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Epidemiologic Notes and Reports

Fatalities Attributed to Entering Manure Waste Pits — Minnesota, 1992

In August 1992, four farm workers in Minnesota died in two separate incidents after entering manure waste pits: two were poisoned by hydrogen sulfide gas, and two were asphyxiated. The Minnesota Fatality Assessment and Control Evaluation (FACE) program was notified of the incidents by the state Occupational Safety and Health Administration and the Minnesota Farming Health Project, respectively. This report summarizes the investigations of these two incidents by the Minnesota FACE program and CDC's National Institute for Occupational Safety and Health (NIOSH) FACE personnel.

Incident 1

On August 8, a 27-year-old employee of a hog farm and his 46-year-old uncle, who co-owned the farm, died after entering an outdoor manure pit. On August 7, the farm employee and a coworker had attempted to pump out the 12-foot-deep, 49-inch-diameter pit but could not because of a clogged pump intake in the pit. When they attempted to extract the pump from the pit with an attached ¼-inch wire rope, the rope broke. The following morning, although cautioned by his coworker about the possible presence of poisonous gases in the manure pit, the employee indicated he had entered the pit in the past without trouble and descended a ladder 9 feet into the pit to attach a new rope to the pump. While attempting to attach the rope, he was overcome and fell off the ladder into the pit. The coworker summoned rescue personnel and the farm co-owner.

Although the co-owner also was warned of possible poisonous gases in the pit, and despite efforts to physically restrain him, he descended the ladder into the pit 10 minutes after the nephew had entered; he also was overcome and fell into the pit. Twenty minutes after the initial entry, both men were removed from the pit by rescue personnel equipped with appropriate respiratory protection (self-contained breathing apparatus). Cardiopulmonary resuscitation was initiated, and the men were transported to a hospital where both were pronounced dead on arrival. The death certificates listed hydrogen sulfide poisoning as the cause of death for both men.

Manure Waste Pits — Continued

Atmospheric readings in the pit on September 2 during the FACE investigation detected no measurable levels of hydrogen sulfide or methane and an oxygen level of 20.4% (normal: 19.5%–21.0%). However, the weather conditions on the day the readings were taken (cool and breezy) differed from those on the day of the incident (hot and humid).

Incident 2

On August 11, a 43-year-old dairy farm owner and his 23-year-old son died from asphyxiation after entering one of two adjacent manure waste pits underneath a barn. The 8-foot-deep pits were connected by a tunnel so that both could be pumped from one pit. Although the incident was unwitnessed, an investigation of physical evidence and interviews with rescue personnel suggested the following series of events: The two men were using a pump located outside the barn to pump manure from the pits into the tank of a manure spreader. They pumped the manure from the first pit but apparently were unable to pump manure from the adjacent pit because of an obstruction in the connecting tunnel. The father then removed a steel grate cover, descended a ladder into the nearly empty pit, and was overcome as he began to clear the tunnel obstruction. His son was found lying on top of him, apparently overcome during a rescue attempt. The men were discovered approximately 2½ hours later, based on the coroner's estimated time of death for the men.

The men were removed from the manure pit by rescue personnel equipped with appropriate respiratory protection and were pronounced dead at the scene by the coroner. The coroner attributed the cause of death for both men to asphyxiation due to hypoxia.

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Editorial Note: A manure waste pit, by its design, meets the criteria established by NIOSH for a confined space (i.e., a space with limited openings for entry and exit, with unfavorable natural ventilation that could contain or produce dangerous air contaminants, and that is not intended for continuous worker occupancy [*1*]). The fermentation and decomposition of waste can create oxygen-deficient, toxic, and/or explosive atmospheres; the anaerobic bacterial action that decomposes the manure can generate methane, hydrogen sulfide, carbon dioxide, and ammonia. Death can result either from oxygen deficiency or from the direct toxic effects of these gases (*2*).

Sources of data to study work-related confined space fatalities, such as those described in this report, include the FACE program and the National Traumatic Occupational Fatality (NTOF) surveillance system. The FACE program collects epidemiologic data from the investigation of selected occupational fatalities, identifies factors that might increase the risk for work-related fatal injury, and develops and disseminates preventive recommendations to address these risks. Minnesota is one of 12 states* that receive funding from NIOSH for state FACE programs. NIOSH's Division of Safety Research monitors overall numbers of acute traumatic occupational deaths in the United States using the NTOF surveillance system, a census of fatal

* Alaska, California, Colorado, Georgia, Indiana, Iowa, Massachusetts,Minnesota, Missouri, New Jersey, Wisconsin, and Wyoming.

Manure Waste Pits — Continued

work-related injuries based on death certificate information collected from the 52 U.S. vital statistics reporting units[†] (*3*).

As described in this report, incidents involving entry into confined spaces often result in multiple fatalities when coworkers or others die during attempts to rescue initial victims; on farms these are often family members. For 1980–1989, the NTOF surveillance system identified a yearly average of 89 occupational deaths that occurred in any type of confined space. Of these, approximately 20 (22%) occurred each year during rescue attempts (*3*). Similarly, from 1982 through 1992, as part of the FACE program, NIOSH personnel investigated 68 confined-space incidents that resulted in 104 fatalities; of these, 36 (35%) were workers who died during rescue attempts (*4*), and two were public safety personnel. Persons who died during rescue attempts were more likely to be coworkers than public safety or emergency medical service (EMS) personnel (*5*). Asphyxiation by atmospheric hazards was the primary cause of rescuer death, although the exact mechanism of death is often difficult to determine. In general, findings of autopsies performed on manure pit fatality victims are nonspecific and do not identify the specific gas(es) likely to have caused death.

Rescue operations in confined spaces present unique hazards, and proper training and specialized equipment are required to protect rescuers from injury and death. Public safety and EMS personnel should be able to recognize confined-space hazards and should be familiar with the use of proper rescue equipment and techniques (*1,6–8*).

In the two incidents described in this report and in similar incidents investigated by NIOSH (*9,10*), hot, humid weather may have contributed to the generation of gases in the manure pits, an association also suggested by NTOF data (Figure 1). The 22 deaths during 1980–1989 identified by NTOF data[§] that were attributed to asphyxiation of workers in manure pits or similar waste tanks occurred in 13 states[¶] during April through September. Although manure pit gases are potentially present at all times, farm workers should be particularly aware of the hazards of entering manure pits during summer months, when conditions are optimal for the microbial activity that can result in increased gas generation. Manure pits that have previously been entered without incident may become toxic and/or oxygen deficient, and this change would not be detected without testing the atmosphere of the pit.

To prevent serious or fatal exposures such as those described in this report, NIOSH recommends that manure waste pits be identified as confined spaces and that warning signs be posted at all entrances to these pits. Farm workers should be instructed never to enter manure waste pits, even to attempt a rescue, unless appropriate safety measures are employed; these include the use of appropriate respiratory protection and adherence to safe confined-space entry procedures. In addition, where possible, manure waste systems should be designed to provide access to all serviceable parts from outside the pit. Manufacturers of equipment designed for use in manure waste

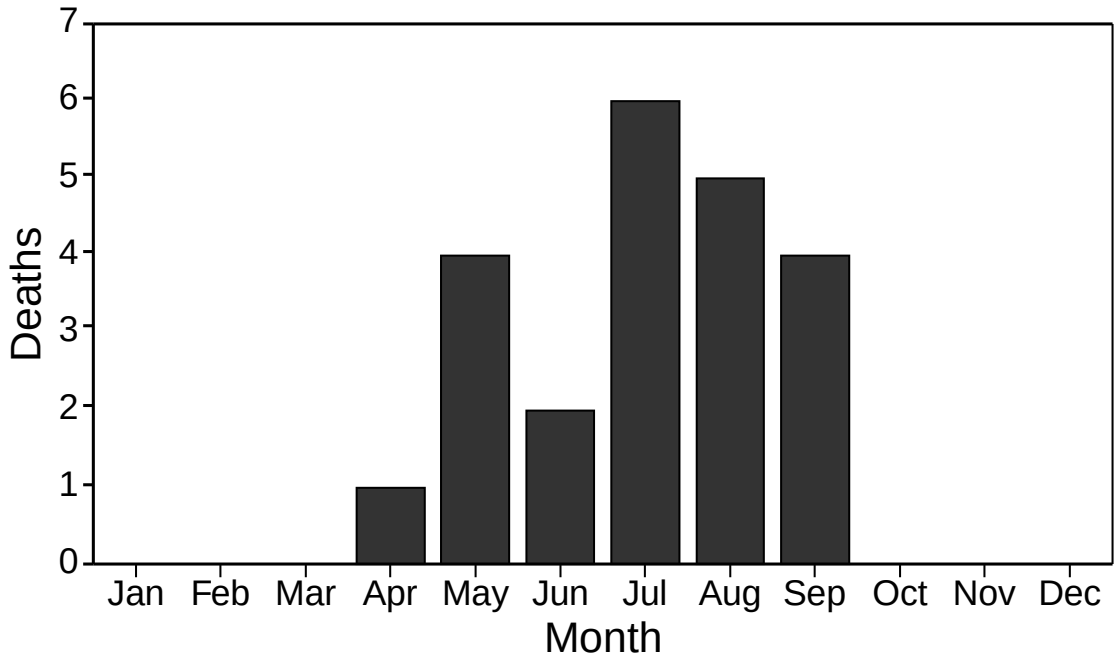
[†]The 50 states, Washington, D.C., and New York City.

[§]Because NTOF data include only deaths of workers aged ≥16 years that are clearly identified as being work related and because death certificates often do not include sufficient information to identify specifically deaths occurring in manure pits, this enumeration may underestimate asphyxiation fatalities that occurred during this period among those working in manure pits.

[¶]Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Nebraska, New York, Ohio, Pennsylvania, South Dakota, Tennessee, and Utah.

Manure Waste Pits — Continued

FIGURE 1. Work-related deaths in manure pits, by month — United States, 1980–1989



systems should include warnings of the potential hazards associated with worker entry into manure waste pits.

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Manure Waste Pits — Continued

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Current Trends

Update: Investigations of Persons Treated by HIV-Infected Health-Care Workers — United States

Previous reports have described transmission of human immunodeficiency virus (HIV) to five persons (patients A, B, C, E, and G) during receipt of care from an HIV-infected dentist in Florida (*1–3*) and other investigations of patients who were treated by HIV-infected health-care workers (HCWs) (*4*). This report updates these investigations and presents evidence that a sixth patient (patient I) became infected with HIV while receiving care at the Florida dental practice, the only practice in which HIV transmission from an infected HCW to patients has been documented.

Investigation of Patients of HIV-Infected HCWs (Excludes Florida Dental Practice)

As of March 31, 1993, HIV tests were completed for 19,036 persons treated by 57 HIV-infected HCWs. These results include findings in published reports (*4–7*) and unpublished investigations reported to CDC.

No seropositive persons were reported among 11,529 patients tested from the practices of 46 HCWs, including 23 dentists and dental students, 12 physicians and medical students, seven surgeons and obstetricians, and four others. For the remaining 11 HCWs (six dentists and five surgeons and obstetricians), 7507 patients were tested, and 92 seropositive patients were identified. Follow-up investigations have been completed for 86 (94%) of these 92 patients: eight patients were documented to be infected before receiving care from the HIV-infected HCW; 54 had established risk factors for HIV; 19 may have had other opportunities for exposure to HIV (i.e., exchange of sex for drugs or money and/or multiple sex partners); and five had no risks identified. Investigations are in progress for six patients of two HCWs.

Genetic sequencing was performed on HIV strains from 29 of the 92 seropositive patients from the practices of three HCWs. Eleven of these 29 had established risks, 15 had other opportunities for exposure to HIV, and three had no identified risk. Sequencing was not performed on the isolates for the remaining two of the five patients with no identified risk because one patient died before a blood sample could be collected, and the other refused to provide a sample. The degree of genetic similarity of viruses from the patients and the infected HCWs was in the range previously reported for persons with epidemiologically unrelated infections (*5,6*; CDC, unpublished data). Thus, follow-up to date has not demonstrated transmission from an HCW as a source of HIV infection for any of the patients tested.

Epidemiologic and Laboratory Investigation of Patient I

Patient I, a teenaged female, was HIV seropositive when tested as an applicant for military service in late 1992. She had not previously been tested for HIV infection, although she was notified in December 1990 by the Florida Department of Health and

HIV Infection — Continued

Rehabilitative Services (HRS) that, as a former patient of the dentist, she should consider such testing.

Multiple interviews with the patient and her family and review of her medical records did not identify another mode of exposure to HIV. She denied previous injecting-drug use, receipt of blood or blood products, a history of sexually transmitted diseases, or sex with persons infected with HIV or at increased risk for HIV infection. She did not recall, nor did review of her medical records reveal, an illness compatible with an acute retroviral illness. Five of her six lifetime sex partners were tested and were negative for HIV antibody. The sixth sex partner, with whom the patient reported a single sexual contact using a condom, has not been located. The patient's CD4+ T-lymphocyte count at the time of HIV diagnosis was 429 cells/μL. Serologic tests for syphilis and hepatitis B were negative.

Interviews with the patient and her parents indicated she was a patient in the dental office during the summers of 1987, 1988, and 1989 for examinations, radiographs, prophylaxes, and restorative fillings under local anesthesia. Her dental records from the practice cannot be located; therefore, whether she shared a visit date with any of the other five infected patients is unknown. An insurance record documented a visit in August 1988 for an examination, radiographs, and prophylaxis. Bitewing radiographs taken in 1990 by another dentist indicate that single surface restorative fillings had been placed in three permanent molars. Before 1987, the patient had received no other dental care since the eruption of her permanent teeth. She did not recall any injury to the dentist or other unusual events during the dental procedures or whether the dentist or the hygienist performed the prophylaxes.

Peripheral blood mononuclear cells were obtained from patient I, and proviral DNA was extracted, amplified, cloned, and sequenced (*2*) to determine the relatedness of the HIV strain from patient I to those of the dentist and patients A, B, C, E, and G. A direct sequence of amplified DNA and nine cloned sequences each included approximately 325 nucleotides of the C2-V3 region of the *env* gene. In addition, six shorter clone sequences were produced. Sequence analyses were performed at Los Alamos National Laboratory and at CDC.

The genetic divergence (i.e., intrapatient nucleotide sequence distances) among the nine complete C2-V3 clones from patient I averaged 3.2% (range: 0.3%–5.0%). The viruses of the dentist and patient I were closely related, with an average genetic divergence of 4.3% (range: 2.8%–7.8%), and the viruses of patient I and patients A, B, C, E, and G also were closely related, with an average divergence of 4.9% (range: 2.1%–8.1%). In comparison, the sequences of patient I were distinct from those of the 34 local controls (*2*), with an average genetic divergence of 12.0% (range: 6.8%–17.9%). Based on direct sequences of 186 nucleotides from the viruses infecting patients A, B, C, E, G, and 28 of the 34 local controls, the HIV strains from patients A, B, C, E, and G were significantly closer in their DNA sequences to patient I's virus than the control patients ($p<0.0001$, Wilcoxon rank sum test).

In addition to the genetic divergence analysis, signature pattern analysis of both amino acids and nucleotides* (*2,8*) and phylogenetic tree analysis (*2*) each independently showed the similarity of patient I's sequences and those of the dentist and patients A, B, C, E, and G. Analyses of the six shorter clone sequences and the direct amplification product from patient I were consistent with this finding.

HIV Infection — Continued

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Editorial Note: The results of the epidemiologic and laboratory investigation of patient I indicate that she became infected with HIV while receiving care from an HIV-infected dentist. She had had no other confirmed exposures to HIV. In addition, DNA sequence analysis showed her HIV strain had a high degree of similarity to that of the dentist and the five other infected patients. The precise event(s) resulting in HIV transmission in this practice remain(s) unknown (*1*). Unlike the other five infected patients, patient I had neither dental extractions nor root canal therapy. Opportunities for injuries to the dentist were limited. However, exposure of patient I to the dentist's blood cannot be ruled out (e.g., related to use of the anesthetic syringe).

Approximately 1100 patients of the dentist are known to have been tested for HIV. In late 1990, HRS used available records to compile a partial list of the patients in the dental practice and notified those patients who had not been tested. Former patients who have not yet been tested should contact their local health department or private physician to discuss HIV testing.

Among the 58 investigated practices described in this report, the dental practice in Florida remains the only documented instance of HIV transmission from an HCW to patients. The risk for transmission of a bloodborne pathogen from an HCW to a patient is associated with the circulating titer of the pathogen in blood, the procedures performed, techniques and infection-control precautions used, and the medical condition of the HCW (*9*).

The results presented in this report are consistent with previous assessments that the risk for HIV transmission from an infected HCW to patients during invasive procedures is small and can be reduced with appropriate use of infection-control precautions (*9,10*).

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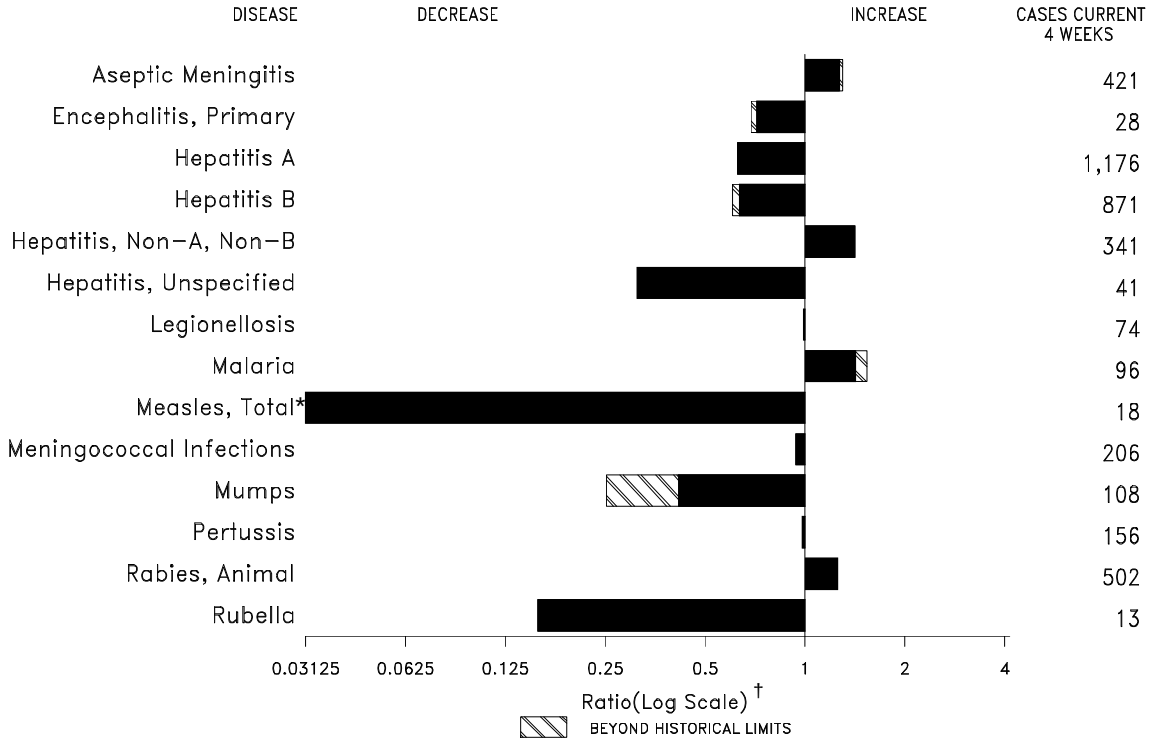
*Patient I's viral C2-V3 amino acid sequences were characterized by a stringently defined signature pattern, A-A-G-E-V-I-H; these seven, atypical amino acid residues were found by computer analysis in each of the nine viral clone sequences consisting of approximately 108 deduced amino acids. The dentist's viral C2-V3 amino acid sequences were characterized by a stringently defined signature of eight noncontiguous residues, A-I-A-G-A-E-V-H, and a majority signature, present in most of the viral clone sequences from the dentist, consisting of 10 noncontiguous residues, A-I-A-G-A-E-E-V-I-H. Of the seven residues in patient I's signature, five were found in the stringently defined dentist signature and all seven were present in the majority signature of the dentist's viruses.

Patient I's stringently defined nucleotide signature pattern consisted of 12 atypical, noncontiguous residues detected in each of the nine viral clone sequences of approximately 325 nucleotides. All 12 of these nucleotides were present in five of the six dentist's clone sequences; 11 of these nucleotides were found in the remaining dentist clone sequence. No sequence from any local control or any other sequence in the HIV Sequence Database contained more than five of these 12 signature nucleotides (most had 1–3). In contrast, all 34 clone sequences from patients A, B, C, E, and G had at least 11 of the signature nucleotides.

(Continued on page 337)

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending May 1, 1993, with historical data — United States



* The large apparent decrease in reported cases of measles(total) reflects dramatic fluctuations in the historical baseline. (Ratio [log scale] for week seventeen is 0.02117).

† 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 thehatched 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 May 1, 1993 (17th Week)

	Cum. 1993		Cum. 1993
AIDS*	37,227	Measles: imported	14
Anthrax	-	indigenous	80
Botulism: Foodborne	5	Plague	1
Infant	12	Poliomyelitis, Paralytic§	-
Other	1	Psittacosis	19
Brucellosis	22	Rabies, human	-
Cholera	8	Syphilis, primary & secondary	8,625
Congenital rubella syndrome	4	Syphilis, congenital, age < 1 year	-
Diphtheria	-	Tetanus	7
Encephalitis, post-infectious	54	Toxic shock syndrome	84
Gonorrhea	122,054	Trichinosis	7
Haemophilus influenzae (invasive disease)†	448	Tuberculosis	5,786
Hansen Disease	54	Tularemia	20
Leptospirosis	12	Typhoid fever	110
Lyme Disease	908	Typhus fever, tickborne (RMSF)	25

*Updated monthly; last update April 17, 1993.
†Of 410 cases of known age, 146 (36%) were reported among children less than 5 years of age.
§No cases of suspected poliomyelitis have been reported in 1993; 4 cases of suspected poliomyelitis were reported in 1992; 6 of the 9 suspected cases with onset in 1991 were confirmed; all were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending May 1, 1993, and April 25, 1992 (17th Week)

Reporting Area	AIDS*	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1992	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993
UNITED STATES	37,227	2,087	163	54	122,054	158,103	6,846	3,620	1,421	185	355	908
NEW ENGLAND	1,651	46	4	3	2,593	3,325	186	133	8	4	13	94
Maine	51	6	1	-	32	34	9	7	-	-	2	-
N.H.	50	4	-	-	16	41	4	13	2	-	-	7
Vt.	8	5	-	-	9	8	3	2	1	-	-	-
Mass.	819	25	3	3	963	1,272	105	100	2	4	9	32
R.I.	80	6	-	-	116	257	42	11	3	-	2	19
Conn.	643	-	-	-	1,457	1,713	23	-	-	-	-	36
MID. ATLANTIC	6,434	239	6	4	12,435	16,574	446	494	109	3	77	651
Upstate N.Y.	1,414	89	-	1	2,664	2,795	120	132	59	1	19	464
N.Y. City	2,774	85	1	-	3,355	6,327	159	99	1	-	3	2
N.J.	1,570	-	-	-	2,373	2,514	107	126	34	-	11	58
Pa.	676	65	5	3	4,043	4,938	60	137	15	2	44	127
E.N. CENTRAL	2,709	303	53	12	23,980	28,502	727	379	269	4	95	9
Ohio	497	95	17	2	7,616	8,815	116	87	24	-	55	9
Ind.	433	46	4	5	2,572	2,853	355	66	4	1	12	-
Ill.	858	62	10	-	7,332	8,821	172	62	12	1	3	-
Mich.	839	92	19	5	4,850	6,727	79	161	216	2	19	-
Wis.	82	8	3	-	1,610	1,286	5	3	13	-	6	-
W.N. CENTRAL	1,941	111	6	-	5,691	8,919	957	257	67	3	15	20
Minn.	322	25	3	-	320	1,127	133	18	1	2	-	2
Iowa	120	30	-	-	602	606	12	10	2	1	1	1
Mo.	1,188	24	-	-	3,289	4,666	643	200	50	-	5	3
N. Dak.	-	2	2	-	10	31	21	-	-	-	-	-
S. Dak.	18	4	1	-	66	67	9	-	-	-	-	-
Nebr.	88	2	-	-	141	515	99	6	6	-	7	-
Kans.	205	24	-	-	1,263	1,907	40	23	8	-	2	14
S. ATLANTIC	7,778	520	29	23	34,553	51,490	404	595	191	24	63	84
Del.	158	4	1	-	452	549	3	53	58	-	6	55
Md.	591	44	7	-	5,645	5,074	63	96	5	3	17	7
D.C.	354	15	-	-	1,982	2,700	2	11	-	-	8	1
Va.	566	58	8	3	3,423	6,420	52	51	14	10	2	5
W. Va.	19	5	6	-	197	279	1	11	10	-	-	2
N.C.	254	44	6	-	7,358	7,214	17	99	22	-	6	7
S.C.	590	4	-	-	3,067	3,179	5	10	-	1	1	-
Ga.	1,345	38	1	-	4,660	17,268	39	33	20	-	12	-
Fla.	3,901	308	-	20	7,769	8,807	222	231	62	10	11	7
E.S. CENTRAL	989	106	7	3	13,969	14,893	97	373	350	1	19	6
Ky.	79	49	2	3	1,528	1,596	54	32	4	-	7	2
Tenn.	393	23	4	-	4,270	4,976	18	296	340	-	10	2
Ala.	350	26	1	-	4,955	4,737	20	42	3	1	-	2
Miss.	167	8	-	-	3,216	3,584	5	3	3	-	2	-
W.S. CENTRAL	4,497	139	14	-	14,305	14,890	537	438	61	50	8	9
Ark.	181	10	-	-	1,923	2,966	17	16	2	-	-	1
La.	595	5	-	-	3,636	1,969	25	41	20	-	2	-
Okla.	421	-	3	-	1,156	1,557	31	75	17	5	6	5
Tex.	3,300	124	11	-	7,590	8,398	464	306	22	45	-	3
MOUNTAIN	2,252	118	9	3	3,535	3,830	1,434	216	102	36	36	3
Mont.	10	-	-	1	15	29	46	4	-	-	5	-
Idaho	33	3	-	-	47	41	77	15	-	1	1	-
Wyo.	28	-	-	-	27	16	7	7	25	-	3	2
Colo.	729	28	3	-	1,135	1,549	341	24	14	18	3	-
N. Mex.	186	13	3	2	316	291	106	101	34	1	1	-
Ariz.	799	54	2	-	1,309	1,171	501	31	9	7	8	-
Utah	161	4	1	-	84	68	336	12	16	9	4	1
Nev.	306	16	-	-	602	665	20	22	4	-	11	-
PACIFIC	8,976	505	35	6	10,993	15,680	2,058	735	264	60	29	32
Wash.	139	-	-	-	1,150	1,383	212	66	61	6	3	-
Oreg.	459	-	-	-	771	468	42	17	4	-	-	-
Calif.	8,360	475	32	6	8,766	13,430	1,513	639	194	53	23	31
Alaska	7	4	2	-	150	237	263	5	3	-	-	-
Hawaii	11	26	1	-	156	162	28	8	2	1	3	1
Guam	-	-	-	-	14	31	1	1	-	1	-	-
P.R.	953	16	-	-	152	49	16	66	13	-	-	-
V.I.	33	-	-	-	26	37	-	2	-	-	-	-
Amer. Samoa	-	-	-	-	9	10	7	-	-	-	-	-
C.N.M.I.	1	2	-	-	23	13	-	-	-	1	-	-

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

*Updated monthly; last update April 17, 1993.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending May 1, 1993, and April 25, 1992 (17th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1993	1993	Cum. 1993	1993	Cum. 1993	Cum. 1992	Cum. 1993	1993	Cum. 1993	1993	Cum. 1993	Cum. 1992	1993	Cum. 1993	Cum. 1992
UNITED STATES	308	3	80	1	14	609	935	24	538	32	810	396	1	58	50
NEW ENGLAND	23	2	44	-	4	8	58	-	4	12	207	40	-	1	4
Maine	-	-	-	-	-	-	3	-	-	-	5	2	-	1	-
N.H.	2	-	-	-	-	1	7	-	-	11	131	15	-	-	-
Vt.	1	2	29	-	1	-	4	-	-	1	34	-	-	-	-
Mass.	10	-	7	-	2	5	33	-	1	-	27	19	-	-	-
R.I.	1	-	-	-	1	-	1	-	2	-	2	-	-	-	4
Conn.	9	-	8	-	-	2	10	-	1	-	8	4	-	-	-
MID. ATLANTIC	60	-	6	-	1	106	124	2	49	2	144	61	-	14	6
Upstate N.Y.	22	-	1	-	-	32	52	2	15	2	54	20	-	1	4
N.Y. City	23	-	1	-	-	27	18	-	-	-	5	6	-	7	-
N.J.	9	-	4	-	1	44	14	-	6	-	20	16	-	5	2
Pa.	6	-	-	-	-	3	40	-	28	-	65	19	-	1	-
E.N. CENTRAL	19	-	-	-	-	18	132	1	92	3	118	37	-	1	6
Ohio	5	-	-	-	-	3	42	-	44	3	83	10	-	1	-
Ind.	3	-	-	-	-	9	22	-	-	-	12	9	-	-	-
Ill.	9	-	-	-	-	5	39	-	22	-	9	5	-	-	6
Mich.	2	-	-	-	-	-	28	1	26	-	12	1	-	-	-
Wis.	-	-	-	-	-	1	1	-	-	-	2	12	-	-	-
W.N. CENTRAL	6	-	-	-	1	3	53	2	17	-	50	32	-	1	3
Minn.	2	-	-	-	-	3	2	-	-	-	20	13	-	-	-
Iowa	1	-	-	-	-	-	8	2	6	-	1	1	-	-	-
Mo.	2	-	-	-	-	-	22	-	6	-	14	10	-	1	-
N. Dak.	-	-	-	-	-	-	1	-	4	-	1	5	-	-	-
S. Dak.	1	-	-	-	-	-	2	-	-	-	1	1	-	-	-
Nebr.	-	-	-	-	-	-	3	-	1	-	4	2	-	-	-
Kans.	-	-	-	-	1	-	15	-	-	-	9	-	-	-	3
S. ATLANTIC	95	1	15	1	3	94	187	6	139	4	69	50	-	5	2
Del.	1	1	3	-	-	2	9	-	3	1	1	-	-	1	-
Md.	6	-	-	1†	2	5	18	2	28	-	28	11	-	1	-
D.C.	5	-	-	-	-	-	4	-	-	-	-	-	-	-	-
Va.	6	-	-	-	1	6	15	-	13	-	6	4	-	-	-
W. Va.	2	-	-	-	-	-	5	-	4	-	2	2	-	-	-
N.C.	57	-	-	-	-	20	37	1	61	-	10	13	-	-	-
S.C.	-	-	-	-	-	29	14	-	13	-	5	7	-	-	-
Ga.	2	-	-	-	-	-	44	-	-	-	3	4	-	-	-
Fla.	16	-	12	-	-	32	41	3	17	3	14	9	-	3	2
E.S. CENTRAL	5	-	1	-	-	257	60	1	24	1	31	7	-	-	1
Ky.	-	-	-	-	-	240	10	-	-	-	3	-	-	-	-
Tenn.	1	-	1	-	-	-	15	-	9	-	18	5	-	-	1
Ala.	2	-	-	-	-	-	19	1	10	1	10	2	-	-	-
Miss.	2	-	-	-	-	17	16	-	5	-	-	-	-	-	-
W.S. CENTRAL	8	-	1	-	-	62	71	8	87	-	15	10	-	8	-
Ark.	2	-	-	-	-	-	6	-	3	-	1	4	-	-	-
La.	-	-	1	-	-	-	17	-	6	-	4	-	-	-	-
Okla.	3	-	-	-	-	-	6	-	2	-	10	6	-	1	-
Tex.	3	-	-	-	-	62	42	8	76	-	-	-	-	7	-
MOUNTAIN	9	-	2	-	-	6	84	2	27	3	59	50	-	3	1
Mont.	1	-	-	-	-	-	5	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	3	-	3	-	10	13	-	1	1
Wyo.	-	-	-	-	-	1	2	-	2	-	1	-	-	-	-
Colo.	6	-	2	-	-	5	9	2	7	1	21	19	-	-	-
N. Mex.	2	-	-	-	-	-	3	N	N	-	14	12	-	-	-
Ariz.	-	-	-	-	-	-	51	-	6	-	7	-	-	-	-
Utah	-	-	-	-	-	-	4	-	3	2	6	5	-	1	-
Nev.	-	-	-	-	-	-	7	-	6	-	-	1	-	1	-
PACIFIC	83	-	11	-	5	55	166	2	99	7	117	109	1	25	27
Wash.	5	-	-	-	-	7	25	-	7	4	11	30	-	-	-
Oreg.	2	-	-	-	-	1	16	N	N	-	-	8	-	1	-
Calif.	74	-	5	-	-	37	111	2	81	3	99	68	-	15	27
Alaska	-	-	-	-	-	9	8	-	5	-	1	-	-	1	-
Hawaii	2	-	6	-	5	1	6	-	6	-	6	3	1	8	-
Guam	1	U	-	U	-	10	1	U	4	U	-	-	U	-	-
P.R.	-	-	107	-	-	108	5	-	-	-	-	8	-	-	-
V.I.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Amer. Samoa	-	-	1	-	-	-	-	-	-	-	2	6	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	1	10	-	-	1	-	-	-

*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 May 1, 1993, and April 25, 1992 (17th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-Shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1993	Cum. 1992	Cum. 1993	Cum. 1993	Cum. 1992	Cum. 1993	Cum. 1993	Cum. 1993	Cum. 1993
UNITED STATES	8,625	11,172	84	5,786	6,325	20	110	25	2,274
NEW ENGLAND	143	218	8	105	86	-	8	2	415
Maine	2	-	1	7	6	-	-	-	-
N.H.	5	16	2	1	-	-	-	-	17
Vt.	-	1	-	1	-	-	-	-	10
Mass.	70	97	4	47	52	-	6	2	136
R.I.	3	12	1	17	-	-	-	-	-
Conn.	63	92	-	32	28	-	2	-	252
MID. ATLANTIC	710	1,570	18	1,221	1,532	-	32	2	709
Upstate N.Y.	76	117	9	82	202	-	6	-	514
N.Y. City	448	858	1	735	889	-	21	-	-
N.J.	115	226	-	180	227	-	3	2	117
Pa.	71	369	8	224	214	-	2	-	78
E.N. CENTRAL	1,328	1,516	27	661	636	3	11	-	14
Ohio	376	238	13	98	102	1	5	-	2
Ind.	130	65	1	63	60	1	1	-	-
Ill.	453	638	2	331	320	-	3	-	-
Mich.	235	304	11	143	130	1	2	-	-
Wis.	134	271	-	26	24	-	-	-	12
W.N. CENTRAL	544	438	6	127	129	2	1	2	114
Minn.	14	34	2	26	35	-	-	-	21
Iowa	32	10	3	8	9	-	-	-	18
Mo.	426	313	-	65	49	1	1	2	1
N. Dak.	-	1	-	2	3	-	-	-	28
S. Dak.	-	-	-	6	8	-	-	-	10
Nebr.	7	15	-	5	5	-	-	-	1
Kans.	65	65	1	15	20	1	-	-	35
S. ATLANTIC	2,416	3,112	9	849	1,226	-	12	5	610
Del.	50	71	-	10	17	-	-	-	51
Md.	127	247	-	133	84	-	3	-	173
D.C.	150	159	-	55	48	-	-	-	4
Va.	211	252	2	141	100	-	1	-	111
W. Va.	1	3	-	24	21	-	-	-	31
N.C.	610	760	3	124	173	-	-	4	16
S.C.	400	350	-	116	116	-	-	-	48
Ga.	426	688	-	246	279	-	1	1	156
Fla.	441	582	4	-	388	-	7	-	20
E.S. CENTRAL	1,098	1,611	4	410	355	4	1	3	33
Ky.	95	48	1	109	123	-	-	2	4
Tenn.	260	407	2	93	-	3	-	-	-
Ala.	273	738	1	143	134	1	1	-	29
Miss.	470	418	-	65	98	-	-	1	-
W.S. CENTRAL	1,925	1,839	1	531	551	8	2	11	178
Ark.	285	268	-	53	40	3	-	-	8
La.	801	830	-	-	26	-	1	-	-
Okla.	123	74	1	50	41	4	-	11	34
Tex.	716	667	-	428	444	1	1	-	136
MOUNTAIN	73	145	2	150	173	-	3	-	31
Mont.	-	2	-	5	-	-	-	-	5
Idaho	-	1	-	3	10	-	-	-	-
Wyo.	2	1	-	1	-	-	-	-	5
Colo.	23	22	1	8	17	-	2	-	-
N. Mex.	14	17	-	18	26	-	-	-	2
Ariz.	33	60	-	70	78	-	1	-	19
Utah	1	2	1	9	20	-	-	-	-
Nev.	-	40	-	36	22	-	-	-	-
PACIFIC	388	723	9	1,732	1,637	3	40	-	170
Wash.	20	40	1	84	99	1	2	-	-
Oreg.	44	20	-	28	28	-	-	-	-
Calif.	317	657	8	1,523	1,401	2	36	-	156
Alaska	2	2	-	11	29	-	-	-	14
Hawaii	5	4	-	86	80	-	2	-	-
Guam	-	2	-	18	34	-	-	-	-
P.R.	173	76	-	44	55	-	-	-	17
V.I.	17	20	-	2	2	-	-	-	-
Amer. Samoa	-	-	-	1	-	-	-	-	-
C.N.M.I.	-	3	-	7	10	-	-	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending May 1, 1993 (17th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	594	408	106	54	14	11	48
Boston, Mass.	187	112	36	28	6	4	25
Bridgeport, Conn.	21	9	6	2	2	2	-
Cambridge, Mass.	21	15	4	2	-	-	2
Fall River, Mass.	25	19	4	1	1	-	1
Hartford, Conn.	53	41	8	2	2	-	3
Lowell, Mass.	26	20	5	1	-	-	-
Lynn, Mass.	20	14	3	3	-	-	2
New Bedford, Mass.	34	24	5	5	-	-	2
New Haven, Conn.	40	28	7	3	1	1	2
Providence, R.I.	U	U	U	U	U	U	U
Somerville, Mass.	3	2	-	-	1	-	-
Springfield, Mass.	63	50	8	3	-	2	3
Waterbury, Conn.	38	28	8	2	-	-	2
Worcester, Mass.	63	46	12	2	1	2	6
MID. ATLANTIC	2,665	1,765	494	286	63	57	162
Albany, N.Y.	61	47	6	6	1	1	4
Allentown, Pa.	21	17	2	2	-	-	-
Buffalo, N.Y.	100	61	27	8	2	2	1
Camden, N.J.	15	8	-	2	4	1	3
Elizabeth, N.J.	22	17	3	2	-	-	1
Erie, Pa.§	53	41	7	2	-	3	10
Jersey City, N.J.	41	23	12	6	-	-	-
New York City, N.Y.	1,311	823	252	174	32	30	49
Newark, N.J.	63	32	13	10	3	5	4
Paterson, N.J.	21	10	7	3	-	1	-
Philadelphia, Pa.	498	327	101	50	14	6	53
Pittsburgh, Pa.§	89	63	14	8	1	3	18
Reading, Pa.	19	15	3	1	-	-	-
Rochester, N.Y.	128	102	15	4	4	3	6
Schenectady, N.Y.	33	25	8	-	-	-	-
Scranton, Pa.§	28	24	3	1	-	-	1
Syracuse, N.Y.	83	65	11	4	1	2	7
Trenton, N.J.	24	19	3	1	1	-	1
Utica, N.Y.	21	16	4	1	-	-	-
Yonkers, N.Y.	34	30	3	1	-	-	4
E.N. CENTRAL	2,295	1,511	400	209	97	75	161
Akron, Ohio	75	52	14	5	2	2	-
Canton, Ohio	46	35	10	-	-	1	3
Chicago, Ill.	458	193	102	91	52	20	25
Cincinnati, Ohio	87	57	14	7	3	3	10
Cleveland, Ohio	167	112	25	15	4	11	3
Columbus, Ohio	197	145	31	10	6	5	16
Dayton, Ohio	131	97	26	5	1	2	12
Detroit, Mich.	244	158	37	29	12	8	13
Evansville, Ind.	54	37	12	1	4	-	3
Fort Wayne, Ind.	67	44	17	3	1	2	2
Gary, Ind.	23	15	3	3	-	2	-
Grand Rapids, Mich.	57	48	4	4	-	1	7
Indianapolis, Ind.	165	106	30	15	2	12	14
Madison, Wis.	37	26	6	4	1	-	7
Milwaukee, Wis.	145	123	16	5	1	-	15
Peoria, Ill.	55	39	9	4	1	2	5
Rockford, Ill.	52	46	4	1	1	-	5
South Bend, Ind.	48	35	11	1	1	-	5
Toledo, Ohio	125	98	18	4	2	3	16
Youngstown, Ohio	62	45	11	2	3	1	-
W.N. CENTRAL	812	581	123	45	35	28	70
Des Moines, Iowa	72	55	10	2	2	3	4
Duluth, Minn.	38	31	5	1	1	-	-
Kansas City, Kans.	23	11	6	3	1	2	1
Kansas City, Mo.	124	93	24	1	4	2	13
Lincoln, Nebr.	27	23	3	-	1	-	2
Minneapolis, Minn.	174	127	20	12	6	9	20
Omaha, Nebr.	103	70	20	6	4	3	1
St. Louis, Mo.	134	91	20	9	9	5	20
St. Paul, Minn.	64	44	8	7	3	2	7
Wichita, Kans.	53	36	7	4	4	2	2
S. ATLANTIC	1,455	906	287	179	40	43	85
Atlanta, Ga.	188	104	45	33	4	2	10
Baltimore, Md.	165	105	37	16	3	4	20
Charlotte, N.C.	88	54	18	11	2	3	4
Jacksonville, Fla.	127	85	25	14	1	2	5
Miami, Fla.	101	62	20	14	3	2	1
Norfolk, Va.	54	35	5	7	1	6	3
Richmond, Va.	73	44	16	10	1	2	7
Savannah, Ga.	49	35	11	1	2	-	5
St. Petersburg, Fla.	52	41	4	3	-	4	5
Tampa, Fla.	175	129	27	10	6	3	16
Washington, D.C.	355	188	77	58	17	15	9
Wilmington, Del.	28	24	2	2	-	-	-
E.S. CENTRAL	850	591	149	69	29	12	66
Birmingham, Ala.	140	95	22	11	6	6	2
Chattanooga, Tenn.	88	64	16	4	4	-	7
Knoxville, Tenn.	100	69	17	8	5	1	9
Lexington, Ky.	56	40	9	3	3	1	5
Memphis, Tenn.	203	144	40	15	4	-	19
Mobile, Ala.	77	61	9	6	-	1	10
Montgomery, Ala.	44	27	10	6	1	-	1
Nashville, Tenn.	142	91	26	16	6	3	13
W.S. CENTRAL	1,631	1,040	299	165	74	49	107
Austin, Tex.	79	51	12	11	2	3	2
Baton Rouge, La.	32	26	4	1	1	-	-
Corpus Christi, Tex.	64	47	9	6	1	1	1
Dallas, Tex.	190	108	38	26	9	9	4
El Paso, Tex.	102	81	16	2	3	-	16
Ft. Worth, Tex.	93	66	15	5	4	3	6
Houston, Tex.	359	210	69	44	21	14	34
Little Rock, Ark.	85	55	19	7	4	-	6
New Orleans, La.	160	87	32	25	6	7	-
San Antonio, Tex.	259	171	46	21	15	6	13
Shreveport, La.	101	69	14	11	4	3	15
Tulsa, Okla.	107	69	25	6	4	3	10
MOUNTAIN	893	609	178	65	16	25	66
Albuquerque, N.M.	83	57	15	8	1	2	6
Colo. Springs, Colo.	40	26	8	5	1	-	3
Denver, Colo.	106	65	23	10	3	5	12
Las Vegas, Nev.	178	119	44	9	-	6	9
Ogden, Utah	27	18	6	-	2	1	2
Phoenix, Ariz.	172	113	29	18	7	5	14
Pueblo, Colo.	27	20	6	1	-	-	3
Salt Lake City, Utah	97	68	16	6	1	6	9
Tucson, Ariz.	163	123	31	8	1	-	8
PACIFIC	1,931	1,297	342	187	61	38	131
Berkeley, Calif.	28	18	7	-	1	2	2
Fresno, Calif.	60	34	18	6	2	-	7
Glendale, Calif.	33	26	5	1	1	-	2
Honolulu, Hawaii	86	54	21	6	2	3	8
Long Beach, Calif.	65	45	12	3	1	4	6
Los Angeles, Calif.	435	295	69	45	18	6	19
Pasadena, Calif.	36	27	7	1	1	-	-
Portland, Oreg.	138	97	27	8	2	3	9
Sacramento, Calif.	163	101	30	22	6	4	17
San Diego, Calif.	185	102	38	32	9	2	18
San Francisco, Calif.	143	81	30	26	2	3	4
San Jose, Calif.	210	157	27	17	7	2	15
Santa Cruz, Calif.	37	29	3	4	1	-	1
Seattle, Wash.	159	113	28	10	4	4	3
Spokane, Wash.	72	60	8	2	2	-	13
Tacoma, Wash.	81	58	12	4	2	5	7
TOTAL	13,126¶	8,708	2,378	1,259	429	338	896

*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.

HIV Infection — Continued

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Epidemiologic Notes and Reports

Isolation of Wild Poliovirus Type 3 Among Members of a Religious Community Objecting to Vaccination — Alberta, Canada, 1993

During September 1992–February 1993, 68 cases of poliomyelitis occurred among members of a religious community in the Netherlands (*1*). Because members of an affiliated religious community in Alberta, Canada, had direct contact (i.e, travel to and from the Netherlands) with members of the affected community, health authorities in Alberta conducted an investigation during January–February 1993 to determine whether this poliovirus had been imported. This report summarizes the results of this investigation (*2*).

The investigation focused on a small rural community in southern Alberta that reported the only case of poliomyelitis from the province during the last outbreak (11 cases) of poliomyelitis in Canada during 1978 (*3,4*). The community comprises members of a religious group that generally opposes vaccination.

Wild poliovirus type 3 (PV3) was isolated from stool specimens obtained from 21 (47%) of 45 persons (primarily children). Laboratory investigations conducted by the National Center for Enteroviruses in Halifax, including application of molecular techniques in collaboration with laboratories at CDC, determined that this PV3 was virtually identical with the strain that caused the recent outbreak in the Netherlands.

No cases of paralytic poliomyelitis have been identified in Canada since 1988. Provincial epidemiologists in Canada, in collaboration with the Laboratory Center for Disease Control in Ottawa, have enhanced surveillance for cases of acute flaccid paralysis. In addition, poliovirus vaccine has been offered to members of all unvaccinated communities. Studies are under way to determine whether poliovirus is circulating among unvaccinated communities in British Columbia and Ontario.

Adapted from: Canada Communicable Disease Report 1993;19:57–8. Reported by: Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Div of Immunization, National Center for Prevention Svcs, CDC.

Editorial Note: The findings in this report represent the first documented importation and circulation of any wild poliovirus in the Western Hemisphere since the apparent eradication of wild poliovirus infection in August 1991 (*5*). No cases of paralytic poliomyelitis have been reported from the affected community in Alberta; however, because the clinical:subclinical case ratio for PV3 infection may be as low as 1:1000 (*6*), wild poliovirus can circulate in a population group for several months before paralytic disease occurs. The last outbreak of poliomyelitis in the United States occurred in 1979 when 10 paralytic cases were reported from four states (Iowa, Missouri, Pennsylvania, and Wisconsin). That outbreak originated in the Netherlands in 1978 when poliovirus type 1 spread from the Netherlands to Canada and then to the United States (*3,4,7,8*).

In each of these outbreaks, clinical cases of poliomyelitis and asymptomatic infections occurred almost exclusively among religious groups objecting to vaccination. Subgroups of susceptible persons residing within otherwise highly vaccinated general populations can periodically support epidemic transmission of poliomyelitis (*3,4,7,8*). However, the risk for exposure, infection, and paralytic disease among vaccinated persons in the general population is low. Therefore, persons fully vaccinated with poliovirus vaccine (i.e., three to four doses of vaccine) are not considered at increased risk for poliomyelitis, and special efforts (i.e., additional vaccination) are not recommended.

Because of the risk for importation and spread of poliovirus, all persons aged <18 years who are not fully vaccinated should initiate or complete the primary series of poliovirus vaccine according to the recommendations of the Advisory Committee on Immunization Practices (*9,10*). In addition, special efforts are necessary to increase acceptance rates of vaccination and to provide poliovirus vaccines to unvaccinated or incompletely vaccinated members of religious groups who do not generally accept vaccination. Oral poliovirus vaccine (OPV) is recommended for all unvaccinated persons residing in these communities, including those aged ≥18 years, because of its ability to limit community spread if poliovirus is introduced.

Because of the outbreak in the Netherlands and detection of PV3 in Alberta, surveillance of poliomyelitis in the United States has been augmented to include clinical and laboratory investigations of any case of acute paralysis or aseptic meningitis occurring among members of religious groups objecting to vaccination, as well as unvaccinated persons in the general population residing in the vicinity of these religious groups. In addition, studies are under way to document the presence or absence of wild poliovirus in the United States among communities that do not accept vaccination.

The documentation of imported wild poliovirus in Alberta—following a period of 18 months during which wild poliovirus was absent in the Americas—demonstrates the potential for reintroduction of poliovirus into areas where poliomyelitis was considered eliminated. Persons belonging to religious communities objecting to vaccination are currently at greatest risk for paralytic poliomyelitis in the United States. Although efforts are ongoing to protect these communities, the effectiveness of previous vaccination efforts in these communities has been limited. Only global

Wild Poliovirus Type 3 — Continued

eradication of poliomyelitis—a health goal for the year 2000 adopted by the World Health Assembly in 1988—will ensure that poliovirus infection will not cause paralytic disease in the United States or the rest of the world.

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Health Objectives for the Nation

Fetal Alcohol Syndrome — United States, 1979–1992

Fetal alcohol syndrome (FAS) is characterized by a variety of physical and behavioral traits that result from maternal alcohol consumption during pregnancy. Features of FAS include prenatal or postnatal growth deficiency, abnormal facial features, and central nervous system deficits (*1*). CDC's Birth Defects Monitoring Program (BDMP)—a national program to monitor congenital malformations—has collected data on the incidence of FAS among newborn infants since 1979. This report presents a rate for FAS in the United States using BDMP data from 1979 through 1992.

The BDMP uses hospital discharge data on newborns gathered by the Commission on Professional and Hospital Activities (CPHA). Data from this system include both live and stillborn infants born in participating hospitals since 1970. Since 1979, discharge diagnosis data have been reported to CDC by CPHA using the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM). Before 1979, the CPHA used ICD-8, which did not include a code used for FAS. During 1992, the BDMP monitored data on approximately 10% of all births, compared with approximately 30% in 1979.

From 1979 through 1992, a total of 1782 FAS cases were reported among 9,057,624 births, a rate of 2.0 per 10,000 births (Figure 1). During 1992, the BDMP identified 67 infants born with FAS, representing a rate of 3.7 per 10,000 births. This rate is an increase of more than threefold that for 1979 (1.0 per 10,000 births).

Reported by: Birth Defects and Genetic Diseases Br, and Developmental Disabilities Br, Div of Birth Defects and Developmental Disabilities, National Center for Environmental Health, CDC.

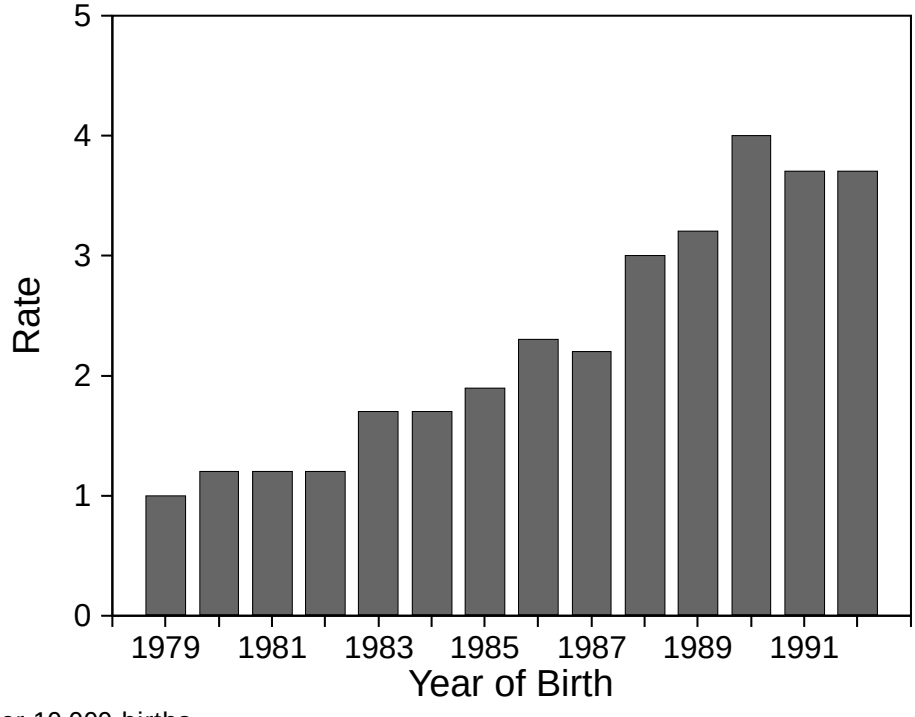
Fetal Alcohol Syndrome — Continued

Editorial Note: FAS is a leading preventable cause of birth defects and mental retardation in the United States. FAS represents some of the most serious effects of alcohol to the developing fetus. Because FAS has not been reported in the absence of excessive maternal alcohol consumption during pregnancy, this problem can be prevented by the avoidance of alcohol use by women who are pregnant. A national health objective for the year 2000 is to reduce the rate of FAS to no more than 0.12 per 1000 live births (i.e., 1.2 per 10,000 live births) (objective 14.4) (*2*).

FAS is difficult to recognize in newborns for three reasons: 1) facial stigmata of FAS are often subtle; 2) some types of central nervous system deficit in infants are difficult to detect; and 3) the birthweight of some affected infants is normal. Although the BDMP data are derived from diagnoses made by physicians during the neonatal period, and the sensitivity and specificity of the data are unknown, rates derived from BDMP data are likely to underestimate the true incidence of FAS. Incidence rates for FAS based on the BDMP are substantially lower than those based on other studies (*3*). Because neither the sensitivity nor the specificity of the BDMP data are known, it is difficult to interpret the increase in the incidence of FAS reported to the BDMP. The increase may reflect an increase in the recognition and reporting by physicians and/or a true increase in incidence. Studies are under way to evaluate the sensitivity and specificity of the BDMP data.

CDC, in collaboration with private, voluntary organizations, is promoting Alcohol and Other Drug Related Birth Defects Awareness Week, May 9–15, 1993. These organi-

FIGURE 1. Reported incidence rate* of fetal alcohol syndrome, by year of birth — Birth Defects Monitoring Program/Commission on Professional and Hospital Activities, 1979–1992



*Per 10,000 births.

Fetal Alcohol Syndrome — Continued

zations are making available information packets for state, federal, and voluntary organizations; these packets contain articles, fact sheets, and sample press releases regarding awareness, intervention, and prevention of FAS and other drug-related birth defects. Information packets are available from The Arc (formerly the Association for Retarded Citizens), P.O. Box 6109, Arlington, TX 76005; The March of Dimes Birth Defects Foundation, Education and Health Promotion, 1275 Mamaroneck Avenue, White Plains, NY 10605; and the National Council on Alcoholism and Drug Dependence, Inc., 1511 K Street, NW, Suite 926, Washington, DC 20005.

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Notices to Readers

National SAFE KIDS Week

National SAFE KIDS Week, May 22–29, focuses on preventing unintentional injury among children. Highlights will include safety events in communities throughout the United States, distribution of safety information by retailers, and national media coverage. The event is sponsored by the National SAFE KIDS campaign, which provides programmatic support to 150 state and local coalitions in 44 states and the District of Columbia. Additional information is available from the National SAFE KIDS Campaign, 111 Michigan Avenue, NW, Washington, DC 20010.

Workshop on Quality-Assurance and Quality-Control Procedures for CD4+ T-Lymphocyte Determinations

The National Laboratory Training Network (NLTN), a cooperative training system of CDC and the Association of State and Territorial Public Health Laboratory Directors, will sponsor 3-day workshops on quality-assurance and quality-control procedures for T-lymphocyte determinations at sites throughout the country during June and July 1993. This workshop is intended for managers, supervisors, and technical staff of flow cytometric immunophenotyping programs who have at least 6 months' experience operating flow cytometers.

The goal of the workshop is to assist participants in integrating recommended procedures for quality assurance and quality control into their flow cytometric immunophenotyping programs for the determination of CD4+ T-lymphocyte levels in human immunodeficiency virus-infected persons. The workshop will include safety issues; specimen collection, shipping, and storage; selection of the reagent panel; sample preparation and erythrocyte lysis and fixation; flow cytometer set-up and

Notices to Readers — Continued

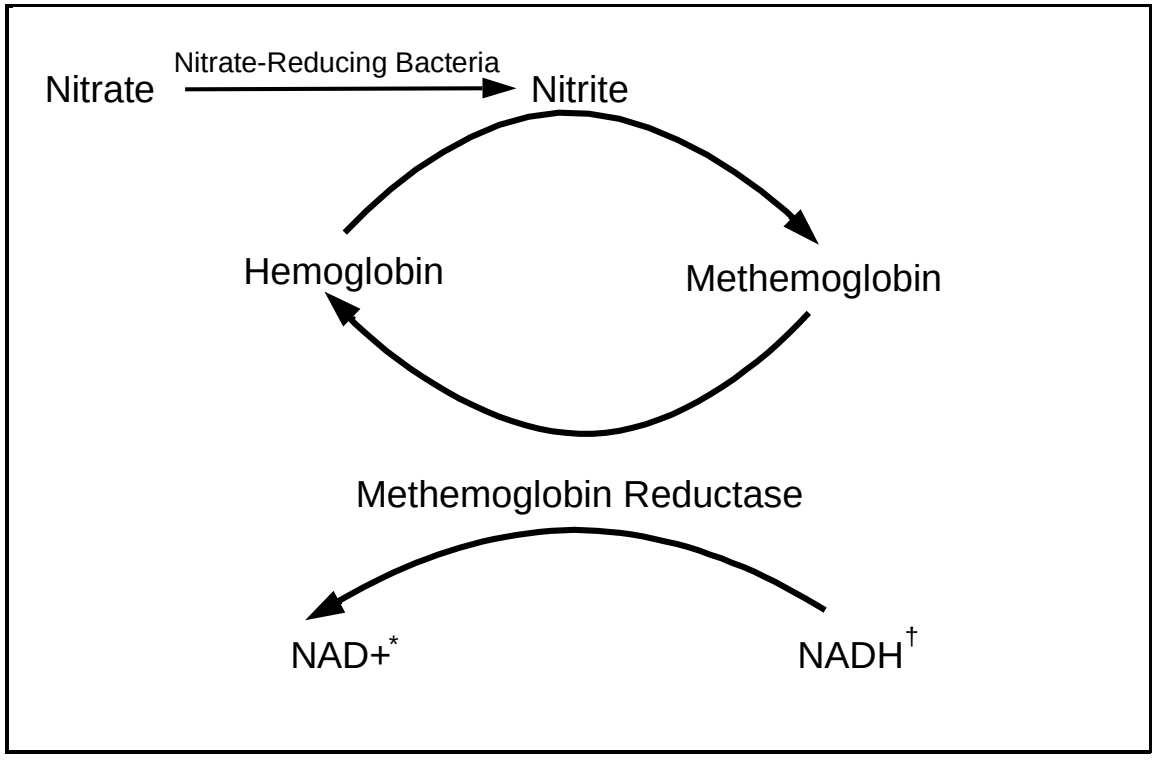
standardization; sample analysis; data reduction; troubleshooting; report preparation; and overall quality-control procedures.

There is a registration fee. Workshop dates, locations, and telephone numbers of contacts are: June 7–9, Brentwood, Tennessee—contact NLTN Southeastern Office, (615) 262-6315; June 23–25, Milwaukee—contact NLTN Midwestern Office, (312) 793-3306; June 29–July 1, North Dartmouth, Massachusetts—contact NLTN New England Office, (617) 522-3700, ext. 153; July 12–14, Denver—contact NLTN Western Office, (303) 691-4708; July 22–24, Seattle—contact NLTN Pacific Office, (510) 540-3991; and July 28–30, Dallas—contact NLTN South Central Office, (504) 568-2081.

Erratum: Vol. 42, No. 12

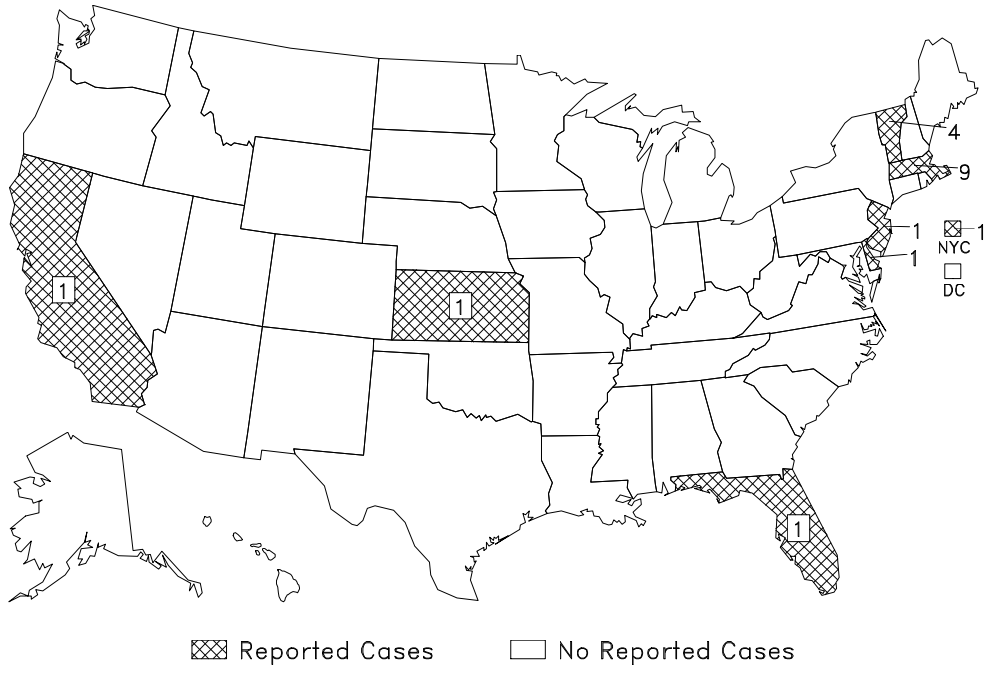
Two errors appeared in the article, "Methemoglobinemia in an Infant—Wisconsin, 1992." On page 218, the last sentence should read: "Nitrate reacts with the oxygen-carrying protein, hemoglobin, *oxidizing* it to methemoglobin (Figure 1)." In Figure 1, the bottom arrow and the compounds NAD+ and NADH are reversed; the correct figure is printed below.

FIGURE 1. Basic reactions in the development of nitrate-induced methemoglobinemia



*Nicotinamide adenine dinucleotide, reduced form.
†Nicotinamide adenine dinucleotide.

Reported cases of measles, by state — United States, weeks 13–16, 1993



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