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Epidemiologic Notes and Reports

Hyponatremic Seizures Among Infants Fed with Commercial Bottled Drinking Water — Wisconsin, 1993

In 1993, two infants were treated at a pediatric referral hospital in Wisconsin for hyponatremic seizures caused by water intoxication associated with bottled drinking water. This report summarizes information about these cases and a review of hospitalizations for hyponatremic seizures in this hospital during 1984–1993.

Patient 1

In October 1993, a 55-day-old infant was taken by her mother to the emergency department (ED) of a local hospital for evaluation of "eye twitching." During transport, she had onset of generalized, tonic-clonic seizures. Examination at the hospital revealed periorbital and gluteal edema; her serum sodium level was 116 mEq/L (normal: 135–145 mEq/L), and metabolic acidosis was documented by blood gas analysis. Status epilepticus secondary to hyponatremia was diagnosed.

Treatment was initiated with intravenous anticonvulsants. Forty-five minutes after onset of seizures, the infant experienced respiratory depression. Following endotracheal intubation, the infant was transported to the children's hospital, where she received intravenous normal saline. Serum sodium subsequently normalized, and metabolic acidosis resolved. The infant was discharged after 5 days and recovered fully.

The infant's mother had been buying cow's milk-based infant formula and had been supplementing feedings with several ounces of bottled water for several days. She reported using bottled water as a supplement because the product was inexpensive and because she interpreted the labeling to indicate that the product had been produced specifically for infants and contained nutrients adequate for use as a feeding supplement. The mother later reported to the Food and Drug Administration (FDA) that she had substituted tap water for infant formula during the 24 hours before hospitalization.

Patient 2

In December 1993, a 56-day-old infant was transported to the ED at the children's hospital following an apparent brief seizure. He had had mild upper-respiratory tract symptoms for several days but otherwise had been in good health. At the hospital, he

appeared alert, healthy, and in no distress. His serum sodium level was 121 mEq/L, and urine specific gravity was <1.005. Computed tomography of his head was normal. Seizures secondary to hyponatremia was diagnosed.

Treatment with intravenous saline was initiated, and his serum sodium level reached normal limits after 9 hours. He was discharged 24 hours after admission and recovered fully.

The infant's mother had supplemented feedings of soy-based formula with bottled drinking water since the onset of symptoms of an upper-respiratory illness. Daily feedings consisted of three bottles of formula and three bottles of drinking water. She believed the water was a safe and economical liquid that would help relieve the upper-respiratory symptoms, and she indicated that she interpreted the bottle label to depict a product specially made for infants.

Reported by: RC Bruce, MD, RM Kliegman, MD, Dept of Pediatrics, Medical College of Wisconsin, Milwaukee. Office of Special Nutritionals, Center for Food Safety and Applied Nutrition, Food and Drug Administration. Maternal and Child Health Br, Div of Nutrition, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Manifestations of water intoxication include altered mental status (typically irritability or somnolence), hypothermia, edema, and seizure (*1–7*). Symptoms are preceded by a rapid decline in serum sodium levels (to ≤125 mEq/L) and result from an acute overload of solute-free water that increases total body water by 7%–8% or more (*8*). The rapid decline in serum sodium may result in cellular dysfunction (i.e., abnormal ion gradients and cellular swelling) in the central nervous system. Factors that increase the risk for water intoxication among infants (especially those aged <6 months) include immature renal function and the powerful hunger drive of early infancy (*1,3,8*).

Hyponatremic seizures among infants resulting from improper feeding practices and water intoxication were first reported in 1967 (*1*). The risk for this problem may be increased among infants of parents living in poverty (*1–7*). This possible increased risk may be associated with a lack of resources to purchase infant formula or oral rehydration solution and a lack of knowledge about the potential dangers of feeding

Hyponatremic Seizures — Continued

The physician who reported both cases in Wisconsin reviewed the medical records for all infants aged <1 year who had been admitted to the children's hospital during 1984–1993 for diagnosis and/or treatment of hyponatremic seizures; 27 additional cases were identified. All 27 infants had been fed solute-free water in excessive amounts; 25 cases were attributed to dietary water intoxication. No cases were associated with bottled water products. In addition to the two cases described in this report, from August 1993 through January 1994, FDA received reports of three other infants who were hospitalized because of water intoxication. For two of these cases, the reporting physician believed that bottled drinking water was used instead of oral rehydration solution.

Because of the reports of bottled water use associated with hyponatremia, FDA has recommended to the International Bottled Water Association that the labels of these products clearly indicate their contents and appropriate uses (e.g., rehydrating infant formula and mixing with juices) and that they should not be used in lieu of infant formula. Several manufacturers have submitted their existing labels for FDA review.

Human milk and infant formula provide infants with sufficient quantities of water for growth and for replacement of water lost through the skin, lungs, feces, and urine. Supplemental water generally is not indicated for healthy infants who are not yet receiving solid foods (i.e., breast-fed or formula-fed), except possibly during hot weather for formula-fed infants (*9*). Physicians and other health-care providers should discourage parents from using water (either tap or bottled) as a supplement for infants aged <6 months and should advise parents that children of any age who have diarrhea or vomiting should be given oral rehydration solution instead of solute-free water (*10*). Parents, guardians, and other child-care providers should be educated about the potential hazard solute-free water poses to the health of infants if used inappropriately. Cases of hyponatremia associated with excessive water intake should be reported to the local health department.

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Current Trends

AIDS Among Racial/Ethnic Minorities — United States, 1993

In 1993, local, state, and territorial health departments reported to CDC 58,538 cases of acquired immunodeficiency syndrome (AIDS) among racial/ethnic minorities (Table 1). A total of 38,544 (66%) cases were reported among blacks, 18,888 (32%) among Hispanics, 767 (1%) among Asians/Pacific Islanders, and 339 (1%) among American Indians/Alaskan Natives*. These cases represented 55% of the 106,949 AIDS cases reported in the United States in 1993. Rates of AIDS and modes of human immunodeficiency virus (HIV) exposure varied substantially both among and within minority populations. This report describes these differences and summarizes the epidemiologic characteristics of AIDS cases reported among racial/ethnic minorities during 1993.

In 1993, racial/ethnic minorities accounted for 45,039 (51%) of 89,165 AIDS cases reported among adult and adolescent males (aged ≥13 years) and 12,696 (75%) of 16,824 cases among adult and adolescent females. Of the 959 cases reported among children (aged <13 years), 803 (84%) were among minorities.

In 1993, 111 AIDS cases per 100,000 adults and adolescents were reported among racial/ethnic minorities. Rates were highest among blacks and Hispanics (162 and 90, respectively) and lowest among American Indians/Alaskan Natives and Asians/Pacific Islanders (24 and 12, respectively). Blacks are disproportionately affected by the HIV epidemic: the AIDS rate for black females (73) was approximately 15 times greater than that for white females (5), and the rate for black males (266) was nearly five times greater than that for white males (57).

AIDS rates for blacks and Hispanics varied substantially by geographic region (Figures 1 and 2).† Rates for both groups were generally highest in the Northeast.§ For blacks, rates were highest in Vermont (445¶), New York (379), New Jersey (373), and Florida (366). AIDS rates for blacks were less than the overall adult and adolescent rate (50) in 11 (22%) of the 50 states.

For Hispanics, AIDS rates were highest in New York (293), Connecticut (271), Massachusetts (249), and Pennsylvania (246). Rates for Hispanics were less than the overall rate in 26 (52%) of the 50 states. In Arizona, California, Hawaii, Mississippi, New Mexico, Texas, Wyoming, and the District of Columbia, AIDS rates for Hispanics were lower than rates for whites.

Among males who were racial/ethnic minorities, the most common modes of HIV exposure were male-male sex (39%) and injecting-drug use (IDU) (38%). Among females, the most common exposures were IDU (47%) and heterosexual contact (37%). However, the distribution of exposures differed substantially by race/ethnicity (Table 2) and geographic location. IDU was the principal HIV exposure among blacks and

*The racial/ethnic categories used in federal statistics are specified in the Office of Management and Budget's Directive 15, *Race and Ethnic Standards for Federal Statistics and Administrative Reporting* (1978).

†The numbers of AIDS cases reported among Asians/Pacific Islanders and American Indians/Alaskan Natives were insufficient to analyze by state.

§New England and Middle Atlantic regions.

¶Based on six reported AIDS cases in 1993.

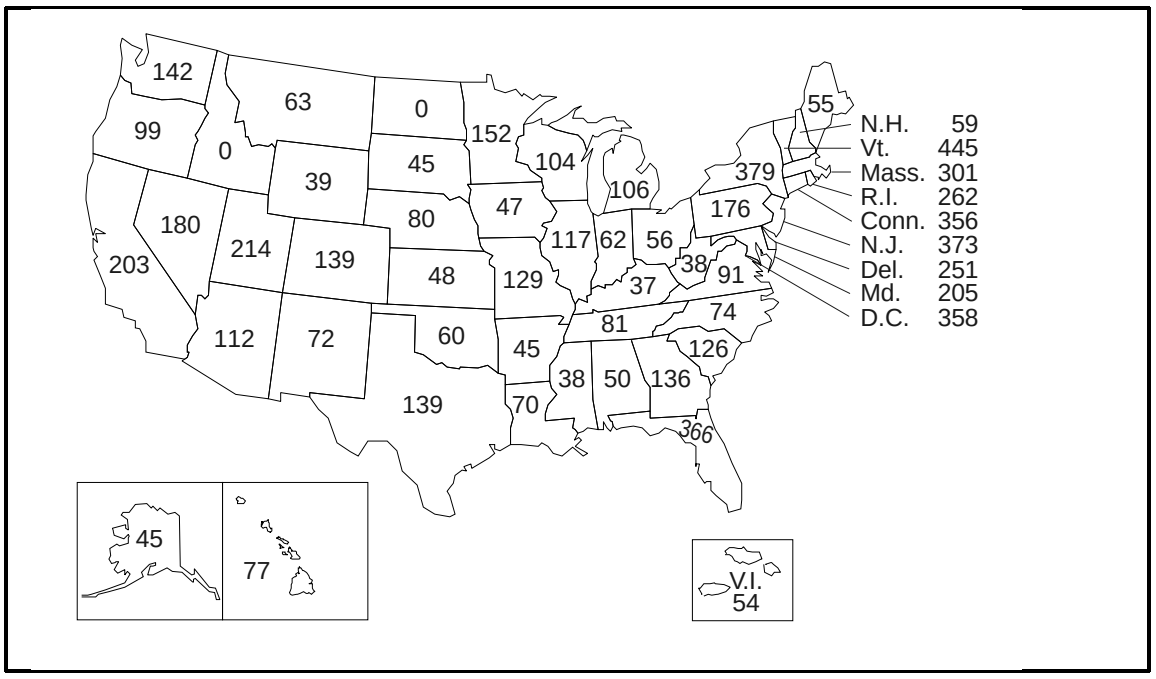
TABLE 1. Number, percentage, and rates* of AIDS cases, by race/ethnicity — United States, reported in 1993

	Adult/Adolescent†									Children§		
	Male			Female			Total					
Race/Ethnicity	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate	No.	(%)	Rate
White, non-Hispanic	43,987	(49)	57	4,103	(24)	5	**48,090**	**(45)**	**30**	150	(16)	0.4
Black, non-Hispanic	28,792	(32)	266	9,220	(55)	73	**38,012**	**(36)**	**162**	532	(55)	7.2
Hispanic	15,301	(17)	146	3,324	(20)	32	**18,625**	**(18)**	**90**	263	(27)	3.6
Asian/Pacific Islander	665	(1)	21	97	(1)	3	**762**	**(1)**	**12**	5	(1)	0.3
American Indian/ Alaskan Native	281	(<1)	41	55	(<1)	8	**336**	**(<1)**	**24**	3	(<1)	0.6
Total minorities	45,039	(51)	179	12,696	(75)	47	**57,735**	**(54)**	**111**	803	(84)	4.8
Total¶	**89,165**	**(100)**	**88**	**16,824**	**(100)**	**15**	**105,990**	**(100)**	**50**	**959**	**(100)**	**1.9**

*Per 100,000 population. Population counts for 1993 were estimated from 1990 U.S. census data.
†Age ≥13 years.
§Age <13 years.
¶Includes 171 persons for whom race/ethnicity was unknown and one person for whom sex was unknown.

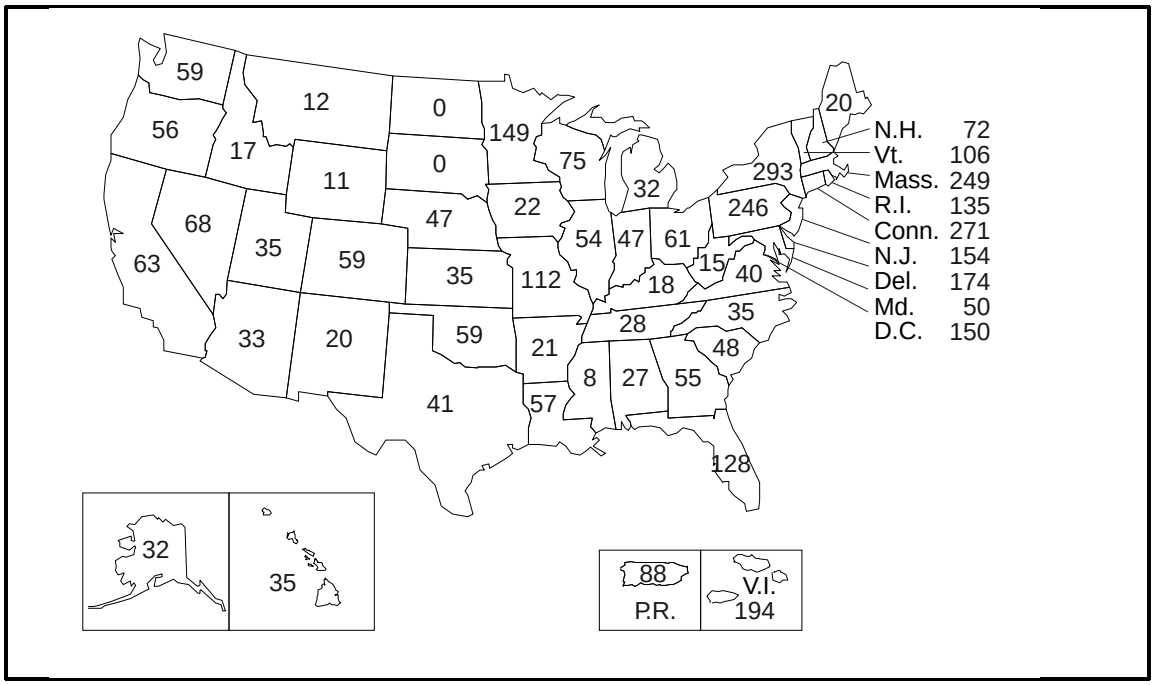
AIDS — Continued

FIGURE 1. AIDS rates* among blacks, by state — United States, reported in 1993



*Per 100,000 population. Population counts were obtained from 1990 U.S. census data.

FIGURE 2. AIDS rates* among Hispanics, by state — United States, reported in 1993



*Per 100,000 population. Population counts were obtained from 1990 U.S. census data.

TABLE 2. Number and percentage of AIDS cases among adults and adolescents, by race/ethnicity and exposure category — United States, reported in 1993

	Race/Ethnicity											
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Asian/ Pacific Islander		American Indian/ Alaskan Native		Total*	
Exposure category	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**
Male												
Male-male sexual contact	32,188	(73)	10,509	(36)	6,519	(43)	509	(77)	177	(63)	**49,963**	**(56)**
Injecting-drug use	4,634	(11)	10,961	(38)	5,872	(38)	33	(5)	27	(10)	**21,571**	**(24)**
Male-male sexual contact and injecting-drug use	3,296	(7)	1,871	(6)	853	(6)	24	(4)	46	(16)	**6,098**	**(7)**
Persons with hemophilia	868	(2)	110	(<1)	71	(<1)	12	(2)	8	(3)	**1,069**	**(1)**
Heterosexual contact	707	(2)	1,833	(6)	752	(5)	16	(2)	6	(2)	**3,317**	**(4)**
Transfusion recipients	408	(1)	178	(1)	83	(1)	13	(2)	1	(<1)	**686**	**(1)**
Risk not reported	1,886	(4)	3,330	(12)	1,151	(8)	58	(9)	16	(6)	**6,461**	**(7)**
Total	**43,987**	**(100)**	**28,792**	**(100)**	**15,301**	**(100)**	**665**	**(100)**	**281**	**(100)**	**89,165**	**(100)**
Female												
Injecting-drug use	1,889	(46)	4,428	(48)	1,458	(44)	17	(18)	18	(33)	**7,827**	**(47)**
Persons with hemophilia	16	(<1)	7	(<1)	3	(<1)	1	(1)	—	—	**27**	**(<1)**
Heterosexual contact	1,557	(38)	3,139	(34)	1,474	(44)	54	(56)	24	(44)	**6,253**	**(37)**
Transfusion recipients	235	(6)	187	(2)	90	(3)	13	(13)	3	(5)	**529**	**(3)**
Risk not reported	406	(10)	1,459	(16)	299	(9)	12	(12)	10	(18)	**2,188**	**(13)**
Total	**4,103**	**(100)**	**9,220**	**(100)**	**3,324**	**(100)**	**97**	**(100)**	**55**	**(100)**	**16,824**	**(100)**

*Includes 164 persons for whom race/ethnicity was unknown.

(Continued on page 653)

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending September 3, 1994, 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 September 3, 1994 (35th Week)

	Cum. 1994		Cum. 1994
AIDS*	53,596	Measles: imported	158
Anthrax	-	indigenous	651
Botulism: Foodborne	44	Plague	12
Infant	49	Poliomyelitis, Paralytic[§]	1
Other	6	Psittacosis	25
Brucellosis	61	Rabies, human	1
Cholera	10	Syphilis, primary & secondary	14,544
Congenital rubella syndrome	2	Syphilis, congenital, age < 1 year[¶]	532
Diphtheria	-	Tetanus	24
Encephalitis, post-infectious	83	Toxic shock syndrome	127
Gonorrhea	253,914	Trichinosis	27
Haemophilus influenzae (invasive disease)[†]	800	Tuberculosis	14,183
Hansen Disease	80	Tularemia	61
Leptospirosis	22	Typhoid fever	282
Lyme Disease	6,588	Typhus fever, tickborne (RMSF)	272

*Updated monthly to the Division of HIV/AIDS, National Center for Infectious Diseases; last update August 30, 1994.
[†]Of 762 cases of known age, 213 (28%) were reported among children less than 5 years of age.
[§]The remaining 5 suspected cases with onset in 1994 have not yet been confirmed. In 1993, 3 of 10 suspected cases were confirmed. Two of the confirmed cases of 1993 were vaccine-associated and one was classified as imported.
[¶]Total reported to the Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services, through first quarter 1994.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending September 3, 1994, and September 4, 1993 (35th Week)

Reporting Area	AIDS*	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994
UNITED STATES	53,596	4,833	397	83	253,914	263,149	14,519	7,710	2,895	287	1,068	6,588
NEW ENGLAND	1,990	169	12	4	5,411	4,973	203	241	96	16	39	1,934
Maine	71	18	2	-	54	57	21	11	-	-	3	14
N.H.	44	22	-	2	72	42	12	16	8	-	-	15
Vt.	22	19	1	-	21	18	5	-	-	-	-	8
Mass.	1,031	55	7	1	2,071	1,967	82	155	68	14	29	162
R.I.	170	55	2	1	315	276	18	6	20	2	7	299
Conn.	652	-	-	-	2,878	2,613	65	53	-	-	-	1,436
MID. ATLANTIC	16,214	512	37	14	27,768	28,924	1,126	955	328	9	167	3,763
Upstate N.Y.	1,504	229	19	2	6,757	6,649	387	267	165	5	43	2,373
N.Y. City	9,831	104	6	4	9,429	7,880	439	214	1	-	2	11
N.J.	3,252	-	-	-	3,356	3,041	199	251	134	-	29	826
Pa.	1,627	179	12	8	8,226	11,354	101	223	28	4	93	553
E.N. CENTRAL	4,228	816	100	19	49,061	55,079	1,367	762	209	7	334	65
Ohio	797	211	26	3	14,490	15,331	546	118	17	-	156	46
Ind.	441	119	10	1	5,780	5,451	258	136	9	-	92	10
Ill.	2,035	174	33	5	12,524	18,840	275	144	42	3	16	4
Mich.	703	305	27	10	11,859	11,083	181	259	138	4	54	5
Wis.	252	7	4	-	4,408	4,374	107	105	3	-	16	-
W.N. CENTRAL	1,083	256	19	5	13,924	14,437	691	449	111	10	93	119
Minn.	274	18	2	-	2,168	1,554	160	43	17	1	1	66
Iowa	59	74	-	-	1,012	1,138	35	22	7	8	26	11
Mo.	486	96	7	4	8,127	8,506	302	341	67	1	42	28
N. Dak.	18	3	2	-	18	35	3	-	-	-	4	-
S. Dak.	11	-	2	-	122	178	24	-	-	-	1	-
Nebr.	65	14	4	1	-	484	89	19	8	-	14	9
Kans.	170	51	2	-	2,477	2,542	78	24	12	-	5	5
S. ATLANTIC	11,932	992	76	26	70,133	68,087	967	1,667	450	27	240	530
Del.	188	27	1	-	853	944	13	4	1	-	24	22
Md.	1,597	167	15	4	12,243	10,715	139	278	27	6	61	219
D.C.	986	34	-	1	5,020	3,006	17	40	-	-	8	4
Va.	778	155	18	6	8,895	8,091	109	84	18	4	5	109
W. Va.	40	20	6	-	530	421	10	26	22	-	1	13
N.C.	887	155	35	1	17,964	16,983	90	187	44	-	17	59
S.C.	780	23	-	-	8,688	7,208	30	23	7	-	9	7
Ga.	1,371	47	1	-	-	4,660	24	506	163	-	83	83
Fla.	5,305	364	-	14	15,940	16,059	535	519	168	17	32	14
E.S. CENTRAL	1,441	321	27	2	30,488	30,025	339	749	580	2	43	28
Ky.	226	105	12	1	3,347	3,191	99	57	18	-	6	14
Tenn.	483	55	10	-	9,038	9,317	134	638	549	1	22	10
Ala.	422	125	5	1	10,849	10,677	66	54	13	1	11	4
Miss.	310	36	-	-	7,254	6,840	40	-	-	-	4	-
W.S. CENTRAL	5,361	543	40	2	31,092	29,209	2,140	936	371	50	35	86
Ark.	182	37	-	-	4,601	4,527	130	20	6	1	7	7
La.	864	25	5	-	8,273	7,965	106	121	114	1	10	-
Okla.	193	-	-	-	2,606	3,091	198	221	212	1	12	48
Tex.	4,122	481	35	2	15,612	13,626	1,706	574	39	47	6	31
MOUNTAIN	1,551	183	6	3	5,524	7,894	2,761	426	306	39	64	11
Mont.	18	3	-	-	66	53	17	20	6	-	14	-
Idaho	45	4	-	-	58	130	232	63	62	1	1	3
Wyo.	16	2	1	2	54	63	21	18	110	-	3	3
Colo.	580	77	1	-	1,883	2,603	346	69	48	13	15	-
N. Mex.	118	9	-	-	665	643	785	146	42	9	3	3
Ariz.	421	44	-	-	2,019	2,877	884	26	8	9	3	-
Utah	96	23	-	1	167	300	323	47	18	1	7	1
Nev.	257	21	4	-	612	1,225	153	37	12	6	18	1
PACIFIC	9,796	1,041	80	8	20,513	24,521	4,925	1,525	444	127	53	52
Wash.	636	-	-	-	1,890	2,609	243	51	50	1	6	-
Oreg.	431	-	-	-	570	835	348	33	10	1	-	-
Calif.	8,570	939	78	7	17,012	20,332	4,138	1,408	379	122	44	52
Alaska	32	16	2	-	583	381	155	9	-	-	-	-
Hawaii	127	86	-	1	458	364	41	24	5	3	3	-
Guam	1	9	-	-	87	73	19	2	-	4	2	-
P.R.	1,578	24	-	3	306	339	44	232	102	10	-	-
V.I.	34	-	-	-	17	79	-	1	-	-	-	-
Amer. Samoa	-	-	-	-	20	35	5	-	-	-	-	-
C.N.M.I.	-	-	-	-	31	65	4	1	-	-	-	-

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

*Updated monthly to the Division of HIV/AIDS, National Center for Infectious Diseases; last update August 30, 1994.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending September 3, 1994, and September 4, 1993 (35th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1994	1994	Cum. 1994	1994	Cum. 1994	Cum. 1993	Cum. 1994	1994	Cum. 1994	1994	Cum. 1994	Cum. 1993	1994	Cum. 1994	Cum. 1993
UNITED STATES	671	-	651	-	158	252	1,850	17	961	20	2,199	3,491	2	205	159
NEW ENGLAND	54	-	15	-	12	60	98	-	14	1	216	513	2	127	1
Maine	3	U	1	U	4	1	18	U	3	U	3	9	U	-	1
N.H.	3	U	1	U	-	1	7	U	4	U	48	118	U	-	-
Vt.	3	-	2	-	1	31	2	-	-	-	28	61	-	-	-
Mass.	27	-	3	-	4	17	40	-	-	1	113	275	1	123	-
R.I.	5	-	4	-	3	1	-	-	1	-	5	7	-	2	-
Conn.	13	-	4	-	-	9	31	-	6	-	19	43	1	2	-
MID. ATLANTIC	121	-	180	-	22	21	181	1	79	7	391	526	-	9	56
Upstate N.Y.	35	-	25	-	3	5	62	1	21	5	167	157	-	6	14
N.Y. City	44	-	14	-	2	7	11	-	8	-	73	49	-	1	22
N.J.	22	-	137	-	14	9	43	-	6	-	9	55	-	2	15
Pa.	20	-	4	-	3	-	65	-	44	2	142	265	-	-	5
E.N. CENTRAL	63	-	59	-	41	26	289	-	146	5	292	849	-	11	7
Ohio	8	-	15	-	-	9	79	-	42	-	106	197	-	-	1
Ind.	12	-	-	-	1	-	49	-	6	-	47	67	-	-	2
Ill.	23	-	17	-	39	9	94	-	61	-	59	300	-	3	1
Mich.	18	-	24	-	1	5	41	-	33	5	34	37	-	8	2
Wis.	2	-	3	-	-	3	26	-	4	-	46	248	-	-	1
W.N. CENTRAL	31	-	116	-	42	3	130	1	46	2	116	269	-	2	1
Minn.	10	-	-	-	-	-	11	-	5	-	51	131	-	-	-
Iowa	4	-	6	-	1	-	16	1	12	1	7	20	-	-	-
Mo.	11	-	108	-	40	1	65	-	24	-	29	84	-	2	1
N. Dak.	1	-	-	-	-	-	1	-	3	-	5	5	-	-	-
S. Dak.	-	-	-	-	-	-	7	-	-	1	7	7	-	-	-
Nebr.	3	-	1	-	1	-	9	-	2	-	7	8	-	-	-
Kans.	2	-	1	-	-	2	21	-	-	-	10	14	-	-	-
S. ATLANTIC	146	-	45	-	4	25	316	1	146	-	225	302	-	10	6
Del.	3	-	-	-	-	-	5	-	-	-	2	6	-	-	-
Md.	74	-	1	-	2	4	28	1	46	-	66	94	-	-	2
D.C.	10	-	-	-	-	-	3	-	-	-	5	7	-	-	-
Va.	18	-	1	-	1	1	51	-	32	-	27	40	-	-	-
W. Va.	-	-	36	-	-	-	11	-	3	-	3	8	-	-	-
N.C.	7	-	2	-	1	-	42	-	36	-	58	44	-	-	-
S.C.	4	-	-	-	-	-	17	-	6	-	12	8	-	-	-
Ga.	14	-	2	-	-	-	64	-	8	-	20	30	-	1	-
Fla.	16	-	3	-	-	20	95	-	15	-	32	65	-	9	4
E.S. CENTRAL	25	-	28	-	-	1	114	2	18	-	106	230	-	-	-
Ky.	7	-	-	-	-	-	33	-	-	-	54	28	-	-	-
Tenn.	8	-	28	-	-	-	25	-	7	-	18	146	-	-	-
Ala.	9	-	-	-	-	1	56	2	5	-	28	46	-	-	-
Miss.	1	-	-	-	-	-	-	-	6	-	6	10	-	-	-
W.S. CENTRAL	35	-	9	-	7	5	232	5	188	-	104	88	-	12	17
Ark.	3	-	-	-	1	-	37	-	1	-	18	7	-	-	-
La.	6	-	-	-	1	1	29	1	22	-	9	7	-	-	1
Okla.	3	-	-	-	-	-	25	-	23	-	22	52	-	4	1
Tex.	23	-	9	-	5	4	141	4	142	-	55	22	-	8	15
MOUNTAIN	22	-	148	-	17	4	123	3	107	1	293	261	-	5	9
Mont.	-	-	-	-	-	-	6	-	-	-	4	4	-	-	-
Idaho	2	-	-	-	-	-	15	-	7	-	42	67	-	-	1
Wyo.	1	-	-	-	-	-	5	-	2	-	-	1	-	-	-
Colo.	10	-	16	-	3	3	24	-	2	-	108	86	-	-	2
N. Mex.	3	-	-	-	-	-	13	N	N	1	20	32	-	1	-
Ariz.	1	-	1	-	1	-	40	2	73	-	104	45	-	-	2
Utah	4	-	131	-	2	-	15	-	11	-	13	25	-	3	3
Nev.	1	-	-	-	11	1	5	1	11	-	2	1	-	1	1
PACIFIC	174	-	51	-	13	107	367	4	217	4	456	453	-	29	62
Wash.	7	-	-	-	-	-	24	-	6	3	26	41	-	-	-
Oreg.	8	-	-	-	-	3	64	N	N	-	33	29	-	2	-
Calif.	144	-	46	-	9	83	271	4	195	1	381	374	-	22	35
Alaska	1	-	5	-	-	1	2	-	2	-	-	5	-	1	1
Hawaii	14	-	-	-	4	20	6	-	14	-	16	4	-	4	26
Guam	2	U	211	U	-	2	1	U	4	U	2	-	U	1	-
P.R.	2	-	13	-	-	329	7	-	2	-	1	1	-	-	-
V.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	U	-	U	-	-	-	U	1	U	2	2	U	-	-
C.N.M.I.	1	U	26	U	-	1	-	U	2	U	-	1	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 September 3, 1994, and September 4, 1993 (35th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-Shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1993	Cum. 1994	Cum. 1994	Cum. 1994	Cum. 1994
UNITED STATES	14,544	17,769	127	14,183	15,073	61	282	272	4,143
NEW ENGLAND	155	244	3	323	315	-	20	10	1,276
Maine	4	4	-	-	13	-	-	-	-
N.H.	3	22	-	14	15	-	-	-	118
Vt.	-	1	1	3	3	-	-	-	102
Mass.	66	102	2	174	166	-	16	8	479
R.I.	12	10	-	32	41	-	1	-	26
Conn.	70	105	-	100	77	-	3	2	551
MID. ATLANTIC	936	1,570	21	2,837	3,185	1	81	12	439
Upstate N.Y.	118	153	11	185	487	1	7	5	115
N.Y. City	417	810	-	1,779	1,918	-	59	1	-
N.J.	138	202	-	516	322	-	15	2	198
Pa.	263	405	10	357	458	-	-	4	126
E.N. CENTRAL	1,960	2,962	25	1,393	1,543	7	47	37	39
Ohio	818	793	9	220	219	1	5	24	2
Ind.	167	243	2	120	146	2	4	5	11
Ill.	545	1,156	5	710	813	2	27	6	9
Mich.	203	418	9	302	302	1	4	2	10
Wis.	227	352	-	41	63	1	7	-	7
W.N. CENTRAL	814	1,157	20	373	329	23	1	24	145
Minn.	36	44	1	89	40	1	-	-	13
Iowa	43	52	7	36	38	-	-	1	63
Mo.	701	943	5	160	176	15	1	10	12
N. Dak.	-	4	1	6	5	-	-	-	8
S. Dak.	-	2	-	17	11	1	-	10	22
Nebr.	-	10	2	18	16	1	-	1	-
Kans.	34	102	4	47	43	5	-	2	27
S. ATLANTIC	4,199	4,685	7	2,524	3,038	1	38	119	1,386
Del.	13	84	-	11	30	-	1	-	41
Md.	185	259	-	217	261	-	8	11	378
D.C.	162	242	-	85	117	-	1	-	2
Va.	536	446	1	214	309	-	6	12	271
W. Va.	8	9	-	58	57	-	-	2	55
N.C.	1,158	1,310	1	331	350	-	-	46	112
S.C.	524	713	-	242	280	-	-	11	130
Ga.	1,057	779	1	579	532	1	2	34	267
Fla.	556	843	4	787	1,102	-	20	3	130
E.S. CENTRAL	2,568	2,668	3	836	1,084	-	2	23	128
Ky.	143	223	1	223	253	-	1	4	13
Tenn.	671	763	2	207	329	-	1	13	34
Ala.	467	573	-	277	328	-	-	2	81
Miss.	1,287	1,109	-	129	174	-	-	4	-
W.S. CENTRAL	3,163	3,415	1	1,925	1,647	17	11	35	464
Ark.	354	390	-	204	116	15	-	7	20
La.	1,225	1,746	-	94	117	-	3	-	55
Okla.	100	216	1	186	97	2	2	24	25
Tex.	1,484	1,063	-	1,441	1,317	-	6	4	364
MOUNTAIN	180	170	6	316	376	10	9	12	94
Mont.	3	1	-	9	13	3	-	4	13
Idaho	1	-	1	11	9	-	-	-	3
Wyo.	-	7	-	5	2	-	-	2	15
Colo.	96	47	3	21	56	1	3	4	8
N. Mex.	18	24	-	43	46	2	1	-	4
Ariz.	33	73	-	154	154	-	1	1	35
Utah	6	4	2	29	23	2	2	-	10
Nev.	23	14	-	44	73	2	2	1	6
PACIFIC	569	898	41	3,656	3,556	2	73	-	172
Wash.	39	37	1	190	174	-	3	-	-
Oreg.	21	33	-	90	-	2	3	-	7
Calif.	503	819	37	3,160	3,156	-	63	-	136
Alaska	4	6	-	35	44	-	-	-	29
Hawaii	2	3	3	181	182	-	4	-	-
Guam	4	3	-	68	42	-	1	-	-
P.R.	197	374	-	86	132	-	-	-	51
V.I.	22	33	-	-	2	-	-	-	-
Amer. Samoa	1	-	-	3	3	-	1	-	-
C.N.M.I.	2	3	-	22	20	-	1	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending September 3, 1994 (35th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	533	364	102	51	10	5	39
Boston, Mass.	130	81	29	13	4	2	8
Bridgeport, Conn.	29	21	5	2	-	1	2
Cambridge, Mass.	32	28	3	1	-	-	3
Fall River, Mass.	29	24	4	1	-	-	3
Hartford, Conn.	44	23	13	7	1	-	3
Lowell, Mass.	27	21	4	2	-	-	-
Lynn, Mass.	9	5	3	1	-	-	3
New Bedford, Mass.	23	15	4	3	1	-	-
New Haven, Conn.	42	22	11	6	2	1	5
Providence, R.I.	41	27	6	6	2	-	-
Somerville, Mass.	10	7	1	2	-	-	2
Springfield, Mass.	34	28	3	3	-	-	1
Waterbury, Conn.	25	20	4	1	-	-	3
Worcester, Mass.	58	42	12	3	-	1	6
MID. ATLANTIC	2,399	1,520	471	297	69	42	99
Albany, N.Y.	36	23	8	3	1	1	3
Allentown, Pa.	32	22	6	4	-	-	-
Buffalo, N.Y.	100	57	21	16	3	3	2
Camden, N.J.	23	14	5	2	2	-	1
Elizabeth, N.J.	16	13	2	1	-	-	-
Erie, Pa.§	48	35	9	2	2	-	2
Jersey City, N.J.	32	28	3	-	-	1	-
New York City, N.Y.	1,319	810	269	185	27	28	47
Newark, N.J.	73	29	15	16	13	-	4
Paterson, N.J.	25	14	5	5	-	1	-
Philadelphia, Pa.	303	189	67	32	9	6	9
Pittsburgh, Pa.§	52	39	7	5	1	-	6
Reading, Pa.	12	9	2	-	1	-	4
Rochester, N.Y.	126	95	19	8	4	-	7
Schenectady, N.Y.	21	15	3	3	-	-	-
Scranton, Pa.§	30	25	3	1	1	-	2
Syracuse, N.Y.	70	44	15	7	2	2	6
Trenton, N.J.	35	25	5	3	2	-	1
Utica, N.Y.	17	13	2	1	1	-	1
Yonkers, N.Y.	29	21	5	3	-	-	4
E.N. CENTRAL	2,147	1,293	408	248	151	47	119
Akron, Ohio	37	26	7	1	2	1	-
Canton, Ohio	41	31	7	2	-	1	3
Chicago, Ill.	650	257	128	137	113	15	14
Cincinnati, Ohio	94	67	15	7	3	2	8
Cleveland, Ohio	U	U	U	U	U	U	U
Columbus, Ohio	164	110	30	16	6	2	17
Dayton, Ohio	118	88	18	11	1	-	11
Detroit, Mich.	205	121	48	25	8	3	9
Evansville, Ind.	54	40	12	1	-	1	3
Fort Wayne, Ind.	60	39	14	2	4	1	-
Gary, Ind.	13	7	2	3	-	1	1
Grand Rapids, Mich.	65	55	3	2	1	4	7
Indianapolis, Ind.	179	123	32	14	5	5	16
Madison, Wis.	44	25	11	5	1	2	6
Milwaukee, Wis.	150	110	31	7	-	2	9
Peoria, Ill.	47	31	11	3	1	1	4
Rockford, Ill.	50	35	7	6	-	2	2
South Bend, Ind.	40	31	5	2	1	1	3
Toledo, Ohio	94	65	20	3	5	1	5
Youngstown, Ohio	42	32	7	1	-	2	1
W.N. CENTRAL	737	545	113	41	22	16	35
Des Moines, Iowa	24	17	4	1	1	1	2
Duluth, Minn.	31	24	3	4	-	-	2
Kansas City, Kans.	24	19	2	3	-	-	1
Kansas City, Mo.	122	86	22	7	4	3	-
Lincoln, Nebr.	39	28	8	3	-	-	3
Minneapolis, Minn.	191	152	27	7	3	2	15
Omaha, Nebr.	77	50	15	7	4	1	9
St. Louis, Mo.	125	93	16	4	7	5	-
St. Paul, Minn.	58	42	8	3	2	3	3
Wichita, Kans.	46	34	8	2	1	1	-
S. ATLANTIC	1,309	794	285	153	38	38	71
Atlanta, Ga.	163	95	35	22	5	6	3
Baltimore, Md.	202	125	44	30	1	2	26
Charlotte, N.C.	75	45	20	9	-	1	5
Jacksonville, Fla.	121	72	34	7	3	5	11
Miami, Fla.	132	65	41	15	6	5	-
Norfolk, Va.	55	33	7	11	4	-	4
Richmond, Va.	90	56	17	8	2	7	2
Savannah, Ga.	53	34	15	1	2	1	2
St. Petersburg, Fla.	50	31	8	7	2	2	1
Tampa, Fla.	197	139	32	17	3	5	15
Washington, D.C.	163	94	30	25	10	4	2
Wilmington, Del.	8	5	2	1	-	-	-
E.S. CENTRAL	778	515	142	77	24	20	61
Birmingham, Ala.	115	71	25	16	3	-	2
Chattanooga, Tenn.	62	40	12	8	2	-	2
Knoxville, Tenn.	96	65	22	5	4	-	6
Lexington, Ky.	76	48	17	9	2	-	7
Memphis, Tenn.	189	117	30	21	6	15	27
Mobile, Ala.	93	68	16	6	3	-	2
Montgomery, Ala.	34	24	3	3	1	3	5
Nashville, Tenn.	113	82	17	9	3	2	10
W.S. CENTRAL	1,366	845	279	151	48	40	65
Austin, Tex.	66	33	18	12	-	3	5
Baton Rouge, La.	49	29	9	6	2	3	1
Corpus Christi, Tex.	50	33	10	4	2	1	4
Dallas, Tex.	194	118	31	25	15	5	1
El Paso, Tex.	78	43	25	8	1	1	4
Ft. Worth, Tex.	77	54	13	4	4	2	3
Houston, Tex.	351	203	78	48	10	12	25
Little Rock, Ark.	65	41	11	7	2	4	7
New Orleans, La.	123	81	21	13	2	4	-
San Antonio, Tex.	176	119	35	12	8	2	6
Shreveport, La.	32	17	8	4	1	1	3
Tulsa, Okla.	105	74	20	8	1	2	6
MOUNTAIN	774	534	139	69	21	11	41
Albuquerque, N.M.	85	53	16	15	1	-	3
Colo. Springs, Colo.	43	32	7	3	-	1	5
Denver, Colo.	105	58	25	12	3	7	11
Las Vegas, Nev.	129	85	27	13	3	1	4
Ogden, Utah	21	19	2	-	-	-	1
Phoenix, Ariz.	137	110	17	6	3	1	9
Pueblo, Colo.	19	12	3	2	2	-	-
Salt Lake City, Utah	91	63	17	9	2	-	4
Tucson, Ariz.	144	102	25	9	7	1	4
PACIFIC	1,480	945	249	192	56	22	95
Berkeley, Calif.	U	U	U	U	U	U	U
Fresno, Calif.	71	53	7	6	2	2	1
Glendale, Calif.	21	15	5	-	1	-	1
Honolulu, Hawaii	76	58	12	1	1	4	4
Long Beach, Calif.	87	63	11	9	3	1	11
Los Angeles, Calif.	499	270	89	91	32	2	17
Pasadena, Calif.	U	U	U	U	U	U	U
Portland, Oreg.	U	U	U	U	U	U	U
Sacramento, Calif.	135	86	23	16	4	6	11
San Diego, Calif.	U	U	U	U	U	U	U
San Francisco, Calif.	137	74	37	21	2	3	12
San Jose, Calif.	146	95	30	15	4	2	17
Santa Cruz, Calif.	38	31	2	4	1	-	6
Seattle, Wash.	141	100	20	16	3	2	4
Spokane, Wash.	50	44	4	2	-	-	3
Tacoma, Wash.	79	56	9	11	3	-	8
TOTAL	11,523¶	7,355	2,188	1,279	439	241	625

*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.

AIDS — Continued

Hispanics; most (60%) IDU-associated cases among blacks and Hispanics were reported in the Northeast and Puerto Rico. Male-male sex was the primary exposure among Asians/Pacific Islanders and American Indians/Alaskan Natives. The proportion of AIDS cases with no reported risk for HIV infection was greater among racial/ethnic minorities than among whites.

In geographic locations outside the Northeast, patterns of HIV exposure among blacks and Hispanics varied substantially. Among black males with AIDS, male-male sex was the most common mode of exposure in the District of Columbia, the U.S. Virgin Islands, and 32 (67%) of 48 states that reported AIDS cases among black males. Among Hispanic males, male-male sex was the most common exposure in the District of Columbia and 34 (71%) of 48 states that reported cases among Hispanic males. Among black females, IDU was the most common exposure in the District of Columbia and 23 (52%) of 44 states that reported AIDS cases among black females, and heterosexual contact was the leading exposure in 20 (45%) states. Among Hispanic females, heterosexual contact was the most common exposure in the District of Columbia, Puerto Rico, and 19 (54%) of 35 states that reported AIDS cases among Hispanic females, and IDU was the leading exposure in 10 (29%) states.

Reported by: Local, state, and territorial health depts. Div of HIV/AIDS, National Center for Infectious Diseases, CDC.

Editorial Note: Following the 1993 expansion of the AIDS surveillance case definition, the number of AIDS cases reported among racial/ethnic minorities in 1993 increased 135% over that in 1992, while the number among whites increased 114%. The greater increase in cases among racial/ethnic minorities is consistent with trends in the number of AIDS cases reported in previous years, representing a continued increase in the epidemic among certain minority populations. However, because the increase in cases reported in 1993 reflects a transient effect of the expansion of the AIDS surveillance case definition, the number of AIDS cases reported in 1994 is expected to be lower than that in 1993 (*1*).

AIDS surveillance may underestimate the number of AIDS cases reported among certain minority populations because of misclassification of race/ethnicity on medical records, which are the source for AIDS case reports. For example, a study conducted during June 1990–August 1992 that compared self-reported race/ethnicity with that listed on AIDS case reports indicated that AIDS cases among Asians/Pacific Islanders (12 cases), American Indians/Alaskan Natives (14), and Hispanics (249) were underreported by 25%, 21%, and 18%, respectively; in comparison, AIDS cases among whites and blacks were overreported by 4% and 2%, respectively (*2*).

The increase in the number of persons with AIDS has greatly affected death rates for racial/ethnic minorities, particularly young adults. In 1991, among males aged 25–44 years, HIV infection was the leading cause of death for blacks and Hispanics and the sixth leading cause for Asians/Pacific Islanders and American Indians/Alaskan Natives. Among females in this age group, HIV infection was the third leading cause of death for blacks and Hispanics, the seventh for American Indians/Alaskan Natives, and the ninth for Asians/Pacific Islanders. Provisional mortality data for 1992** indicate that HIV infection was the second leading cause of death among black females aged 25–44

**Provisional data were available only for blacks and whites without stratification by Hispanic ethnicity.

AIDS — Continued

years (*3*); in 1991, the HIV/AIDS death rate for all black females was approximately 10 times the rate for white females (*4*).

Most AIDS cases classified as having no reported risk for HIV infection will be reclassified into one of the known exposure groups after additional follow-up. A greater proportion of racial/ethnic minorities than whites may be initially classified without an HIV risk because of unrecognized heterosexual transmission, the diagnosis of AIDS at or near death, and language and cultural differences that make risk ascertainment more difficult.

Although race and ethnicity are not risk factors for HIV transmission, they are markers for underlying social, economic, and cultural factors and personal behaviors that affect health (*5*). Socioeconomic status in particular is associated with morbidity and premature mortality (*6*); unemployment, poverty, and illiteracy are correlated with decreased access to health education, preventive services, and medical care, resulting in an increased risk for disease (*5*). In 1992, 33% of blacks and 29% of Hispanics lived below the federal poverty level,[††] compared with 13% of Asians/ Pacific Islanders and 10% of whites (*7*). Therefore, the social, economic, and cultural context of HIV infection should be considered when designing and implementing prevention programs for diverse populations.

Although IDUs in the Northeast and Puerto Rico accounted for 24% of all AIDS cases reported among racial/ethnic minorities, AIDS rates and modes of HIV exposure varied greatly among minority populations in other areas of the country. HIV serosurveillance studies have demonstrated similar patterns (*8*). In addition, the incidence of AIDS and the distribution of HIV exposures among Hispanics and Asians/Pacific Islanders vary in relation to their place of birth (*9,10*). These geographic and racial/ethnic differences are directly related to variations in the prevalence of HIV infection, the type and frequency of behaviors associated with HIV transmission, and the time of introduction of HIV into the specific communities; and indirectly related to the social, economic, and cultural influences within those communities.

Because the epidemiology of HIV infection varies considerably by geographic region and among racial/ethnic populations, preventive interventions should be developed at the local level to ensure that they reflect the language, culture, and behavioral norms of the targeted community. CDC is collaborating with local, state, and territorial health departments to establish planning groups composed of community representatives, epidemiologists, behavioral scientists, and other public health practitioners who will participate in the development and implementation of HIV-prevention programs.

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[††] Poverty statistics are based on definitions originated by the Social Security Administration in 1964, subsequently modified by the federal interagency committees in 1969 and 1980, and prescribed by the Office of Management and Budget as the standard to be used by federal agencies for statistical purposes.

AIDS — Continued

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Epidemiologic Notes and Reports

Prilocaine-Induced Methemoglobinemia — Wisconsin, 1993

Methemoglobinemia is an uncommon disorder in which hemoglobin is not oxidized and not capable of binding oxygen. This condition may be associated with exposure to nitrate-contaminated drinking water, aniline dyes, and amide-containing medications. Ortho-toluidine, a metabolite of the anesthetic prilocaine, also can induce this condition (*1*). During March–August 1993, three Wisconsin women treated by the same oral surgeon developed methemoglobinemia after being injected with a prilocaine-based local anesthetic. The surgeon notified the Division of Health, Wisconsin Department of Health and Social Services, of these cases 1 week after the third case occurred. This report summarizes the case investigations.

Case 1. A 22-year-old woman (body weight: 127 lbs [58 kg]) sought care at an emergency department (ED) for dizziness approximately 5 hours after her oral surgeon extracted four wisdom teeth. The oral surgeon had administered anesthetic of 560 mg prilocaine (4.4 mg per pound [9.7 mg/kg] of body weight) by local injection and 90 mg methohexital sodium, 10 mg diazepam, and 6 mg dexamethasone sodium phosphate by intravenous infusion. On examination in the ED, the patient was alert but reported slight dizziness. The emergency physician noted perioral and nailbed cyanosis. Her oral temperature was 99.1 F (37.3 C); pulse, 108/minute; respirations, 20/minute; and blood pressure, 130/90 mmHg. A sample of venous blood was described as brown and indicated a methemoglobin level of 27%. Methemoglobinemia was diagnosed, and treatment was initiated with oxygen; in addition, 100 mg methylene blue was administered intravenously over 5 minutes. Within 1 hour, the patient was discharged. She recovered fully.

Case 2. A 33-year-old woman (body weight: 112 lbs [51 kg]) was transported by ambulance from her oral surgeon's office to an ED 4 hours after extraction of four wisdom teeth. Her symptoms included fatigue, cyanosis, and orthostatic hypotension with syncope. The oral surgeon had administered 560 mg prilocaine (5.0 mg per pound [11.0 mg/kg] of body weight) by local injection and 60 mg methohexital so-

Methemoglobinemia — Continued

dium, 10 mg diazepam, and 0.025 mg fentanyl intravenously. On examination in the ED, her oral temperature was 98.1 F (36.7 C); pulse, 66/minute; respirations, 12/minute; blood pressure, 122/88 mmHg; and peripheral oxygen saturation, 89%. A venous blood sample revealed a methemoglobin level of 28%. Methemoglobinemia was diagnosed, and she was administered oxygen through a nasal cannula and 100 mg methylene blue intravenously over 5 minutes. One hour after treatment, her methemoglobin level was 2%, and the patient was discharged. She recovered fully.

Case 3. A 17-year-old female (body weight: 105 lbs [48 kg]) was transported by ambulance from her oral surgeon's office to an ED after she developed tachycardia, drowsiness, and shakiness while being prepared for extraction of four wisdom teeth. The oral surgeon had administered 480 mg prilocaine (4.6 mg per pound [10.1 mg/kg] of body weight) by local injection and 7.5 mg diazepam, 6 mg dexamethasone sodium phosphate, and 0.025 mg fentanyl intravenously. The patient had been taking an oral contraceptive and, 1 week earlier, her physician had begun treating her with amitriptyline for headaches. In addition, she had a history of exercise-induced asthma and allergies to amoxicillin and cefaclor. On examination in the ED, she was alert and oriented. Her oral temperature was 98.1 F (36.7 C); pulse, 110/minute; respirations, 20/minute; blood pressure, 120/92 mmHg; peripheral oxygen saturation, 89%; and methemoglobin level, 10.7%. Methemoglobinemia was diagnosed, and she was treated with oxygen through a nasal cannula and an intravenous infusion of normal saline. The patient was hospitalized overnight for observation and recovered fully.

Reported by: L Knobeloch, PhD, J Goldring, PhD, W LeMay, DDS, H Anderson, MD, Environmental Epidemiologist, Div of Health, Wisconsin Dept of Health and Social Svcs.

Editorial Note: Prilocaine is a lidocaine homologue and the only secondary amine local anesthetic that remains in clinical use. Prilocaine is biotransformed by hepatic amidase to aminophenol metabolites (i.e., ortho-toluidine and N-propylalanine), which subsequently can oxidize hemoglobin to methemoglobin. Administration of prilocaine in doses exceeding 400 mg has been associated with methemoglobinemia in adults. Proportionately lower doses may cause this problem in children (*1*). Methemoglobin levels above 10% may result in clinical anoxia (*2*), and levels above 60% can cause stupor, coma, and death.

The findings in this report indicate that doses of prilocaine only slightly exceeding the recommended therapeutic dose have the potential to cause methemoglobinemia. The manufacturer's package insert for prilocaine recommends a therapeutic dose of 4 mg/lb* (8 mg/kg) for "normal healthy adults," with a maximum dose of 600 mg indicated for persons weighing 150 lbs (68 kg) or more. For persons weighing less than 150 lbs (68 kg), the maximum dose must be accurately adjusted for body weight to reduce the risk for adverse effects. The Food and Drug Administration (FDA) has investigated the incidents in this report and recommends that the manufacturer update the package insert for prilocaine to emphasize the importance of adjusting dosage for body weight, particularly for persons weighing less than 150 lbs (68 kg).

During January 1992–September 1993, FDA received nine reports of prilocaine-induced methemoglobinemia. However, methemoglobinemia may be underreported because 1) some persons may develop only mild symptoms that do not require medi-

*This recommendation allows slightly higher doses of prilocaine when body weight is measured in pounds rather than kilograms (8 mg/kg=3.6 mg/lb).

Methemoglobinemia — Continued

cal care, 2) some cases may not be recognized as prilocaine-induced, and 3) only drug manufacturers are required by law to report these events.

Oral surgeons and other health practitioners should use accurate body weight information to calculate safe doses of prilocaine and should know that doses exceeding 4.0 mg per pound (8 mg/kg) of body weight pose a risk to healthy adults. The risk for adverse effects associated with prilocaine use is increased for infants, persons with underlying health problems (i.e., anemia or diseases affecting the respiratory or cardiovascular systems), persons with hereditary deficiencies of glucose-6-phosphate dehydrogenase and methemoglobin reductase, and persons taking other oxidant drugs (e.g., nitrite-containing medications, sulfonamides, antimalarials, or acetaminophen).

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Epidemiologic Notes and Reports

Outbreak of *Shigella flexneri* 2a Infections on a Cruise Ship

During August 29–September 1, 1994, an outbreak of gastrointestinal illness occurred on the cruise ship *Viking Serenade* (Royal Caribbean Cruises, Ltd.) during its roundtrip voyage from San Pedro, California, to Ensenada, Mexico. A total of 586 (37%) of 1589 passengers and 24 (4%) of 594 crew who completed a survey questionnaire reported having diarrhea or vomiting during the cruise. One death occurred in a 78-year-old man who was hospitalized in Mexico with diarrhea. *Shigella flexneri* 2a has been isolated from fecal specimens from at least 12 ill passengers. Antimicrobial susceptibility testing of representative isolates indicated resistance to tetracycline and susceptibility to ampicillin and trimethoprim-sulfamethoxazole. The subsequent two cruises of the ship were canceled. Investigation of the mode of transmission is under way.

Additional information is available from the Vessel Sanitation Program, Special Programs Group, National Center for Environmental Health, telephone (305) 539-6730.

Reported by: Communicable Disease Control, Los Angeles County Dept of Health Svcs; Div of Communicable Disease Control, California Dept of Health Svcs. Foodborne and Diarrheal Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases; Vessel Sanitation Program, Special Programs Group, National Center for Environmental Health; Div of Field Epidemiology, Epidemiology Program Office, CDC.

Notice to Readers

Uveitis Associated with Rifabutin Therapy

In 1993, the Public Health Service Task Force recommended use of Mycobutin* (rifabutin) at a daily dose of 300 mg for prophylaxis for disseminated *Mycobacterium avium* complex (MAC) infection in patients with human immunodeficiency virus (HIV) infection and <100 CD4+ T-lymphocytes/μL (*1*). However, uveitis (an inflammatory eye condition characterized by pain, redness, and possible temporary or permanent loss of vision) has been associated with rifabutin therapy.

Uveitis has occurred among participants in several trials for treatment and prophylaxis of MAC in which rifabutin was administered at daily doses of 300–900 mg per day in combination with other agents, particularly clarithromycin and/or fluconazole [*2–4*; C. Benson, Rush-Presbyterian St. Luke's hospital, Chicago, personal communication, 1994). Patients who developed uveitis have had mild to severe symptoms that resolved after treatment with corticosteroid and/or mydriatic eye drops; in some severe cases, however, resolution of symptoms occurred after several weeks. Uveitis occurred an average of 2–4 months after initiation of treatment for MAC (*2)*.

Uveitis is rare when rifabutin is used as a single agent at 300 mg/day for prophylaxis of MAC in HIV-infected persons, even with the concomitant use of fluconazole or macrolide antibiotics. However, if higher doses of rifabutin are administered in combination with these agents, clinicians should be alert to the possibility of uveitis. Patients should be instructed to report symptoms of uveitis (i.e., pain, redness, and loss of vision) to their physician.

For patients with uveitis, temporary discontinuation of rifabutin and ophthalmologic evaluation are recommended. In most mild cases, using rifabutin again is acceptable; however, if signs or symptoms recur, use of rifabutin should be discontinued.

Physicians are encouraged to report cases of uveitis to the Food and Drug Administration's MedWatch Program, telephone (800) 332-1088 ([301] 738-7553).

Reported by: Div of Antiviral Drug Products, Center for Drug Evaluation and Research, Food and Drug Administration, Rockville, Maryland. Div of HIV/AIDS, National Center for Infectious Diseases, CDC.

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*Use of trade names and commercial sources is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Notice to Readers

Publication of *HIV/AIDS Surveillance Report*

CDC recently released the 1993 *HIV/AIDS Surveillance Report* (*1*). The report includes the final tabulations of data reported from January through December 1993 under the 1993 expanded AIDS surveillance case definition (*2*) for adolescents and adults. As a result, some tabulations in this report vary slightly from the provisional totals reported previously in *MMWR* (*3,4*). This publication also initiates the presentation of HIV data from 26 states with confidential HIV reporting.

Single copies of the *HIV/AIDS Surveillance Report* are available free from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003; telephone 1-800-458-5231 ([301] 217-0023). Persons or organizations can be added to the mailing list by writing to MASO/MSB/IDS, CDC, Building 1, Room B43, Mailstop A-22, 1600 Clifton Road, NE, Atlanta, GA 30333.

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Notice to Readers

Prevention of Opportunistic Infections

CDC, the National Institutes of Health, and the Infectious Diseases Society of America are sponsoring a meeting, "Prevention of Opportunistic Infections," September 26–27, 1994, in Atlanta to review the recommendations for preventing opportunistic infections in persons infected with human immunodeficiency virus. Additional information is available from Conference Manager, Technical Resources International, Inc., Suite 200, 3202 Tower Oaks Boulevard, Rockville, MD 20852; telephone (301) 770-3153.

Erratum: Vol. 43, No. 34

In the article "Arenavirus Infection—Connecticut, 1994" on page 635, the last sentence of the second paragraph should read "Laboratory evaluation included a negative malaria smear..., and alanine aminotransferase (ALT) of *63* U/L (upper limit normal: 35 U/L).

The *Morbidity and Mortality Weekly Report (MMWR)* Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 783-3238.

The data in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. Inquiries about the *MMWR* Series, including material to be considered for publication, should be directed to: Editor, *MMWR* Series, Mailstop C-08, Centers for Disease Control and Prevention, Atlanta, GA 30333; telephone (404) 332-4555.

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