1*), as well as resources made available since the 1970s through the Fluoridation and Preventive Services Block grants administered by CDC. An estimated 135 million persons in the United States—approximately 61% of the population served by public water supplies—have access to drinking water with clinically important levels of fluoride (0.7 ppm or higher) for the prevention of dental caries (*2*). Efforts to expand the implementation of community water fluoridation require dissemination and understanding of information about health benefits and purported health risks. This report summarizes results from the 1990 National Health Interview Survey (NHIS) regarding public knowledge of the purpose and value of fluoridation of community drinking water.

Data for the NHIS were collected by CDC's National Center for Health Statistics through personal interviews with a representative sample of the civilian, noninstitutionalized, U.S. population aged ≥18 years. The NHIS is conducted throughout the year and has two parts: a basic health and demographic questionnaire (core) that is constant, and several specific health-topic questions directed to adults in sample households. The 1990 NHIS included 41,104 respondents. Respondents were asked: "As you understand it, what is the purpose of adding fluoride to the public drinking water?" Interviewers coded responses as one of the following: "prevent tooth decay, protect teeth, or related response"; "purify the water or related response"; "other"; or "don't know." Analysis reflects adjustment for unequal probabilities of selection and for clustering introduced during sampling.

(Continued on page 925)

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending December 5, 1992, with historical data — United States



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

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending December 5, 1992 (49th Week)

	Cum. 1992		Cum. 1992
AIDS*	42,978	Measles: imported	128
Anthrax	1	indigenous	2,066
Botulism: Foodborne	18	Plague	12
Infant	56	Poliomyelitis, Paralytic†	-
Other	1	Psittacosis	83
Brucellosis	79	Rabies, human	-
Cholera	97	Syphilis, primary & secondary	31,540
Congenital rubella syndrome	9	Syphilis, congenital, age < 1 year§	1,639
Diphtheria	4	Tetanus	40
Encephalitis, post-infectious	106	Toxic shock syndrome	211
Gonorrhea	453,531	Trichinosis	37
Haemophilus influenzae (invasive disease)	1,189	Tuberculosis	21,594
Hansen Disease	135	Tularemia	149
Leptospirosis	45	Typhoid fever	368
Lyme Disease	7,531	Typhus fever, tickborne (RMSF)	480

*Updated monthly; last update December 5, 1992.
†Four cases of suspected poliomyelitis have been reported in 1992; 6 of the 9 suspected cases with onset in 1991 were confirmed, and 5 of the 8 suspected cases with onset in 1990 were confirmed; all were vaccine associated.
§Reports through second quarter 1992.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending December 5, 1992, and December 7, 1991 (49th Week)

Reporting Area	AIDS*	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	42,978	10,782	645	106	453,531	569,221	19,588	13,857	5,382	675	1,195	7,531
NEW ENGLAND	1,607	431	27	-	9,618	13,480	558	487	94	25	49	1,565
Maine	44	42	3	-	80	154	30	22	6	-	2	5
N.H.	45	43	3	-	114	183	31	34	20	2	8	37
Vt.	26	24	5	-	26	51	14	13	12	-	2	8
Mass.	796	163	13	-	3,399	5,744	278	388	50	23	25	224
R.I.	93	159	3	-	611	1,132	140	17	6	-	12	268
Conn.	603	-	-	-	5,388	6,216	65	13	-	-	-	1,023
MID. ATLANTIC	11,036	868	25	8	50,981	66,573	1,482	1,776	305	23	308	4,473
Upstate N.Y.	1,467	439	-	-	10,209	12,085	317	438	175	13	99	2,765
N.Y. City	6,393	153	6	2	17,594	25,867	669	358	5	-	8	24
N.J.	1,976	-	-	-	7,090	10,804	256	454	94	-	41	663
Pa.	1,200	276	19	6	16,088	17,817	240	526	31	10	160	1,021
E.N. CENTRAL	3,853	1,816	160	29	86,840	109,885	2,616	1,637	705	24	320	135
Ohio	686	467	52	2	25,850	33,119	422	220	86	4	149	61
Ind.	380	220	12	12	8,427	10,622	724	203	25	2	33	20
Ill.	1,866	520	68	6	29,482	33,887	595	297	95	7	30	27
Mich.	683	559	25	9	19,414	25,350	140	540	424	11	69	27
Wis.	238	50	3	-	3,667	6,907	735	377	75	-	39	-
W.N. CENTRAL	1,196	586	40	6	23,824	28,162	2,653	632	273	35	74	339
Minn.	213	99	17	-	2,792	2,982	709	71	20	2	6	174
Iowa	78	94	-	3	1,444	1,865	53	33	7	5	18	30
Mo.	654	243	8	-	14,936	16,812	1,196	424	211	26	26	101
N. Dak.	5	1	3	-	59	85	112	3	4	1	2	1
S. Dak.	8	10	3	1	161	336	208	5	-	-	-	1
Nebr.	55	34	4	2	8	1,686	246	39	16	1	17	15
Kans.	183	105	5	-	4,424	4,396	129	57	15	-	5	17
S. ATLANTIC	9,729	1,639	166	49	133,471	167,231	1,277	2,351	872	118	186	622
Del.	122	52	6	-	1,648	2,722	56	199	181	1	23	207
Md.	1,207	207	16	-	15,346	18,867	235	371	34	10	34	165
D.C.	685	28	1	-	6,362	8,600	14	79	278	-	19	3
Va.	623	275	36	13	14,103	17,312	141	176	37	47	19	112
W. Va.	49	40	76	-	796	1,218	9	50	3	26	-	12
N.C.	634	191	26	-	23,258	32,457	103	387	81	-	38	69
S.C.	260	26	-	-	10,209	13,393	22	53	1	1	16	2
Ga.	1,207	203	2	-	36,033	39,165	194	276	119	-	13	21
Fla.	4,942	617	3	36	25,716	33,497	503	760	138	33	24	31
E.S. CENTRAL	1,309	529	30	-	46,099	57,144	336	1,250	1,270	2	59	68
Ky.	202	185	18	-	4,461	5,638	125	88	6	-	26	26
Tenn.	419	136	7	-	14,773	19,339	122	1,029	1,246	-	27	33
Ala.	454	133	4	-	15,860	18,939	49	129	17	1	6	9
Miss.	234	75	1	-	11,005	13,228	40	4	1	1	-	-
W.S. CENTRAL	4,053	1,134	64	5	50,517	63,840	1,935	1,753	167	159	24	110
Ark.	269	20	7	-	7,073	7,435	130	92	8	4	1	16
La.	672	72	9	1	13,765	14,676	201	166	88	3	6	5
Okla.	219	-	3	2	5,257	6,440	191	183	43	5	10	25
Tex.	2,893	1,042	45	2	24,422	35,289	1,413	1,312	28	147	7	64
MOUNTAIN	1,236	379	30	5	11,299	11,927	2,819	711	270	61	92	16
Mont.	20	12	1	1	102	94	85	32	27	1	9	-
Idaho	34	22	-	-	110	152	87	77	-	2	4	2
Wyo.	5	6	2	-	54	91	12	15	52	-	1	5
Colo.	382	119	11	1	3,994	3,491	776	107	92	27	19	-
N. Mex.	110	54	4	1	889	943	280	201	30	8	2	2
Ariz.	348	100	6	1	4,001	4,403	1,067	163	27	15	31	-
Utah	118	19	3	1	299	316	414	20	28	8	3	6
Nev.	219	47	3	-	1,850	2,437	98	96	14	-	23	1
PACIFIC	8,959	3,400	103	4	40,882	50,979	5,912	3,260	1,426	228	83	203
Wash.	506	-	2	-	3,663	4,457	732	334	148	8	13	13
Oreg.	274	-	-	-	1,553	1,899	459	265	76	9	1	-
Calif.	8,023	3,285	94	3	34,572	43,127	4,470	2,625	989	200	67	189
Alaska	14	17	7	-	621	833	92	18	6	2	-	-
Hawaii	142	98	-	1	473	663	159	18	207	9	2	1
Guam	-	2	-	-	50	27	5	1	-	6	-	1
P.R.	1,546	160	2	-	215	509	41	380	163	17	1	-
V.I.	10	-	-	-	103	342	5	7	-	-	-	-
Amer. Samoa	-	-	-	-	49	61	1	1	-	-	-	-
C.N.M.I.	-	-	-	-	73	100	3	-	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly; last update December 5, 1992.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending December 5, 1992, and December 7, 1991 (49th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	Cum. 1992	1992	Cum. 1992	1992	Cum. 1992	Cum. 1991	1992	Cum. 1992	Cum. 1991
UNITED STATES	933	1	2,066	-	128	9,284	1,961	38	2,320	120	2,925	2,514	4	148	1,356
NEW ENGLAND	45	1	54	-	13	87	114	-	20	37	261	277	-	6	4
Maine	1	-	-	-	4	7	10	-	-	-	11	54	-	1	-
N.H.	3	1	16	-	-	-	6	-	6	36	90	22	-	-	1
Vt.	-	-	-	-	-	5	9	-	1	1	11	5	-	-	-
Mass.	24	-	16	-	5	40	49	-	3	-	103	170	-	-	2
R.I.	5	-	20	-	-	4	2	-	2	-	6	-	-	4	-
Conn.	12	-	2	-	4	31	38	-	8	-	40	26	-	1	1
MID. ATLANTIC	266	-	206	-	21	4,775	235	-	166	17	278	270	-	9	576
Upstate N.Y.	43	-	103	-	10	401	97	-	70	2	111	156	-	3	539
N.Y. City	146	-	42	-	8	1,875	24	-	10	-	20	27	-	-	2
N.J.	48	-	56	-	2	1,035	44	-	15	-	45	18	-	3	2
Pa.	29	-	5	-	1	1,464	70	-	71	15	102	69	-	3	33
E.N. CENTRAL	60	-	42	-	14	97	322	2	314	1	515	403	-	10	321
Ohio	12	-	-	-	6	11	80	-	115	-	115	96	-	-	283
Ind.	12	-	20	-	-	6	53	-	11	-	52	75	-	-	3
Ill.	18	-	9	-	4	28	86	-	96	-	42	73	-	9	9
Mich.	14	-	13	-	2	43	84	2	77	1	15	37	-	1	25
Wis.	4	-	-	-	2	9	19	-	15	-	291	122	-	-	1
W.N. CENTRAL	39	-	8	-	8	59	92	3	80	3	297	213	-	8	19
Minn.	17	-	7	-	5	27	20	-	24	3	107	86	-	-	6
Iowa	3	-	-	-	3	17	11	-	13	-	10	24	-	3	6
Mo.	11	-	-	-	-	1	33	3	34	-	105	74	-	1	5
N. Dak.	1	-	-	-	-	-	1	-	2	-	14	4	-	-	1
S. Dak.	2	-	-	-	-	-	1	-	-	-	14	5	-	-	-
Nebr.	1	-	-	-	-	1	9	-	5	-	15	9	-	-	-
Kans.	4	-	1	-	-	13	17	-	2	-	32	11	-	4	1
S. ATLANTIC	196	-	122	-	15	592	360	16	804	1	178	241	-	22	10
Del.	5	-	1	-	-	21	2	-	8	-	7	-	-	-	-
Md.	58	-	10	-	7	176	34	2	78	1	36	54	-	6	1
D.C.	13	-	1	-	1	-	3	-	7	-	1	1	-	1	1
Va.	43	-	11	-	5	30	57	5	57	-	15	24	-	-	-
W. Va.	2	-	-	-	-	-	17	2	29	-	9	9	-	1	-
N.C.	13	-	23	-	1	44	78	6	217	-	44	39	-	-	2
S.C.	1	-	29	-	-	13	22	-	51	-	10	15	-	7	-
Ga.	13	-	2	-	1	15	57	-	75	-	17	49	-	-	-
Fla.	48	-	45	-	-	293	90	1	282	-	39	50	-	7	6
E.S. CENTRAL	19	-	451	-	18	29	128	1	60	1	30	93	-	1	100
Ky.	1	-	450	-	2	23	41	-	-	-	1	-	-	-	-
Tenn.	11	-	-	-	-	4	37	-	15	-	8	38	-	1	100
Ala.	6	-	-	-	-	2	38	1	14	1	18	49	-	-	-
Miss.	1	-	1	-	16	-	12	-	31	-	3	6	-	-	-
W.S. CENTRAL	30	-	1,059	-	5	216	157	4	398	21	169	153	-	-	8
Ark.	3	-	-	-	-	5	18	-	9	1	19	15	-	-	1
La.	1	-	-	-	-	-	29	1	24	1	13	17	-	-	-
Okla.	5	-	12	-	-	-	19	2	21	1	49	49	-	-	1
Tex.	21	-	1,047	-	5	211	91	1	344	18	88	72	-	-	6
MOUNTAIN	31	-	25	-	7	1,260	92	5	148	6	397	330	-	9	38
Mont.	-	-	-	-	-	-	15	-	2	-	9	6	-	-	11
Idaho	1	-	-	-	-	452	8	-	4	-	39	28	-	1	-
Wyo.	-	-	1	-	-	3	3	-	1	-	-	3	-	-	-
Colo.	9	-	21	-	6	10	21	4	27	5	83	134	-	2	3
N. Mex.	5	-	1	-	1	98	10	N	N	-	102	47	-	-	4
Ariz.	9	-	2	-	-	454	19	-	78	-	121	69	-	2	2
Utah	4	-	-	-	-	224	4	1	24	1	41	41	-	2	11
Nev.	3	-	-	-	-	19	12	-	12	-	2	2	-	2	7
PACIFIC	247	-	99	-	27	2,169	461	7	330	33	800	534	4	83	280
Wash.	16	-	-	-	11	61	72	2	15	4	216	136	-	8	8
Oreg.	17	-	2	-	1	91	67	N	N	2	44	65	3	5	4
Calif.	200	-	55	-	3	1,981	305	5	286	26	475	251	1	47	256
Alaska	1	-	8	-	1	5	9	-	3	-	14	13	-	-	1
Hawaii	13	-	34	-	11	31	8	-	26	1	51	69	-	23	11
Guam	2	U	10	U	-	-	1	U	11	U	-	-	U	3	-
P.R.	-	-	463	-	-	94	3	-	1	-	11	58	-	-	1
V.I.	-	-	-	-	-	2	-	-	21	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	24	-	-	-	-	6	-	-	-	-
C.N.M.I.	-	U	1	U	1	-	-	U	-	U	2	-	U	-	-

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

N: Not notifiable U: Unavailable † International § Out-of-state

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending December 5, 1992, and December 7, 1991 (49th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-Shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1991	Cum. 1992	Cum. 1992	Cum. 1992	Cum. 1992
UNITED STATES	31,540	39,296	211	21,594	21,869	149	368	480	7,469
NEW ENGLAND	656	977	15	505	613	1	29	7	847
Maine	5	3	2	19	33	-	-	-	-
N.H.	74	12	6	17	5	-	1	-	9
Vt.	1	2	-	6	10	-	-	-	22
Mass.	308	470	5	283	339	1	19	3	41
R.I.	38	50	2	46	75	-	-	2	-
Conn.	230	440	-	134	151	-	9	2	775
MID. ATLANTIC	4,382	6,636	25	4,995	5,144	1	97	47	2,333
Upstate N.Y.	316	625	10	570	406	-	16	16	1,306
N.Y. City	2,349	3,390	-	2,974	3,256	-	42	6	18
N.J.	521	1,129	-	862	832	1	25	14	686
Pa.	1,196	1,492	15	589	650	-	14	11	323
E.N. CENTRAL	4,796	4,862	52	2,106	2,163	1	41	29	152
Ohio	779	631	16	314	353	-	10	17	14
Ind.	252	181	5	189	229	-	1	4	19
Ill.	2,234	2,332	10	1,085	1,104	1	25	2	39
Mich.	885	1,111	21	439	380	-	4	3	15
Wis.	646	607	-	79	97	-	1	3	65
W.N. CENTRAL	1,459	853	37	486	484	53	7	34	994
Minn.	89	65	7	135	95	-	2	-	158
Iowa	51	65	7	40	57	-	1	3	166
Mo.	1,156	539	8	212	219	37	3	23	32
N. Dak.	1	1	3	7	10	-	-	-	141
S. Dak.	-	1	-	22	31	11	-	1	122
Nebr.	1	17	4	20	20	2	1	2	12
Kans.	161	165	8	50	52	3	-	5	363
S. ATLANTIC	8,406	11,453	22	3,980	4,142	5	36	171	1,727
Del.	192	161	3	47	33	-	1	14	202
Md.	579	940	2	374	429	1	7	17	519
D.C.	372	673	-	106	174	-	1	1	17
Va.	684	845	3	316	297	2	5	23	344
W. Va.	19	26	1	86	65	-	1	5	50
N.C.	2,247	1,906	3	527	541	1	-	62	45
S.C.	1,150	1,464	1	368	398	-	2	8	157
Ga.	1,642	2,803	5	825	803	1	2	38	350
Fla.	1,521	2,635	4	1,331	1,402	-	17	3	43
E.S. CENTRAL	3,983	4,311	3	1,386	1,479	9	5	62	187
Ky.	165	105	-	365	316	2	1	6	61
Tenn.	1,146	1,379	3	392	524	7	-	53	41
Ala.	1,321	1,628	-	384	361	-	1	3	84
Miss.	1,351	1,199	-	245	278	-	3	-	1
W.S. CENTRAL	5,849	7,144	5	2,701	2,578	44	17	113	660
Ark.	817	668	1	214	232	30	1	25	43
La.	2,440	2,643	-	217	216	2	1	1	8
Okla.	432	197	3	152	165	12	-	86	284
Tex.	2,160	3,636	1	2,118	1,965	-	15	1	325
MOUNTAIN	315	539	18	527	564	28	6	11	239
Mont.	7	6	1	-	6	12	-	3	24
Idaho	1	4	1	22	12	-	1	1	7
Wyo.	7	9	1	-	5	1	-	4	82
Colo.	55	82	6	52	71	5	2	-	26
N. Mex.	40	30	1	80	63	5	1	1	9
Ariz.	157	341	4	242	293	-	1	-	68
Utah	7	7	4	61	51	2	-	1	6
Nev.	41	60	-	70	63	3	1	1	17
PACIFIC	1,694	2,521	34	4,908	4,702	7	130	6	330
Wash.	74	181	3	292	281	2	8	-	-
Oreg.	47	83	2	123	115	-	2	3	2
Calif.	1,560	2,245	29	4,199	4,048	2	112	3	314
Alaska	5	4	-	49	64	3	-	-	14
Hawaii	8	8	-	245	194	-	8	-	-
Guam	3	1	-	58	8	-	3	-	-
P.R.	314	409	-	225	211	-	1	-	42
V.I.	66	95	-	3	3	-	-	-	-
Amer. Samoa	-	-	-	-	3	-	1	-	-
C.N.M.I.	6	6	-	52	22	-	1	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending December 5, 1992 (49th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	504	348	97	45	8	6	33
Boston, Mass.	U	U	U	U	U	U	U
Bridgeport, Conn.	57	32	17	6	2	-	4
Cambridge, Mass.	24	17	5	2	-	-	1
Fall River, Mass.	43	35	6	2	-	-	1
Hartford, Conn.	61	40	16	4	1	-	2
Lowell, Mass.	29	21	7	1	-	-	1
Lynn, Mass.	19	14	3	2	-	-	-
New Bedford, Mass.	31	27	2	2	-	-	-
New Haven, Conn.	50	28	9	8	2	3	4
Providence, R.I.	38	26	6	5	1	-	2
Somerville, Mass.	6	6	-	-	-	-	-
Springfield, Mass.	37	28	6	3	-	-	5
Waterbury, Conn.	39	26	11	2	-	-	4
Worcester, Mass.	70	48	9	8	2	3	9
MID. ATLANTIC	2,676	1,703	525	321	77	50	134
Albany, N.Y.	56	39	9	6	-	2	5
Allentown, Pa.	23	18	4	1	-	-	1
Buffalo, N.Y.	93	63	20	5	2	3	3
Camden, N.J.	66	39	14	8	2	3	-
Elizabeth, N.J.	32	19	10	2	-	1	-
Erie, Pa.§	41	33	5	3	-	-	1
Jersey City, N.J.	57	36	8	11	2	-	3
New York City, N.Y.	1,466	889	303	215	40	19	59
Newark, N.J.	56	22	15	11	4	4	1
Paterson, N.J.	44	30	6	6	-	2	-
Philadelphia, Pa.	297	185	61	32	15	4	20
Pittsburgh, Pa.§	63	43	7	7	2	4	3
Reading, Pa.	23	16	6	-	1	-	2
Rochester, N.Y.	172	136	23	5	4	4	15
Schenectady, N.Y.	22	19	2	-	1	-	1
Scranton, Pa.§	34	21	9	2	1	1	4
Syracuse, N.Y.	75	53	14	5	2	1	8
Trenton, N.J.	39	28	8	1	-	2	8
Utica, N.Y.	17	14	1	1	1	-	-
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,580	1,649	475	246	121	89	108
Akron, Ohio	78	58	13	2	2	3	-
Canton, Ohio	39	34	4	-	-	1	1
Chicago, Ill.	532	229	105	98	76	24	9
Cincinnati, Ohio	146	96	33	11	-	6	4
Cleveland, Ohio	161	108	33	13	1	6	1
Columbus, Ohio	161	109	33	12	4	3	8
Dayton, Ohio	144	100	30	7	4	3	9
Detroit, Mich.	300	182	60	32	12	14	6
Evansville, Ind.	78	65	8	1	2	2	5
Fort Wayne, Ind.	75	58	9	6	2	-	5
Gary, Ind.	21	14	3	1	2	1	2
Grand Rapids, Mich.	52	37	5	7	1	2	5
Indianapolis, Ind.	242	148	59	18	6	11	24
Madison, Wis.	39	29	7	1	1	1	2
Milwaukee, Wis.	173	121	29	17	3	3	11
Peoria, Ill.	56	41	8	3	1	3	4
Rockford, Ill.	58	46	6	3	1	2	6
South Bend, Ind.	47	34	8	1	1	3	2
Toledo, Ohio	111	85	17	8	1	-	3
Youngstown, Ohio	67	55	5	5	1	1	1
W.N. CENTRAL	837	604	126	65	16	24	44
Des Moines, Iowa	63	46	11	5	-	1	2
Duluth, Minn.	28	25	2	-	-	1	1
Kansas City, Kans.	52	34	9	4	3	1	1
Kansas City, Mo.	117	76	23	11	1	6	3
Lincoln, Nebr.	45	34	7	2	1	1	2
Minneapolis, Minn.	176	130	23	16	2	5	19
Omaha, Nebr.	81	61	13	6	-	1	6
St. Louis, Mo.	173	121	28	16	6	2	4
St. Paul, Minn.	54	42	5	1	2	4	4
Wichita, Kans.	48	35	5	4	1	2	2
S. ATLANTIC	1,228	773	249	139	24	43	58
Atlanta, Ga.	152	86	30	29	2	5	3
Baltimore, Md.	134	74	34	15	5	6	11
Charlotte, N.C.	91	59	21	9	2	-	4
Jacksonville, Fla.	146	101	28	7	3	7	7
Miami, Fla.	92	53	20	16	2	1	2
Norfolk, Va.	54	31	12	6	3	2	4
Richmond, Va.	114	79	22	11	-	2	6
Savannah, Ga.	48	30	8	3	1	6	-
St. Petersburg, Fla.	56	44	6	-	3	3	1
Tampa, Fla.	182	125	37	12	2	6	15
Washington, D.C.	139	77	27	29	1	5	5
Wilmington, Del.	20	14	4	2	-	-	-
E.S. CENTRAL	651	412	138	59	25	17	39
Birmingham, Ala.	87	49	17	9	4	8	3
Chattanooga, Tenn.	66	47	15	2	1	1	4
Knoxville, Tenn.	53	33	9	5	6	-	7
Lexington, Ky.	71	45	14	5	1	6	10
Memphis, Tenn.	115	76	25	10	4	-	8
Mobile, Ala.	49	37	8	3	1	-	1
Montgomery, Ala.	56	45	5	4	-	2	2
Nashville, Tenn.	154	80	45	21	8	-	4
W.S. CENTRAL	1,185	777	226	104	44	32	42
Austin, Tex.	74	50	16	5	2	1	7
Baton Rouge, La.	36	20	9	3	3	1	-
Corpus Christi, Tex.	58	48	4	3	2	1	3
Dallas, Tex.	217	125	44	33	9	6	3
El Paso, Tex.	82	53	19	6	3	1	5
Ft. Worth, Tex.	111	80	17	7	2	5	4
Houston, Tex.	U	U	U	U	U	U	U
Little Rock, Ark.	72	45	12	6	7	2	3
New Orleans, La.	144	93	25	14	6	4	-
San Antonio, Tex.	212	135	46	17	6	8	7
Shreveport, La.	57	40	8	4	3	2	4
Tulsa, Okla.	122	88	26	6	1	1	6
MOUNTAIN	942	637	171	89	20	25	68
Albuquerque, N.M.	115	76	20	11	5	3	4
Colo. Springs, Colo.	41	20	13	3	1	4	4
Denver, Colo.	119	80	21	13	3	2	12
Las Vegas, Nev.	198	132	38	22	4	2	6
Ogden, Utah	29	24	1	3	-	1	2
Phoenix, Ariz.	191	123	39	21	2	6	25
Pueblo, Colo.	18	15	2	1	-	-	1
Salt Lake City, Utah	89	56	16	8	3	6	6
Tucson, Ariz.	142	111	21	7	2	1	8
PACIFIC	1,889	1,263	341	194	48	40	136
Berkeley, Calif.	32	22	3	6	1	-	-
Fresno, Calif.	64	41	13	6	2	2	5
Glendale, Calif.	17	15	-	1	-	1	2
Honolulu, Hawaii	76	54	13	8	-	1	5
Long Beach, Calif.	84	57	17	4	4	2	10
Los Angeles, Calif.	428	258	85	56	19	7	19
Pasadena, Calif.	31	25	3	1	-	2	5
Portland, Oreg.	103	85	8	7	-	3	6
Sacramento, Calif.	229	150	45	21	4	9	21
San Diego, Calif.	209	130	48	25	6	-	17
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	229	162	33	27	3	4	30
Santa Cruz, Calif.	29	20	7	1	1	-	5
Seattle, Wash.	175	111	38	20	3	3	1
Spokane, Wash.	58	43	8	5	2	-	2
Tacoma, Wash.	125	90	20	6	3	6	8
TOTAL	12,492¶	8,166	2,348	1,262	383	326	662

*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.

U: Unavailable.

Fluoridation — Continued

Almost two thirds (62%) of respondents correctly identified the purpose of fluoridation. Correct knowledge of the purpose of fluoridation was highest for persons aged 35–54 years (68%–70%), than for persons aged 18–24 years (49%) and aged ≥75 years (40%) (Table 1).

Persons with more than a high school education were more than twice as likely than those with less than a high school education (76% versus 36%) to correctly identify the purpose of fluoridation. Among persons with a high school education, 61% answered correctly. Among persons with less than a high school education, 30% believed the purpose of fluoridation was to purify water, compared with 36% who knew it was for preventing tooth decay.

Persons who were edentulous (i.e., had lost all of their natural teeth) were less likely to know the correct purpose of fluoridation than were persons who still had their natural teeth (44% versus 64%). In addition, persons who visited the dentist 1–3 times during the preceding 12 months (66%–69%) were more likely to know the correct purpose of fluoridation than those who had not visited the dentist (50%).

Reported by: Disease Prevention and Health Promotion Br, Epidemiology and Oral Disease Prevention Program, National Institute of Dental Research; Musculoskeletal Disease Br, Extramural Program, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health. Div of Oral Health and Office of the Director, National Center for Prevention Svcs, CDC.

Editorial Note: Dramatic declines in dental caries in the United States during the past half century that have been attributed largely to water fluoridation and other fluoride therapies reflect the public importance of fluoride exposure to human health (*1*). At the same time, continuing concerns have been raised about possible adverse health effects of fluoride.

Because more than one third of the U.S. adult population cannot correctly identify the purpose of fluoridation, these persons may be less likely to make an informed decision when presented with conflicting information about the benefits and risks of fluoridation during local efforts to fluoridate. The findings of the NHIS suggest that misunderstanding of or resistance to fluoridation may be associated with the age and educational composition of a community. For example, because older populations have higher rates of edentulousness and are less likely to visit dentists, opportunities for reinforcement of the benefits of fluoridation are reduced (*3*).

Efforts to fluoridate water may be subjected to greater levels of scrutiny than other public health interventions because fluoridation is a purposeful process to benefit individuals that must be instituted at the community level. For example, issues involving

TABLE 1. Percentage of adult respondents citing purpose of community water fluoridation — National Health Interview Survey, 1990

Age group (yrs)	Prevent tooth decay	Purify water/Other*	Don't know
18–24	49	22	29
25–34	65	16	17
35–44	70	19	11
45–54	68	20	11
55–64	64	23	13
65–74	58	26	17
≥75	40	31	30
Total	**62**	**21**	**17**

*"Purify water" and other incorrect responses combined.

Fluoridation — Continued

the relation between fluoridation and bone health and osteoporosis are representative of the range of concerns raised about potentially serious health effects of fluoridation. In the United States, approximately 250,000 hip fractures occur each year; osteoporosis is an important underlying risk factor for this problem (*4*). However, based on reports from public health agencies, the importance of results from some recent studies examining the relation of fluoride in drinking water to bone health and bone fracture susceptibility (*5–10*) appears to have been overinterpreted.

To address concerns about the possible relation of bone health to fluoride exposure, the National Institutes of Health (NIH) convened a conference of experts to evaluate current public health practices regarding fluoride (*11*). The conference participants concluded that there was not an "adequate basis for making firm conclusions relating fluoride levels in drinking water to hip fracture and bone health" (*11*), and there were no recommended changes in the Public Health Service policy regarding fluoride.

Since the NIH conference, two additional studies have been reported regarding the relation of fluoride exposure to bone health (*9,10,12*). An ecologic study involving three communities in Utah reported weak statistical evidence of increased risk for hip fracture in the exposed community (*9*); however, this study was constrained by a variety of methodologic limitations (*10*). The second study, conducted in Rochester, Minnesota, used a historical baseline incidence of hip fracture in a highly stable population; in this study, there was no increased risk for hip fracture following institution of fluoridation (*12*). The findings of these additional studies do not alter the conclusions and recommendations of the NIH conference.

The findings of the NHIS indicate a continuing modest level of knowledge of the purpose of fluoridation in the United States—especially among young adults, the oldest adults, and the least educated. These findings, coupled with conflicting information and possible misinterpretation about safety, may hinder efforts to expand fluoridation. Accordingly, health-care providers, public health agencies, and schools should intensify efforts to educate the public, especially children and young adults, about the benefits of fluoridation and maintaining oral health.

References

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Fluoridation — Continued

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Epidemiologic Notes and Reports

Tuberculosis Transmission in a State Correctional Institution — California, 1990–1991

During September and October 1991, active tuberculosis (TB) was diagnosed in two inmates and one employee of a California state correctional institution (1991 average annual inmate population, 5421; employees, 1500). This report presents findings from an investigation by the California Department of Health Services (CDHS), the California Department of Corrections (CDOC), and CDC to determine whether ongoing transmission of *Mycobacterium tuberculosis* was occurring in the institution.

Case-Finding Among Inmates

A case of TB was defined by using the CDC surveillance case definition for clinically or laboratory-confirmed TB (*1*) in any inmate diagnosed or treated for TB in the institution during 1991. Of 18 cases identified, 15 were culture confirmed. Of the 15 *M. tuberculosis* isolates, 12 were susceptible to all drugs tested, and three were resistant to a single drug (one to isoniazid, one to streptomycin, and one to ethambutol). For 10 (56%) of the 18 persons, onset of illness was recognized for the first time while they were in this institution during 1991, for an annual incidence of 184 per 100,000 population in the institution. For the remaining eight, seven had TB diagnosed before imprisonment, and one inmate had TB diagnosed in 1990.

Restriction fragment length polymorphism analysis performed on 12 available isolates revealed three distinct DNA patterns among eight *M. tuberculosis* isolates; the remaining four each had different patterns. However, inmates with similar isolates were not present at the institution at the same time and therefore could not be linked epidemiologically.

Because of limited clinical evaluation and prolonged time to sputum conversion, three case-patients may have been infectious for a total of 7 person-months during 1991. Other active cases were not considered infectious: three were not culture confirmed, six were diagnosed and the patients were started on adequate treatment before they entered the correctional institution, two were in persons who had no cough and had smear-negative pulmonary TB, and four were in persons who had only extrapulmonary TB.

Of the 10 inmates whose diagnoses of TB were made while in the institution in 1991, two had negative tuberculin skin tests (TSTs) documented on entry to the correctional institution 8 months before the diagnosis of TB. Neither patient had any known risk factors for anergy; one was negative for antibody to human immunodeficiency virus (HIV), and the other was not tested but did not report HIV risk behaviors.

Tuberculosis Transmission — Continued

Tuberculin Reactivity Among Inmates

The point prevalence of tuberculin positivity and the incidence of TST conversion among inmates were estimated from inmate skin test results in November 1991 and correctional institution medical records. A positive TST was defined as a reaction of ≥10-mm induration in response to 5 tuberculin units of tuberculin purified protein derivative administered by the Mantoux method.

Of 3070 inmates in the prison at the end of November 1991, TST results were available for 2944 (96%). Of these, 873 (30%) were TST positive: 549 had a history of a prior positive test and were not retested in November 1991, and 324 tested positive for the first time at the prison in November 1991.

Of the 324 who tested positive at the prison, 155 had no record of an earlier TST; for 21, results had been recorded as positive but the size of their TST reaction was not recorded. The remaining 148 TST-positive inmates had documented skin test conversions. Of these, 106 (72%) entered the state prison system with a negative TST and had skin test conversions while in the state prison system; for 97 of the 106, skin test conversion occurred within the previous 2 years. The remaining 42 persons who had skin test conversions spent some time outside the prison system during the conversion intervals. Because of frequent inmate movement between correctional institutions, conversions could not be attributed specifically to the institution under investigation.

The 2-year conversion incidence was estimated to be 5.9 per 100 person-years spent in the prison system.

Case-Finding and Prevalence Among Employees

The employee identified as one of the three index case-patients was diagnosed with culture-negative pulmonary TB in September 1991; the source of the employee's infection is undetermined. This employee worked as a counselor on the prison's HIV unit and recalled exposure to one of the three infectious inmates. The employee did not report any exposure to TB outside the prison. The employee's most recent negative multipuncture skin test for TB had been in May 1989, 1 year before employment at the prison.

Records regarding employees' current or past TST status were incomplete. However, two other employees had documented skin test conversions during the previous 2 years while working at the prison; one reported exposure to an inmate with possible TB. Neither reported any known exposures to *M. tuberculosis* outside the prison.

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Editorial Note: The incidence of active TB among inmates of this prison was more than 10 times the crude incidence of TB in California (17.4 per 100,000 population) for 1991. In addition, the number of incident cases was three times what would have been predicted for a population of this size and demographic profile. Although the incident cases apparently were not linked, two findings from this investigation suggest that transmission of *M. tuberculosis* may have occurred in the prison: first, at least two inmates with active TB may have become infected at the prison; and second, a substantial number of TST conversions were documented among asymptomatic inmates.

Tuberculosis Transmission — Continued

The prolonged infectiousness of the three active cases in the prison illustrates the potential for *M. tuberculosis* to be propagated in the prison system.

Although it cannot be proven that the 97 inmates who had TST conversions within the previous 2 years were infected while in prison, the 2-year conversion incidence of 5.9 per 100 person-years in prison probably underestimates the risk for new *M. tuberculosis* infection. No information was available regarding the timing of conversion and the potential for acquisition of infection in the state prison system for at least 155 inmates.

The findings in this report, as well as previous findings of the potential for introducing multidrug-resistant TB into correctional systems (*2*), emphasize the need to improve infection-control practices in these settings. State health departments can assist correctional system officials in implementing control measures in correctional facilities (*3*), including 1) regular and systematic TB screening of inmates and staff, with HIV testing and TB preventive therapy (PT) for those who test positive for TB and are eligible for PT; 2) rapid identification, isolation, and treatment of suspected cases of TB; 3) directly observed therapy and PT, and rigorous follow-up and recordkeeping to ensure completion of treatment; and 4) follow-up to assure continuity of care both inside and outside the correctional facilities.

Recent California legislation, supported by the CDOC, the CDHS, and state employee organizations, requires inmate and employee TB skin testing, requires reporting of results to the CDHS, and designates that treatment for TB may be required as a condition of parole for inmates with active TB. The CDHS and the CDOC are cooperating in implementing the mandates of the legislation. The CDOC is addressing infection-control issues in its facilities, and its staff members are participating on the California Tuberculosis Elimination Task Force and the Interagency Working Group on Tuberculosis.

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Notice to Readers

Availability of Parenteral Isoniazid — United States

Because parenteral isoniazid is unavailable commercially, a limited supply of this drug will now be made available through CDC under an investigational new drug agreement for the treatment of patients with active tuberculosis for whom the oral formulation of the drug cannot be prescribed. Clinicians and other health-care providers interested in obtaining this drug for their patients should contact CDC's Clinical Research Branch, Division of Tuberculosis Elimination, National Center for Prevention Services, telephone (404) 639-2530.

Notice to Readers — Continued

The Food and Drug Administration is working with pharmaceutical manufacturers to reestablish a supply of this drug; the drug is expected to become commercially available in the United States early next year.

Addendum: Vol. 41, No. 46

In the article "HIV Infection and AIDS—Georgia, 1991," on page 876, a name was omitted from the credits section. The second name on the first line should be *B Williams, MD.*

Erratum: Vol. 41, No. 41

In the article "National Coalition for Adult Immunization: Activities to Increase Influenza Vaccination Levels, 1989–1991," on page 773, under the heading "Project Results," the fourth sentence should read, "In addition, in *all three* of these sites, vaccine distribution increased in public health clinics (Lee County [15.0%], Oklahoma [14.6%], *and New York City [9.6%]).*"

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