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MORBIDITY AND MORTALITY WEEKLY REPORT

Epidemiologic Notes and Reports

Tuberculosis and Acquired Immunodeficiency Syndrome — New York City

In recent years, reported tuberculosis (TB) cases in New York City (NYC) have increased substantially, in large part related to coexisting human immunodeficiency virus (HIV) and *Mycobacterium tuberculosis* infection. From 1984 to 1986, reported TB cases increased by 36%, or 593 cases (from 1,630 to 2,223 cases) (Figure 1), a numerical increase greater than that for any state or any other city in the nation. By comparison, during the same period, reported cases for the entire nation increased 2%, or 513 (from 22,255 to 22,768).

Because the increased TB morbidity in NYC was concurrent with the acquired immunodeficiency syndrome (AIDS) epidemic and was concentrated in the group with 80% of all NYC AIDS patients (males 20-49 years of age), a special study was conducted to evaluate the hypothesis that increased TB morbidity might be related to AIDS. The NYC TB registry for 1979 through 1985 and the NYC AIDS registry for 1981 through 1985 were matched.* To determine differences in clinical, demographic, and behavioral characteristics of persons with one or both diseases, patients with both TB and AIDS (TB/AIDS) were compared with AIDS patients without TB and with TB patients without AIDS. Only adults and adolescents (persons 13 years of age or older at diagnosis) were compared because no pediatric patients with both diseases were identified.

TB/AIDS Patients

The 261 patients common to both registries constituted 2% of the 11,231 adult and adolescent TB patients reported to the NYC TB registry from 1979 through 1985 and 5% of the 4,892 adult and adolescent AIDS patients reported to the NYC AIDS registry from 1981 through 1985. Eighty-seven percent (226) of these 261 patients were male; 52% (136) were black; 29% (76) were Hispanic; and 19% (49) were non-Hispanic white. The median age for diagnosis of both TB and AIDS was 34 years.

*These time intervals were chosen because AIDS was first recognized nationally in 1981 and because it was noted that the diagnosis of tuberculosis often preceded the diagnosis of AIDS by months or years.

A notice regarding changes in telephone numbers throughout the Centers for Disease Control and the Agency for Toxic Substances and Disease Registry appears on page 800.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / PUBLIC HEALTH SERVICE

TB and AIDS — Continued

The date on which the first *M. tuberculosis*-positive specimen was taken was available for 258 TB/AIDS patients. For these patients, TB had been diagnosed a median of 2 months before AIDS diagnosis (range: 94 months before AIDS diagnosis to 28 months after AIDS diagnosis). For 65% of the patients, TB was diagnosed within 6 months before or after AIDS diagnosis.

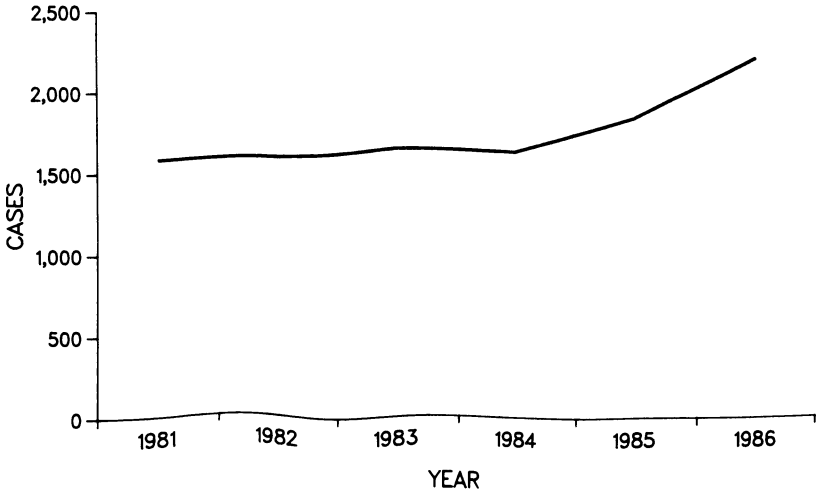
Adult and Adolescent AIDS Patients With and Without TB

TB/AIDS patients and AIDS patients without TB were similar in median age at AIDS diagnosis (34 compared with 36 years) and in gender. However, TB/AIDS patients were more likely to be non-Haitian black, Haitian, and Hispanic than AIDS patients without TB (Table 1). In addition, TB/AIDS patients reported intravenous (IV) drug abuse more frequently and homosexual/bisexual activity alone less frequently than patients with AIDS alone. Among non-Haitian-black IV drug abusers, the percentage of TB/AIDS patients (10%) was more than twice that among both those with a history of homosexual/bisexual behavior (4%) and those with neither risk factor (4%) (Table 2). Among non-Hispanic-white IV drug abusers, the percentage of TB/AIDS patients (5%) was more than twice that among both those with a history of homosexual/bisexual behavior (2%) and those with neither risk factor (0%). Among Hispanic IV drug abusers, the percentage of TB/AIDS patients (8%) was higher than that among those with a history of homosexual/bisexual behavior (5%) and more than twice that among those with neither risk factor (3%). Thus, when the data on AIDS patients was adjusted for race/ethnicity, those AIDS patients who were IV drug abusers were significantly more likely to develop tuberculosis than those who were not (Mantel-Haenszel $\chi^2 = 18.7$, $p < 0.0001$).

Adult and Adolescent TB Patients With and Without AIDS

TB/AIDS patients were younger (median age at TB diagnosis: 34 years compared with 44 years) and more likely to be male than TB patients without AIDS. In addition, they were more likely at TB diagnosis to have more than one site of disease, extrapulmonary TB, and a nonreactive tuberculin skin test (Table 3). TB/AIDS patients with a pulmonary site of disease were less likely to have cavitary disease.

FIGURE 1. Reported tuberculosis cases, by year — New York City, 1981-1986



TB and AIDS — Continued

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Editorial Note: The data from this study, as well as other evidence presented below, suggest that human immunodeficiency virus (HIV) infection is causing a resurgence of TB in NYC. Three findings from this study support the hypothesis that AIDS is associated with the observed increase in TB morbidity. First, the increase in TB cases was concentrated in the sex and age group containing the majority of NYC AIDS patients (males 20-49 years of age). Second, a relatively high proportion of AIDS patients (5%) also had clinically active TB. Third, among patients with both diseases, TB diagnoses clustered in time around the AIDS diagnoses.

Perhaps the strongest evidence to date for a causal association between TB and HIV infection comes from a study among a cohort of 519 IV drug abusers in NYC who

TABLE 1. Adult and adolescent AIDS patients with TB (TB/AIDS) and without TB, by race/ethnicity and AIDS risk factor — New York City, 1981-1985

	TB/AIDS (n=261)		AIDS Only (n=4,631)	
Characteristics	**No.**	**(%)**	**No.**	**(%)**
Race/Ethnicity				
Black, Non-Haitian	107	(41)	1,279	(28)
Haitian	29	(11)	119	(3)
Hispanic	76	(29)	1,077	(23)
White, Non-Hispanic	49	(19)	2,113	(46)
Other/Unknown	0	—	43	(1)
Risk Factor				
IV Drug Abuse	127	(49)	1,303	(28)
Homosexuality/Bisexuality	81	(31)	2,709	(58)
Both of Above	22	(8)	265	(6)
Other	31	(12)	354	(8)

TABLE 2. Intravenous (IV) drug abuse and homosexuality/bisexuality among adult and adolescent AIDS patients* with TB (TB/AIDS) and without TB, by race/ethnicity and AIDS risk factor — New York City, 1981-1985

	IV Drug Abuse			Homo/Bisexuality			Both Factors			Neither Factor		
		TB/AIDS Cases			TB/AIDS Cases			TB/AIDS Cases			TB/AIDS Cases	
Race/Ethnicity	**AIDS Cases**	**No.**	**(%)**	**AIDS Cases**	**No.**	**(%)**	**AIDS Cases**	**No.**	**(%)**	**AIDS Cases**	**No.**	**(%)**
Black, Non-Haitian	669	70	(10)	509	21	(4)	101	12	(12)	107	4	(4)
White, Non-Hispanic	191	9	(5)	1,803	36	(2)	107	4	(4)	61	0	(0)
Hispanic	555	44	(8)	436	23	(5)	74	6	(8)	88	3	(3)
Total	**1,415**	**123**	**(9)**	**2,748**	**80**	**(3)**	**282**	**22**	**(8)**	**256**	**7**	**(3)**

*Excludes 148 Haitian AIDS patients, 29 of whom also had TB, and 43 patients with other or unknown race/ethnicity, none of whom also had TB.

TB and AIDS — Continued

were followed from 1984 through 1986 (*1*). In this group, 12 of the 279 persons with serologic evidence of HIV infection or clinical AIDS developed TB, whereas none of the 240 HIV-negative persons developed TB ($p = 0.0005$, Fischer's exact test).

Other evidence that HIV infection and AIDS may be responsible for the resurgence of TB in NYC includes the fact that NYC, the area with the largest increase in TB in the nation, has also reported more AIDS cases than any other area in the nation. The nearly 600 additional TB cases in 1986 (compared with 1984) exceeds the increase in the entire nation as a whole. Through 1986, 7,891 patients with AIDS, or 27% of the nation's cumulative reported cases (29,121), were NYC residents. Data also indicate that the greatest increases in TB in NYC occurred in areas of the city with a high incidence of AIDS.

Data suggest that HIV infection in the absence of AIDS is associated with increased TB morbidity (New York City Department of Health, unpublished data). In this study, 58 males who were 25-44 years of age and did not have AIDS but were hospitalized for suspected TB[†] consented to HIV antibody testing. Thirty-one (53%) of them were HIV positive.

Previously published studies have linked TB to AIDS in Florida (*2-3*), Newark (*4*), Connecticut (*5*), and San Francisco (*6*). Increased TB morbidity has been associated with HIV infection in Dade County, Florida (*7*). Of 71 consecutive TB patients seen at

[†]All 58 patients were later found positive for *M. tuberculosis*.

TABLE 3. Adult and adolescent TB patients with AIDS (TB/AIDS) and without AIDS, by demographic group and clinical characteristics of TB — New York City, 1979-1985

	TB/AIDS (n=261)		TB Only (n=10,970)	
Characteristics at TB Diagnosis	**No.**	**(%)**	**No.**	**(%)**
Sex				
Male	226	(87)	7,351	(67)
Female	35	(13)	3,619	(33)
Age 20-49 Years				
Yes	244	(93)	6,219	(57)
No	17	(7)	4,751	(43)
Disease Sites				
Multiple*	62	(24)	415	(4)
One, Extrapulmonary	58	(22)	1,741	(16)
One, Pulmonary	141	(54)	8,814	(80)
Tuberculin Skin Test[†]				
Nonreactive	50	(58)	792	(18)
Reactive	36	(42)	3,686	(82)
Chest X-ray[§]				
Normal	13	(8)	269	(3)
Abnormal, Noncavitary	131	(80)	5,410	(66)
Abnormal, Cavitary	20	(12)	2,576	(31)

*Includes at least one extrapulmonary site.
[†]Includes only patients with known tuberculin skin test results.
[§]Includes only those with pulmonary disease and known chest X-ray results.

TB and AIDS — Continued

the Dade County Public Health Department, 31% (22) were HIV positive. Two of these 22 patients met the former CDC surveillance criteria for AIDS; ten (45%) of the 22 had extrapulmonary TB and would thus meet the revised CDC surveillance case definition for AIDS (*8*).

There are two possible mechanisms by which the immunodeficiency caused by HIV infection may increase the risk of tuberculosis. HIV-related immunodeficiency could increase susceptibility to new infection and permit that infection to rapidly progress to clinically apparent disease, or it may allow a previously latent tuberculous infection to progress to clinically apparent disease. Although the clinical and radiographic evidence of tuberculosis in AIDS patients is often similar to the pattern observed in nonimmunodeficient patients with primary or recently acquired infection, the clustering of TB diagnoses around the time of the AIDS diagnoses suggests that most tuberculosis in patients with AIDS results from reactivation of a previously acquired latent infection. The present annual risk of new tuberculous infection in the United States is too low to account for the high incidence of tuberculosis among AIDS patients. Thus, most tuberculosis in AIDS patients is probably due to the reactivation of latent infections.

The registry match indicates that TB/AIDS patients in NYC are predominantly IV drug abusers. Fifty-seven percent of the TB/AIDS patients in this study were IV drug abusers, whereas 34% of AIDS patients without TB had this risk factor. The number of reported TB patients in NYC who are IV drug abusers is currently unknown. There are an estimated 200,000 IV drug abusers in NYC, 30,000 of whom are enrolled in methadone treatment programs. These estimates, along with the fact that 12 TB cases developed in a cohort of 519 IV drug abusers, that IV drug abuse is the most common risk factor among TB/AIDS patients, and that NYC had 600 more cases in 1986 than it had in 1984, suggest that many unreported or unidentified TB cases may be occurring annually among HIV-positive IV drug abusers. Identifying tuberculin-positive IV drug abusers and giving them isoniazid preventive therapy, regardless of their age, may prevent TB among this group.

The registry match also indicates that most TB/AIDS patients in NYC are members of racial and ethnic minorities. Eighty-one percent of the TB/AIDS patients were black (including Haitian) or Hispanic, whereas 53% of AIDS patients without TB and 68% of TB patients without AIDS (50% black and 18% Hispanic) belonged to these groups.

Patients with AIDS or HIV infection who also develop TB often have clinical findings[5] that are different from those of TB patients without immunodeficiency (*2-8*), and a high index of suspicion and special diagnostic studies are often needed to establish the diagnosis of TB in these patients (*9*). HIV-infected persons who have active TB should be treated in accordance with recently published guidelines (*9*).

HIV testing of all TB patients should be considered because of the implications of HIV seropositivity for patient management (*10*). There is some evidence that TB patients with HIV infection do not respond to standard therapies as well as patients without HIV infection. Some reports have suggested a higher incidence of adverse drug reactions (*6*) and a higher treatment-failure rate during therapy (*4*). Therefore, CDC and the American Thoracic Society have recommended a more aggressive approach to treatment of TB in HIV-infected patients (*9,11*). Treatment should initially include at least three of the drugs available for treatment of TB, should continue for

[5]Multiple disease sites, extrapulmonary involvement, loss of tuberculin skin reactivity, and, among patients with pulmonary disease, noncavitary chest X-rays.

TB and AIDS — Continued

a minimum of 9 months, and should last for at least 6 months after the patient becomes negative for *M. tuberculosis.* HIV-infected patients with tuberculosis should receive frequent and careful monitoring for adverse drug effects during therapy and should be periodically evaluated for signs of relapse after therapy is complete. To prevent the transmission of HIV, persons being tested for HIV infection should be counseled in accordance with current recommendations (*12*).

Increases in TB morbidity may occur in other areas as the prevalence of HIV increases in these areas. Health departments should conduct surveys of the prevalence of HIV infection among TB patients in their jurisdictions. CDC is currently working with health departments in 30 metropolitan areas to plan and implement such surveys.

(Continued on page 795)

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

Disease	48th Week Ending			Cumulative, 48th Week Ending		
	Dec. 5, 1987	Nov. 29, 1986	Median 1982-1986	Dec. 5, 1987	Nov. 29, 1986	Median 1982-1986
Acquired Immunodeficiency Syndrome (AIDS)	828	75	N	18,853	12,187	N
Aseptic meningitis	154	164	222	10,477	10,083	9,631
Encephalitis: Primary (arthropod-borne & unspec)	11	16	22	1,190	1,128	1,220
Post-infectious	2	-	1	92	98	98
Gonorrhea: Civilian	13,569	15,056	15,532	708,207	821,053	821,053
Military	209	237	240	15,000	15,563	19,545
Hepatitis: Type A	465	439	455	22,526	21,042	21,042
Type B	442	412	486	23,300	23,737	23,737
Non A, Non B	28	43	N	2,656	3,245	N
Unspecified	63	59	111	2,871	4,031	5,297
Legionellosis	7	9	N	804	756	N
Leprosy	4	4	4	182	236	221
Malaria	10	15	14	794	1,045	951
Measles: Total*	9	29	15	3,554	5,919	2,516
Indigenous	9	28	N	3,134	5,615	N
Imported	-	1	N	420	304	N
Meningococcal infections: Total	38	36	46	2,636	2,282	2,461
Civilian	38	36	46	2,635	2,280	2,457
Military	-	-	-	1	2	7
Mumps	206	179	67	11,758	4,911	3,044
Pertussis	51	38	38	2,314	3,903	2,174
Rubella (German measles)	5	3	8	325	505	707
Syphilis (Primary & Secondary): Civilian	644	571	521	33,171	25,010	25,709
Military	3	5	3	145	152	271
Toxic Shock syndrome	6	8	N	302	330	N
Tuberculosis	429	261	499	19,634	20,097	20,097
Tularemia	1	-	3	182	153	239
Typhoid Fever	19	4	4	327	298	354
Typhus fever, tick-borne (RMSF)	2	2	4	578	731	821
Rabies, animal	68	54	87	4,308	5,041	5,041

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1987		Cum. 1987
Anthrax	1	Leptospirosis (Calif.1; Hawaii 1)	36
Botulism: Foodborne (N.Y. City 2)	12	Plague (Ariz. 1)	11
Infant	44	Poliomyelitis, Paralytic	-
Other	2	Psittacosis (Md. 1)	76
Brucellosis (Mass. 1; Calif.2)	103	Rabies, human	-
Cholera	4	Tetanus (Calif.1)	37
Congenital rubella syndrome	5	Trichinosis	33
Congenital syphilis, ages < 1 year	127	Typhus fever, flea-borne (endemic, murine)	34
Diphtheria	3		

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

TABLE III. Cases of specified notifiable diseases, United States, weeks ending December 5, 1987 and November 29, 1986 (48th Week)

Reporting Area	AIDS	Aseptic Menin-gitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionel-losis	Leprosy
			Primary	Post-in-fectious			A	B	NA,NB	Unspeci-fied		
	Cum. 1987	1987	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1986	1987	1987	1987	1987	1987	Cum. 1987
UNITED STATES	18,853	154	1,190	92	708,207	821,053	465	442	28	63	7	182
NEW ENGLAND	799	7	43	2	22,060	20,207	23	35	1	4	-	12
Maine	27	-	4	-	654	789	-	2	-	-	-	-
N.H.	29	-	2	-	375	530	-	-	-	-	-	2
Vt.	14	4	5	-	203	246	1	5	-	-	-	-
Mass.	456	2	17	1	7,736	7,983	16	22	1	4	-	9
R.I.	60	1	3	1	2,003	1,710	4	-	-	-	-	-
Conn.	213	-	12	-	11,089	8,949	2	6	-	-	-	1
MID. ATLANTIC	5,401	19	134	7	110,584	142,830	36	72	5	6	-	20
Upstate N.Y.	663	6	48	3	15,428	17,246	22	11	1	-	-	-
N.Y. City	2,849	7	12	-	59,422	82,811	3	24	2	2	-	20
N.J.	1,317	3	10	-	15,133	18,130	10	28	2	3	-	-
Pa.	572	3	64	4	20,601	24,643	1	9	-	1	-	-
E.N. CENTRAL	1,235	25	345	13	108,429	110,514	17	46	1	1	1	8
Ohio	279	9	155	6	24,859	27,344	3	10	-	-	-	3
Ind.	102	7	53	-	8,789	11,380	3	6	-	-	-	-
Ill.	548	-	25	7	31,217	25,340	4	3	-	1	-	1
Mich.	210	9	76	-	34,605	34,655	7	27	1	-	1	3
Wis.	96	-	36	-	8,959	11,543	-	-	-	-	-	1
W.N. CENTRAL	423	5	85	-	28,547	35,216	15	7	1	-	-	-
Minn.	110	1	51	-	4,255	5,084	-	3	-	-	-	-
Iowa	25	1	13	-	2,791	3,603	1	-	-	-	-	-
Mo.	220	2	1	-	15,231	17,429	11	2	1	-	-	-
N. Dak.	2	-	1	-	261	289	-	-	-	-	-	-
S. Dak.	2	1	-	-	561	720	3	-	-	-	-	-
Nebr.	18	-	10	-	1,877	2,603	-	2	-	-	-	-
Kans.	46	-	9	-	3,571	5,488	-	-	-	-	-	-
S. ATLANTIC	3,226	23	160	34	185,794	212,539	13	70	1	1	2	6
Del.	28	-	7	1	3,167	3,483	-	1	-	-	-	-
Md.	406	10	19	7	21,420	25,081	5	31	-	-	2	2
D.C.	419	1	-	-	12,395	15,870	1	1	-	-	-	-
Va.	218	1	38	2	13,555	17,475	1	1	-	-	-	-
W. Va.	20	-	54	-	1,297	2,053	-	-	-	-	-	-
N.C.	166	5	26	-	27,962	32,829	-	13	1	-	-	-
S.C.	72	1	1	-	14,192	17,943	1	9	-	-	-	1
Ga.	457	3	1	-	33,135	35,232	3	8	-	-	-	-
Fla.	1,440	2	14	24	58,671	62,573	2	6	-	1	-	3
E.S. CENTRAL	281	5	60	7	53,462	65,480	7	18	2	-	-	-
Ky.	43	-	31	1	5,359	7,214	5	3	-	-	-	-
Tenn.	65	-	12	-	18,830	24,793	2	7	2	-	-	-
Ala.	142	5	17	1	16,755	19,225	-	5	-	-	-	-
Miss.	31	-	-	5	12,518	14,248	-	3	-	-	-	-
W.S. CENTRAL	1,934	31	145	4	79,845	95,137	63	70	-	15	2	4
Ark.	45	1	2	2	9,007	9,020	13	5	-	1	-	-
La.	306	2	28	-	13,158	16,230	1	26	-	-	-	-
Okla.	96	4	26	1	8,634	10,917	21	4	-	2	2	-
Tex.	1,487	24	89	1	49,046	58,970	28	35	-	12	-	4
MOUNTAIN	552	7	73	4	18,492	24,035	99	21	7	8	-	2
Mont.	6	-	1	-	517	633	-	-	-	1	-	-
Idaho	10	-	-	-	635	800	10	4	-	-	-	1
Wyo.	3	-	1	-	399	500	-	1	-	-	-	-
Colo.	205	1	42	-	4,190	6,208	9	1	-	6	-	-
N. Mex.	45	1	5	-	2,016	2,556	14	4	-	-	-	-
Ariz.	168	5	18	1	6,288	7,783	52	7	4	-	-	-
Utah	39	-	1	3	595	1,029	14	-	2	1	-	-
Nev.	76	-	5	-	3,852	4,526	-	4	1	-	-	1
PACIFIC	5,002	32	145	21	100,994	115,095	192	103	10	28	2	130
Wash.	317	-	11	4	8,140	8,476	43	19	3	4	-	6
Oreg.	153	-	-	-	3,708	5,051	32	22	-	1	-	1
Calif.	4,445	25	129	17	86,828	98,190	111	61	7	23	2	100
Alaska	14	1	2	-	1,547	2,437	6	1	-	-	-	-
Hawaii	73	6	3	-	771	1,193	-	-	-	-	-	23
Guam	3	-	-	-	179	201	-	-	-	-	-	-
P.R.	158	-	1	1	1,763	2,237	1	2	-	-	-	5
V.I.	-	-	-	-	268	254	1	1	-	-	-	-
Pac. Trust Terr.	-	-	-	-	351	444	-	-	-	-	-	48
Amer. Samoa	-	-	-	-	76	53	-	-	-	-	-	1

N: Not notifiable U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending December 5, 1987 and November 29, 1986 (48th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986
UNITED STATES	794	9	3,134	-	420	5,919	2,636	206	11,758	51	2,314	3,903	5	325	505
NEW ENGLAND	53	-	119	-	163	103	218	-	60	3	161	159	1	2	9
Maine	2	-	3	-	-	13	13	-	1	-	28	2	-	1	-
N.H.	2	-	61	-	102	43	20	-	11	-	39	82	-	-	1
Vt.	-	-	11	-	15	-	18	-	7	-	4	3	-	-	1
Mass.	22	-	27	-	39	36	108	-	23	-	55	42	1	1	4
R.I.	8	-	1	-	1	2	14	-	2	2	5	6	-	-	2
Conn.	19	-	16	-	6	9	45	-	16	1	30	24	-	-	1
MID. ATLANTIC	109	3	528	-	57	1,763	341	4	264	9	282	202	-	12	37
Upstate N.Y.	33	1	27	-	14	101	118	-	109	6	162	125	-	10	27
N.Y. City	23	2	446	-	19	727	34	-	10	-	13	10	-	1	5
N.J.	27	-	32	-	7	909	67	4	75	3	20	20	-	1	5
Pa.	26	-	23	-	17	26	122	-	70	-	87	47	-	-	-
E.N. CENTRAL	51	-	360	-	25	1,088	401	34	6,388	-	236	389	-	37	77
Ohio	13	-	1	-	4	10	134	-	113	-	74	166	-	-	1
Ind.	7	-	-	-	-	38	42	-	934	-	17	35	-	-	-
Ill.	7	-	187	-	18	679	98	11	2,616	-	17	39	-	27	67
Mich.	18	-	29	-	-	75	102	23	1,053	-	49	35	-	9	8
Wis.	6	-	143	-	3	286	25	-	1,672	-	79	111	-	1	1
W.N. CENTRAL	28	-	208	-	22	340	107	11	1,414	2	136	1,345	-	2	14
Minn.	8	-	19	-	20	49	30	-	781	-	13	48	-	-	1
Iowa	6	-	-	-	-	134	5	10	446	1	58	19	-	1	1
Mo.	8	-	188	-	1	32	31	1	33	1	34	22	-	-	1
N. Dak.	-	-	1	-	-	25	1	-	6	-	12	5	-	-	1
S. Dak.	-	-	-	-	-	-	3	-	90	-	3	14	-	-	-
Nebr.	5	-	-	-	-	1	6	-	4	-	1	10	-	-	-
Kans.	1	-	-	-	1	99	31	-	54	-	15	1,227	-	1	10
S. ATLANTIC	139	3	158	-	13	859	436	4	300	-	310	754	-	18	11
Del.	3	-	32	-	-	1	7	-	-	-	5	227	-	2	-
Md.	33	3	9	-	2	35	43	2	30	-	19	164	-	3	-
D.C.	19	-	-	-	1	2	10	-	1	-	-	-	-	1	-
Va.	25	-	1	-	-	60	67	-	80	-	52	41	-	1	-
W. Va.	2	-	-	-	-	2	5	1	40	-	50	26	-	-	-
N.C.	13	-	2	-	4	4	52	1	30	-	119	79	-	1	-
S.C.	6	-	2	-	-	301	39	-	19	-	-	18	-	-	-
Ga.	5	-	9	-	1	93	88	-	40	-	23	132	-	2	-
Fla.	33	-	103	-	5	361	125	-	60	-	42	67	-	8	11
E.S. CENTRAL	15	-	5	-	3	70	138	99	1,374	-	47	49	-	3	4
Ky.	3	-	-	-	-	6	24	50	273	-	2	5	-	2	4
Tenn.	1	-	-	-	-	56	61	49	1,039	-	15	18	-	1	-
Ala.	5	-	1	-	3	2	44	-	61	-	24	25	-	-	-
Miss.	6	-	4	-	-	6	9	N	N	-	6	1	-	-	-
W.S. CENTRAL	53	-	444	-	4	723	177	34	1,268	28	304	250	-	11	71
Ark.	1	-	-	-	-	283	21	2	293	-	13	20	-	2	1
La.	1	-	-	-	-	4	23	9	665	-	50	15	-	-	-
Okla.	5	-	3	-	1	39	24	N	N	1	163	126	-	5	-
Tex.	46	-	441	-	3	397	109	8	294	27	78	89	-	4	70
MOUNTAIN	41	1	480	-	19	330	86	7	231	7	203	273	-	25	24
Mont.	-	-	127	-	1	8	4	1	7	-	6	20	-	8	2
Idaho	3	-	-	-	-	1	6	1	7	-	65	46	-	1	-
Wyo.	2	-	-	-	2	-	-	-	-	-	5	4	-	1	1
Colo.	13	-	5	-	4	10	30	-	30	2	67	66	-	-	1
N. Mex.	2	1	311	-	9	38	7	N	N	-	12	26	-	-	-
Ariz.	17	-	35	-	1	258	26	5	170	5	38	65	-	5	2
Utah	1	-	-	-	1	13	9	-	12	-	10	42	-	10	15
Nev.	3	-	2	-	1	2	4	-	5	-	-	4	-	-	3
PACIFIC	305	2	832	-	114	643	732	13	459	2	635	482	4	215	258
Wash.	26	-	34	-	11	168	78	6	62	2	98	149	-	2	17
Oreg.	6	2	21	-	81	12	35	N	N	-	71	14	-	2	4
Calif.	267	-	777	-	17	434	602	7	374	-	225	297	4	139	231
Alaska	3	-	-	-	1	-	7	-	7	-	5	5	-	2	-
Hawaii	3	-	-	-	4	29	10	-	16	-	236	20	-	70	6
Guam	-	-	2	-	-	5	5	-	5	-	-	-	-	1	4
P.R.	1	-	771	-	-	36	5	-	12	-	20	19	-	3	62
V.I.	-	-	-	-	-	-	-	1	20	-	-	-	-	1	-
Pac. Trust Terr.	-	-	1	-	-	-	1	-	5	-	1	-	-	1	2
Amer. Samoa	-	-	2	-	-	2	-	-	7	-	-	-	-	-	1

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

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

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending December 5, 1987 and November 29,1986 (48th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1987
UNITED STATES	33,171	25,010	6	19,634	20,097	182	327	578	4,308
NEW ENGLAND	586	458	-	589	631	1	32	8	7
Maine	1	19	-	22	34	-	1	-	3
N.H.	3	13	-	18	30	-	-	-	-
Vt.	4	9	-	15	16	-	1	-	-
Mass.	282	246	-	324	347	1	19	4	-
R.I.	12	19	-	58	42	-	3	-	1
Conn.	284	152	-	152	162	-	8	4	3
MID. ATLANTIC	6,001	3,506	1	3,599	3,974	1	43	25	377
Upstate N.Y.	232	183	1	477	577	1	9	11	54
N.Y. City	4,446	1,958	-	1,771	2,078	-	13	5	-
N.J.	666	610	-	639	673	-	21	1	15
Pa.	657	755	-	712	646	-	-	8	308
E.N. CENTRAL	810	808	1	2,184	2,367	3	35	38	152
Ohio	101	117	-	389	419	1	11	22	17
Ind.	56	103	-	220	258	-	5	1	17
Ill.	408	370	-	981	1,027	-	11	7	44
Mich.	188	176	1	504	561	-	5	5	28
Wis.	57	42	-	90	102	2	3	3	46
W.N. CENTRAL	171	201	-	568	584	64	11	53	911
Minn.	20	31	-	112	136	-	5	-	224
Iowa	26	9	-	38	44	4	2	1	256
Mo.	78	104	-	308	289	40	3	18	54
N. Dak.	1	6	-	14	10	1	-	-	104
S. Dak.	11	9	-	24	28	9	-	1	219
Nebr.	15	12	-	25	15	3	-	3	16
Kans.	20	30	-	47	62	7	1	30	38
S. ATLANTIC	11,639	7,568	-	4,218	4,025	5	34	222	1,240
Del.	66	53	-	39	45	1	-	2	-
Md.	579	423	-	362	281	-	4	46	424
D.C.	383	274	-	145	152	-	2	-	42
Va.	308	318	-	403	342	2	9	22	343
W. Va.	13	20	-	96	115	-	1	7	70
N.C.	670	490	-	534	581	2	3	80	8
S.C.	668	646	-	431	515	-	-	33	57
Ga.	1,556	1,391	-	760	668	-	2	29	197
Fla.	7,396	3,953	-	1,448	1,326	-	13	3	99
E.S. CENTRAL	1,764	1,667	-	1,775	1,776	8	4	98	298
Ky.	23	65	-	396	403	3	2	13	133
Tenn.	699	575	-	544	516	1	1	58	81
Ala.	465	485	-	509	557	1	1	15	77
Miss.	577	542	-	326	300	3	-	12	7
W.S. CENTRAL	4,164	4,868	1	2,305	2,545	72	30	117	571
Ark.	233	244	-	277	349	38	2	12	119
La.	855	845	-	285	391	3	-	-	13
Okla.	148	139	-	224	235	28	4	87	32
Tex.	2,928	3,640	1	1,519	1,570	3	24	18	407
MOUNTAIN	659	578	-	479	506	16	16	13	349
Mont.	9	7	-	16	27	2	-	11	159
Idaho	5	14	-	17	23	1	-	-	9
Wyo.	3	4	-	-	-	-	-	1	72
Colo.	115	126	-	40	68	5	-	-	7
N. Mex.	54	68	-	94	92	1	11	-	3
Ariz.	284	233	-	255	230	3	4	-	78
Utah	23	18	-	25	31	2	-	1	7
Nev.	166	108	-	32	35	2	1	-	14
PACIFIC	7,377	5,356	3	3,917	3,689	12	122	4	403
Wash.	129	168	-	227	199	4	8	-	-
Oreg.	280	107	-	121	117	5	2	1	-
Calif.	6,950	5,047	3	3,323	3,154	2	104	3	399
Alaska	4	-	-	64	55	1	-	-	4
Hawaii	14	34	-	182	164	-	8	-	-
Guam	2	1	-	26	34	-	-	-	-
P.R.	832	808	-	278	305	-	-	-	67
V.I.	9	1	-	2	1	-	-	-	-
Pac. Trust Terr.	222	262	-	152	88	-	20	-	-
Amer. Samoa	2	-	-	3	5	-	1	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending December 5, 1987 (48th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	709	514	112	42	21	20	53
Boston, Mass.	204	139	35	12	7	11	21
Bridgeport, Conn.	59	47	5	5	1	1	4
Cambridge, Mass.	30	25	4	1	-	-	1
Fall River, Mass.	37	29	6	2	-	-	-
Hartford, Conn.	51	29	10	6	3	3	2
Lowell, Mass.	39	28	6	2	3	-	6
Lynn, Mass.	19	13	4	1	1	-	2
New Bedford, Mass.	35	27	6	1	1	-	2
New Haven, Conn.§	62	43	12	4	1	2	3
Providence, R.I.	39	34	4	-	1	-	3
Somerville, Mass.	7	4	2	1	-	-	-
Springfield, Mass.	48	38	5	2	1	2	4
Waterbury, Conn.	34	19	9	4	2	-	2
Worcester, Mass.	45	39	4	1	-	1	3
MID. ATLANTIC	3,246	2,125	668	310	58	85	145
Albany, N.Y.	65	51	12	1	-	1	1
Allentown, Pa.	23	19	2	2	-	-	1
Buffalo, N.Y.	151	109	32	8	1	1	8
Camden, N.J.	43	35	3	2	2	1	-
Elizabeth, N.J.	14	12	2	-	-	-	-
Erie, Pa.†	51	41	6	2	1	1	2
Jersey City, N.J.	67	41	8	13	2	3	2
N.Y. City, N.Y.	1,720	1,072	375	197	29	47	65
Newark, N.J.	100	49	27	18	2	4	3
Paterson, N.J.	20	9	7	4	-	-	-
Philadelphia, Pa.	406	253	85	35	11	22	22
Pittsburgh, Pa.†	109	83	20	3	1	2	6
Reading, Pa.	35	27	6	1	1	-	9
Rochester, N.Y.	133	107	15	6	4	1	7
Schenectady, N.Y.	25	20	5	-	-	-	4
Scranton, Pa.†	62	48	10	2	2	-	4
Syracuse, N.Y.	104	69	25	7	2	1	4
Trenton, N.J.	54	36	12	6	-	-	2
Utica, N.Y.	27	18	7	2	-	-	2
Yonkers, N.Y.	37	26	9	1	-	1	3
E.N. CENTRAL	2,602	1,753	531	164	76	77	96
Akron, Ohio	35	22	11	1	1	-	-
Canton, Ohio	55	46	5	1	3	-	8
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	135	98	25	5	1	6	8
Cleveland, Ohio	177	100	50	12	9	6	2
Columbus, Ohio	128	81	22	14	7	3	3
Dayton, Ohio	155	102	34	6	9	4	10
Detroit, Mich.	299	165	70	34	18	12	4
Evansville, Ind.	63	49	10	3	-	1	3
Fort Wayne, Ind.	82	63	12	4	2	1	4
Gary, Ind.	30	19	4	4	1	2	1
Grand Rapids, Mich.	64	47	12	2	3	-	5
Indianapolis, Ind.	189	129	44	9	1	6	3
Madison, Wis.§	40	29	7	2	2	-	2
Milwaukee, Wis.	161	123	30	3	3	2	13
Peoria, Ill.	81	56	17	6	-	2	3
Rockford, Ill.	65	47	12	3	1	2	3
South Bend, Ind.	54	37	10	2	2	3	3
Toledo, Ohio	129	106	15	4	2	2	3
Youngstown, Ohio	96	72	16	4	1	3	2
W.N. CENTRAL	1,034	727	193	61	22	31	69
Des Moines, Iowa	128	98	19	7	2	2	7
Duluth, Minn.	34	26	6	1	-	1	-
Kansas City, Kans.	43	28	10	4	1	-	5
Kansas City, Mo.	107	68	24	7	5	3	9
Lincoln, Nebr.	34	26	5	1	1	1	7
Minneapolis, Minn.	263	182	54	12	6	9	23
Omaha, Nebr.	111	79	22	4	3	3	7
St. Louis, Mo.	142	85	35	14	3	5	1
St. Paul, Minn.	85	64	11	8	-	2	1
Wichita, Kans.	87	71	7	3	1	5	9

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-84	25-44	1-24	<1	Total
S. ATLANTIC	1,152	727	236	105	29	46	44
Atlanta, Ga.	135	88	26	13	6	2	6
Baltimore, Md.	164	96	46	15	2	5	4
Charlotte, N.C.	61	38	13	3	3	4	3
Jacksonville, Fla.	143	95	29	14	3	2	6
Miami, Fla.	90	45	20	16	2	7	-
Norfolk, Va.	61	40	12	3	2	4	4
Richmond, Va.	86	60	16	5	2	3	3
Savannah, Ga.	53	41	7	3	-	2	4
St. Petersburg, Fla.	76	66	4	3	1	2	1
Tampa, Fla.	73	46	14	7	1	2	7
Washington, D.C.	191	99	49	22	7	13	6
Wilmington, Del.	19	13	-	1	-	-	-
E.S. CENTRAL	746	494	170	48	17	17	53
Birmingham, Ala.	103	65	27	7	2	2	5
Chattanooga, Tenn.	48	32	10	3	-	3	3
Knoxville, Tenn.	68	54	10	3	1	-	10
Louisville, Ky.	88	59	21	5	1	2	6
Memphis, Tenn.	180	122	35	14	6	3	14
Mobile, Ala.	71	36	22	9	-	4	3
Montgomery, Ala.	59	41	14	4	-	-	4
Nashville, Tenn.	129	85	31	3	7	3	8
W.S. CENTRAL	1,487	911	313	141	74	48	68
Austin, Tex.	77	48	18	4	4	3	3
Baton Rouge, La.	37	21	8	4	3	1	5
Corpus Christi, Tex.	57	33	14	5	3	2	1
Dallas, Tex.	198	113	39	26	10	10	7
El Paso, Tex.	68	45	14	7	1	1	4
Fort Worth, Tex	110	73	22	3	6	6	4
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	91	59	18	4	5	5	6
New Orleans, La.	143	70	25	30	18	-	-
San Antonio, Tex.	201	128	48	16	5	4	16
Shreveport, La.	66	46	11	2	3	4	5
Tulsa, Okla.	131	99	22	6	3	1	10
MOUNTAIN	753	515	130	61	24	23	34
Albuquerque, N. Mex.	111	72	19	15	3	2	2
Colo. Springs, Colo.	52	39	7	5	1	-	9
Denver, Colo.	140	103	25	6	4	2	3
Las Vegas, Nev.	103	68	22	7	5	1	4
Ogden, Utah	23	15	4	1	2	1	1
Phoenix, Ariz.	119	87	14	5	1	12	7
Pueblo, Colo.	27	18	5	3	1	-	3
Salt Lake City, Utah	49	23	13	6	5	2	-
Tucson, Ariz.	129	90	21	13	2	3	5
PACIFIC	2,248	1,548	371	180	75	65	121
Berkeley, Calif.	23	17	4	1	1	-	3
Fresno, Calif.	114	77	23	6	4	4	7
Glendale, Calif.	32	25	4	3	-	-	-
Honolulu, Hawaii	82	60	12	6	2	2	10
Long Beach, Calif.	62	38	12	7	2	3	6
Los Angeles Calif.	639	430	99	70	27	5	17
Oakland, Calif.§	69	47	15	4	2	1	4
Pasadena, Calif.	31	25	5	-	-	1	3
Portland, Oreg.	121	89	20	6	2	4	5
Sacramento, Calif.	219	150	42	12	8	7	16
San Diego, Calif.	170	112	24	20	7	6	13
San Francisco, Calif.	209	136	33	24	6	10	7
San Jose, Calif.	214	145	42	12	8	7	14
Seattle, Wash.	155	112	21	5	5	12	7
Spokane, Wash.	52	37	8	3	1	3	6
Tacoma, Wash.	56	48	7	1	-	-	3
TOTAL	13,977††	9,314	2,724	1,112	396	412	683

*Mortality data in this table are voluntarily reported from 121 cities in the United states, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

§Data not available. Figures are estimates based on average of past 4 weeks.

TB and AIDS — Continued

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Recommendations of the Immunization Practices Advisory Committee (ACIP)

Poliomyelitis Prevention: Enhanced-Potency Inactivated Poliomyelitis Vaccine — Supplementary Statement

The supplementary statement provides information on and recommendations for the use of inactivated poliovirus vaccine (IPV) of enhanced potency.* The Immunization Practices Advisory Committee (ACIP) believes that, in the United States, polio immunization should rely primarily on oral poliovirus vaccine (OPV), with selected use of enhanced-potency IPV as specified in this document. However, this subject should be reviewed on a continuing basis, and an extensive review of polio vaccines and potential vaccine policies will take place during 1988. General recommendations on poliomyelitis prevention, including the use of and schedules for OPV, are found in the current ACIP recommendations (*1*).

Introduction

Conventional IPV. IPV was introduced in the United States in 1955 and was used widely until OPV became available during the period 1961-1964. Thereafter, the use of IPV rapidly declined to a level of less than 1% of all polio vaccine distributed annually in the United States.

*Poliovirus Vaccine Inactivated, which is manufactured by Connaught Laboratories Ltd., will be distributed by Connaught Laboratories Inc. beginning in March 1988.

Poliomyelitis — Continued

In recent U.S. studies, three doses of IPV administered in the first year of life produced antibodies to poliovirus serotypes 1, 2, and 3 in 87%, 97%, and 95% of recipients, respectively. More than 99% of children completing the four-dose primary series by 18 months of age produced antibodies to all three serotypes (*2*).

Enhanced-Potency IPV. A method of producing a more potent IPV with greater antigenic content was developed in 1978 and led to the newly licensed IPV, which is produced in human diploid cells (*3*). Results of studies from several countries have indicated that a reduced number of doses of IPV produced with this technique can immunize children satisfactorily (*4-6*). A clinical trial of two preparations of enhanced-potency IPV was completed in the United States in 1984 (*7*). Children received three doses of one of the enhanced-potency IPVs at 2, 4, and 18 months of age. In spite of the presence of maternal antibodies in the majority of the infants at the time of the first dose, 99%-100% of the children were seropositive for all three poliovirus types at 6 months of age (2 months after their second dose). The percentage of seropositive children did not rise or fall significantly during the 14-month period following the second dose, a result that confirms that seroconversion had occurred in almost all children. Furthermore, geometric mean titers increased 5- to 10-fold following both the second and third doses. Conclusive studies are not yet available concerning antibody persistence following three doses of the enhanced-potency IPV to be made available in the United States. However, unpublished studies of an IPV with lower antigen content have shown 100% seropositivity 5 years after the third dose (*2*).

The effect of enhanced-potency IPV on the circulation of poliovirus in a community has not yet been determined, but it is likely to be at least as good as that seen with conventional IPV. In a recent study of poliovirus excretion following type 1 vaccine-virus challenge after the third dose of enhanced-potency IPV, the decrease in excretion was at least as great as that after conventional IPV, but still significantly less than that found after three doses of OPV (*8*).

Vaccine Usage

Indications. Persons with a congenital immune deficiency disease, such as agammmaglobulinemia; an acquired immune deficiency disease, such as acquired immunodeficiency syndrome (AIDS); or an altered immune status as a result of other diseases or immunosuppressive therapy are at increased risk for paralysis associated with OPV. Therefore, if polio immunization is indicated, these persons and their household members and other close contacts should receive IPV rather than OPV. Although a protective immune response following receipt of enhanced-potency IPV cannot be assured, some protection may be provided to the immunocompromised patient. Available data on children previously diagnosed with asymptomatic human immunodeficiency virus (HIV) infection do not suggest that they are at increased risk of adverse consequences from OPV. However, for such persons, use of IPV rather than OPV is prudent since family members may be immunocompromised because of AIDS or HIV infection and may be at increased risk for paralysis from contact with an OPV virus.

Routine primary poliovirus vaccination of adults (generally those 18 years of age or older) residing in the United States is not recommended. Adults at increased risk of exposure to either vaccine or wild poliovirus (*1*) should receive polio vaccination in accordance with the schedule prescribed on page 797.

Poliomyelitis — Continued

In households where polio vaccine is to be administered to immunologically normal children, ACIP recommends giving OPV regardless of the poliovirus-vaccine status of adult household contacts (*1*). The overall risk of vaccine-associated paralytic disease in immunologically normal contacts of OPV recipients is one case per 5.5 million doses of OPV distributed (*9*). As an alternative, adult contacts can first complete their primary series of polio vaccine as detailed in the schedule below, if there is strong assurance that subsequent immunization of the child will not be jeopardized or unduly delayed.

Schedules. The primary series for enhanced-potency IPV consists of three 0.5-mL doses administered subcutaneously. The interval between the first two doses should be at least 4 weeks, but preferably 8 weeks. The third dose should follow in at least 6 months, but preferably nearer to 12 months. A primary series can be started as early as 6 weeks of age, but preferably at 2 months of age. Although studies have not been conducted, young children should receive the third dose along with diphtheria, tetanus, pertussis vaccine (DTP) and measles, mumps, rubella vaccine (MMR) at 15 months of age, if possible.

A primary series of polio vaccine usually consists of enhanced-potency IPV alone or OPV alone. However, a combination of both vaccines totalling three doses and separated by appropriate intervals constitutes a primary series. If enhanced-potency IPV is administered to persons with a previously incomplete series of conventional IPV, a final total of four doses of polio vaccine is necessary for a primary series.

All children who received a primary series of enhanced-potency IPV or of a combination of polio vaccines should be given a booster dose before entering school, unless the final dose of the primary series was administered on or after the fourth birthday. The need for routinely administering additional doses is unknown at this time.

For unvaccinated adults at increased risk of exposure to poliovirus, a primary series of enhanced-potency IPV is recommended. While the responses of adults to a primary series have not been studied, the recommended schedule for adults is two doses given at a 1- to 2-month interval and a third dose given 6 to 12 months later. If less than 3 months but more than 2 months are available before protection is needed, three doses of enhanced-potency IPV should be given at least 1 month apart. Likewise, if only 1 to 2 months are available, two doses of enhanced-potency IPV should be given at least 1 month apart. If less than 1 month is available, a single dose of either OPV or enhanced-potency IPV is recommended.

Adults who are at increased risk of exposure and have had 1) at least one dose of OPV, 2) fewer than three doses of conventional IPV, or 3) a combination of conventional IPV and OPV totalling fewer than three doses should receive at least one dose of OPV or enhanced-potency IPV. Additional doses needed to complete a primary series should be given if time permits.

Adults who are at increased risk of exposure and who have previously completed a primary series with any one or combination of polio vaccines can be given a dose of OPV or enhanced-potency IPV.

Side Effects and Adverse Reactions. Available data indicate that the rate of adverse reactions in the kidney cells of monkeys receiving enhanced-potency IPV are low and that the reactions are not different from those following administration of a placebo. The recently licensed human diploid cell-derived vaccine was not compared to a placebo. Rates of local adverse events following its use are similar to rates found in

Poliomyelitis — Continued

controlled studies using vaccine derived from the kidney cells of monkeys. There is no evidence that conventional IPV causes any serious side effects. Consequently, serious side effects are not expected to occur with enhanced-potency IPV. This conclusion can be confirmed only with postmarketing surveillance. Parents of children receiving the vaccine, older vaccine recipients, and health-care providers are encouraged to report all adverse events occurring within 4 weeks of receipt of enhanced-potency IPV to the manufacturer and to local or state health departments. The information will be forwarded to the appropriate federal agency.[†]

Precautions and Contraindications. Vaccine administration should not be postponed because of minor illnesses, such as mild upper-respiratory infections. Generally, however, persons with severe febrile illnesses should not be vaccinated until they have recovered.

The enhanced-potency IPV may contain trace amounts of streptomycin and neomycin. Persons who have had anaphylactic reactions to topically or systemically administered streptomycin and neomycin should not receive enhanced-potency IPV.

There is no convincing evidence documenting adverse effects of conventional IPV on the pregnant woman or developing fetus. Data on adverse events following use of enhanced-potency IPV are not available. On theoretical grounds, it is prudent to avoid vaccinating pregnant women. However, if a pregnant woman needs immediate protection against poliomyelitis, OPV is recommended.

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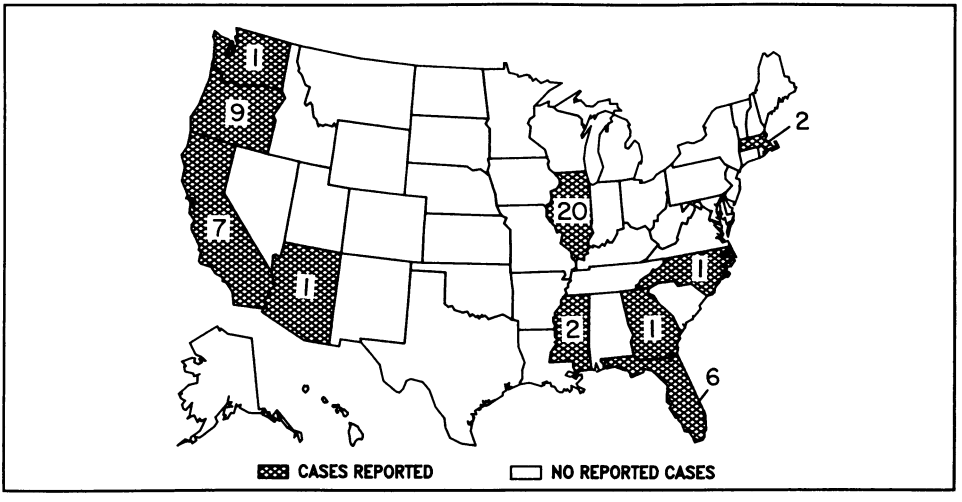
[†]Center for Biologics Evaluation and Research, Food and Drug Administration, or the Centers for Disease Control.

FIGURE I. Reported measles cases — United States, Weeks 44-47, 1987



WE'RE CHANGING

Effective December 14, 1987, CDC/ATSDR will be changing telephone numbers as follows:

Current Numbers	New Numbers
320, 321, 329-XXXX	639-XXXX
262 or 264-XXXX	842-XXXX
452-XXXX	488-XXXX
454-4300 thru 454-4799	488-XXXX
728-XXXX or 454-0700 thru 454-0899	Total Change
All FTS Prefixes (236)	Unchanged

Recorded Messages Will Provide New Numbers

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The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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