CENTERS FOR DISEASE CONTROL

October 14, 1988 / Vol. 37 / No. 40

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

Perspectives in Disease Prevention and Health Promotion

Progress Toward Achieving the National 1990 Objectives for Immunization

The 1990 health objectives for the nation included 18 objectives on immunization (*1*). This update reports on progress toward achievement of these objectives through 1987.

IMPROVED HEALTH STATUS

The first eight objectives cite the morbidity reduction targeted for eight diseases by 1990 (Table 1).

The targets for diphtheria and poliomyelitis appear to have been met, and substantial progress toward the targets for tetanus, rubella, and congenital rubella syndrome has been achieved. Morbidity from mumps had been declining until 1986, when the incidence of mumps increased 161% (*2*). The 12,848 cases reported in 1987 are the most since 1979. This increase largely reflected outbreaks in high schools and colleges and probably resulted from the absence or lack of enforcement of school immunization requirements in some states (*2–4*). Illinois and Tennessee had the highest mumps incidence rates in 1986 and 1987; these two states began enforcing comprehensive school laws requiring mumps vaccination in September 1987 and September 1988, respectively. During the first 26 weeks of 1988, 2945 cases were reported in the United States, representing a 69% decrease from the same period in 1987.

TABLE 1. Progress toward the 1990 immunization objectives for improved health status of children, by disease — United States, 1979–1987

Disease	No. reported cases 1979	No. reported cases 1987	1990 Objective
Diphtheria	59	3	<50
Measles	13,597	3,655	<500
Mumps	14,225	12,848	<1,000
Pertussis	1,623	2,823	<1,000
Poliomyelitis (paralytic)	26	0	<10
Rubella	11,795	306	<1,000
Congenital rubella syndrome	62	5	<10
Tetanus	81	48	<50

1990 Objectives — Continued

Between 1981 and 1987, the number of reported measles cases stabilized, with slightly more than 3000 average annual cases (range: 1497 cases in 1983 to 6282 cases in 1986). Outbreaks have occurred among both preschool-aged children, many of whom were unvaccinated, and high school- and college-aged persons, many of whom had been vaccinated. In many recent outbreaks, persons who received measles vaccine at 12–14 months of age have been at higher risk for measles than those vaccinated at ≥15 months of age (*5*). Intervention strategies to eliminate measles continue to be evaluated (*6*).

Improved surveillance indicates that pertussis also occurs in adolescents and adults as well as in infants and young children, although the illness is milder in these older persons (*7*). Increases in reported cases in 1985 and 1986 may be due to improved diagnosis and surveillance since diphtheria-tetanus-pertussis vaccine coverage in children does not appear to have declined.

IMPROVED SERVICES AND PROTECTION

By 1990, at least 90% of all children by age 2 should have completed their immunization series—measles, mumps, rubella, polio, diphtheria, pertussis, and tetanus.

Although evaluation of progress toward this objective is difficult because of limited base-line data, it appears likely that this objective will not be met. In 1979, an estimated 70%–80% of 2-year-old children had received their basic immunization series. In the most recent U.S. Immunization Survey in 1985, 77% of 2-year-olds whose parents had records at home had received their basic series. Recent outbreaks of measles among unimmunized preschoolers also have shown that inadequate immunization levels still occur. To ensure that infants begin and complete their immunization series on schedule, efforts to develop recall and outreach systems must be continued.

By 1990, at least 95% of children attending licensed day-care facilities and kindergarten through 12th grade should be fully immunized.

Although national data are not available for children beyond the first grade, extrapolation of school entry data since 1980 suggests that this objective will be met. For the 1986–87 school year, immunization levels in licensed day-care facilities exceeded 90%. Of children entering kindergarten or first grade, 97% had been immunized.

By 1990, at least 60% of high-risk populations, as defined by the Immunization Practices Advisory Committee (ACIP) of the Public Health Service, should be receiving annual immunization against influenza.

This objective is unlikely to be met unless efforts are substantially intensified. The 1985 U.S. Immunization Survey indicates that only approximately 20% of high-risk persons received influenza vaccine during the preceding year.

INCREASED PUBLIC AND PROFESSIONAL AWARENESS

By 1990, all mothers of newborns should receive instruction on immunization schedules for their babies before leaving the hospital or after home births.

This objective will probably be met because substantial progress has been made in educating mothers of newborns about immunizations. As of 1986, 39 of 52 jurisdictions (50 states, the District of Columbia, and New York City) had hospital-based maternal education programs in at least 90% of targeted hospitals.

1990 Objectives — Continued

IMPROVED SURVEILLANCE AND EVALUATION

By 1990, at least 95% of all children 18 years of age and under should have up-to-date official immunization records in a uniform format using common guidelines for completion of immunization.

Standardized immunization records are now available in all states. Given the likelihood of achieving immunization level targets, this objective probably will be met. Although all states recommend the same immunization series, school immunization requirements vary from state to state. Consequently, the definition of "complete series" may vary.

By 1990, surveillance systems should be sufficiently improved that (1) at least 90% of those hospitalized and 50% of those not hospitalized with vaccine-preventable diseases of childhood are reported and (2) uniform case definitions are used nationwide.

Meeting the target for hospitalized persons may be feasible, but it is less likely that the target for persons who are not hospitalized can be met. The completeness of reporting varies by disease. Most cases of poliomyelitis, tetanus, and diphtheria are probably diagnosed, and nearly all are reported. As a result of the measles elimination initiative, measles reporting is now considered to be nearly complete. However, because of the variability in clinical manifestations of rubella, mumps, and pertussis, reporting of these diseases is probably incomplete. An estimated 22% of confirmed and compatible cases of congenital rubella syndrome diagnosed during the neonatal period are reported (*8*).

Uniform case definitions exist for measles, mumps, rubella, congenital rubella syndrome, poliomyelitis, diphtheria, tetanus, pertussis, and *Haemophilus influenzae* type b.

By 1990, at least 60% of high-risk populations, as defined by the ACIP, should have received vaccination against pneumococcal pneumonia.

The 1985 U.S. Immunization Survey indicates that approximately 10% of high-risk persons had received pneumococcal polysaccharide vaccine. Although administration of this vaccine is reimbursed under Medicare, this objective is unlikely to be met.

By 1990, at least 50% of people in populations designated as targets by the ACIP should be immunized within 5 years of licensure of new vaccines for routine clinical use.

Recently licensed vaccines include hepatitis B vaccine (licensed in 1982), *Haemophilus influenzae* type b polysaccharide vaccine (HbPV, licensed in 1985), and *Haemophilus influenzae* type b conjugate vaccine (HbCV, licensed in 1987). Hepatitis B vaccine is recommended for persons who are at risk of contact with blood or blood products (primarily health-care workers), homosexual men, household contacts of carriers of hepatitis B surface antigen, and users of illicit injectable drugs. Since data suggest that coverage for high-risk groups varies from 2% to 50%, this objective may be met in some target groups. HbCV is recommended for all children at 18 months of age and will likely replace most use of HbPV in 1988. Evaluating progress toward the objective for HbCV is not possible because of a lack of national data concerning coverage with this vaccine.

By 1990, no comprehensive health insurance policies should exclude immunizations.

Comprehensive data about insurance coverage of immunizations are not available. However, approximately 20 million persons are receiving services from health

1990 Objectives — Continued

maintenance organizations that provide both preventive and treatment services. Medicaid provides reimbursement for childhood vaccines, and Medicare provides reimbursement for pneumococcal polysaccharide vaccine. In 1987, Congress authorized the Health Care Financing Administration to conduct a cost-effectiveness study beginning during the 1988–89 influenza season to determine whether influenza vaccine should be covered under Medicare.

By 1985, the nation should have a plan in place to mount mass immunization programs in the face of possible epidemics of influenza or other epidemic diseases for which vaccines may exist.

This objective has been met.

Reported by: Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Public Health Svc. Center for Biologics Evaluation and Review, Food and Drug Administration. Microbiology and Infectious Diseases Program, National Institute of Allergy and Infectious Diseases, National Institutes of Health. Div of Viral Diseases and Div of Bacterial Diseases, Center for Infectious Diseases; Div of Immunization, Center for Prevention Svcs, CDC.

Editorial Note: Overall progress toward the 1990 objectives relating to childhood vaccines is encouraging, although full immunization of children at the earliest appropriate age has not yet been assured. Of greater concern is the relative lack of progress toward the objectives relating to vaccines used primarily for adults. Improving immunization coverage for adults is difficult because regular immunization is not traditional among this age group and because target groups vary for different vaccines. In January 1985 and April 1987, CDC convened adult immunization community forums to discuss development and implementation of programs to ensure appropriate immunization of adults. These forums led to the formation of the National Coalition for Adult Immunization to promote adult immunizations. This coalition represents voluntary organizations, professional physician groups, and manufacturers of vaccines.

As a result of an internal assessment by the National Institute of Allergy and Infectious Diseases and a priority-setting study by the Institute of Medicine (*9*), priority has been placed on the rapid development of several new vaccines (Table 2). Introduction of any of these new vaccines would pose additional challenges in achieving the target of 50% coverage in designated target groups within 5 years of licensure.

Although efforts to reduce mumps, measles, and pertussis must be continued, improved surveillance of these and other infectious diseases will allow for more accurate assessment of future efforts toward prevention of these diseases. In

TABLE 2. Vaccines targeted for priority development for use in the United States — National Institute of Allergy and Infectious Diseases, 1986

1. Pertussis (improved)
2. Hepatitis B (rDNA)*
3. *Haemophilus influenzae* type b (conjugated)
4. Respiratory syncytial virus
5. Influenza viruses A and B (live, attenuated)
6. Varicella
7. Gonorrhea

*Recombinant DNA derived (rDNA).

1990 Objectives — Continued

addition, increased educational efforts that stress the importance of childhood and adult immunizations will assure future strides in reduction of vaccine-preventable diseases.

References

1. Public Health Service. Promoting health/preventing disease: objectives for the nation. Washington, DC: US Department of Health and Human Services, Public Health Service, 1980:21-4.
2. CDC. Mumps—United States, 1985–1986. MMWR 1987;36:151–5.
3. CDC. Mumps outbreaks on university campuses—Illinois, Wisconsin, South Dakota. MMWR 1987;36:496–8,503–5.
4. Cochi SL, Preblud SR, Orenstein WA. Perspectives on the relative resurgence of mumps in the United States. Am J Dis Child 1988;142:499–507.
5. Orenstein WA, Markowitz LE, Preblud SR, Hinman AR, Tomasi A, Bart KJ. Appropriate age for measles vaccination in the United States. Dev Biol Stand 1986;65:13–21.
6. CDC. Measles—United States, first 26 weeks, 1987. MMWR 1988;37:53–7.
7. CDC. Pertussis surveillance—United States, 1984 and 1985. MMWR 1987;36:168–71.
8. Cochi SL, Edmonds LD, Dyer K, et al. Congenital rubella syndrome in the United States, 1970–1985: on the verge of elimination. Am J Epidemiol (in press).
9. Hinman AR. Vaccine development and utilization: symposium summary. Rev Infect Dis (in press).

Recommendations of the Immunization Practices Advisory Committee

Cholera Vaccine

INTRODUCTION

Historically, endemic and epidemic cholera commonly has occurred in parts of southern and southeastern Asia. Since 1961, cholera caused by the El Tor biotype has been epidemic throughout much of Asia, the Middle East, and Africa and in certain parts of Europe. Infection is acquired primarily by consuming contaminated water or food; person-to-person transmission is rare. Travelers who follow the usual tourist itinerary and who use standard accommodations in countries affected by cholera are at virtually no risk of infection.

CHOLERA VACCINE

Cholera vaccines*, whether prepared from Classic or El Tor strains, are of limited usefulness. In field trials conducted in areas with endemic cholera, vaccines have been only about 50% effective in reducing the incidence of clinical illness for 3–6 months. They do not prevent transmission of infection. Therefore, the Public Health Service no longer requires cholera vaccination for travelers coming to the United States from cholera-infected areas, and the World Health Organization (WHO) no longer recommends cholera vaccination for travel to or from cholera-infected areas. Surveillance and treatment are sufficient to prevent spread of the disease if it were introduced into the United States.

Vaccine available in the United States is prepared from a combination of phenol-inactivated suspensions of classic Inaba and Ogawa strains of *Vibrio cholerae* grown on agar or in broth.

*Official name: Cholera Vaccine.

Cholera — Continued

VACCINE USAGE

General Recommendations

Vaccine should not be used to manage contacts of persons with imported cases or to control the spread of infection. Repeated vaccination is required or advised sometimes for laboratory workers and airline and ship crews. However, such groups are unlikely to acquire or transmit cholera. Because information on the long-term safety of repeated vaccination is limited, such practices should be discontinued for airline and ship crews except when resolutely demanded by some countries for international travel.

Vaccine is not recommended for infants <6 months of age and is not required for travel by most countries.

Vaccination for International Travel

The risk of cholera to U.S. travelers is so low that the vaccine is not likely to benefit most U.S. travelers. Persons using standard tourist accomodations in countries

(Continued on page 623)

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

Disease	40th Week Ending			Cumulative, 40th Week Ending		
	Oct. 8, 1988	Oct. 10, 1987	Median 1983-1987	Oct. 8, 1988	Oct. 10, 1987	Median 1983-1987
Acquired Immunodeficiency Syndrome (AIDS)	412	U *	217	23,753	14,568	5,983
Aseptic meningitis	180	329	409	4,646	8,794	7,858
Encephalitis: Primary (arthropod-borne & unspec)	10	21	37	596	996	952
Post-infectious	2	-	1	99	86	87
Gonorrhea: Civilian	11,439	14,118	18,861	526,282	595,825	677,188
Military	83	236	339	8,973	12,672	16,332
Hepatitis: Type A	435	454	496	19,161	18,846	17,038
Type B	402	435	512	17,385	19,530	19,637
Non A, Non B	30	31	63	1,955	2,313	2,737
Unspecified	49	68	91	1,642	2,432	3,797
Legionellosis	12	20	20	717	741	574
Leprosy	1	10	5	121	158	193
Malaria	14	13	19	741	711	744
Measles: Total†	3	15	15	2,325	3,368	2,522
Indigenous	2	12	12	2,092	2,962	2,096
Imported	1	3	3	233	406	291
Meningococcal infections	27	29	33	2,223	2,255	2,146
Mumps	51	95	41	3,661	10,675	2,573
Pertussis	100	39	50	2,027	1,939	1,939
Rubella (German measles)	4	3	6	179	308	566
Syphilis (Primary & Secondary): Civilian	524	760	535	30,784	27,006	21,501
Military	1	5	3	126	133	138
Toxic Shock syndrome	7	8	8	260	260	294
Tuberculosis	334	360	415	16,216	16,296	16,309
Tularemia	3	4	4	153	164	164
Typhoid Fever	5	2	9	277	257	263
Typhus fever, tick-borne (RMSF)	6	5	12	563	535	640
Rabies, animal	78	78	90	3,297	3,763	4,187

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1988		Cum. 1988
Anthrax	-	Leptospirosis (Mich. 1)	27
Botulism: Foodborne	18	Plague	14
Infant	28	Poliomyelitis, Paralytic	-
Other	3	Psittacosis (Upstate N.Y. 1, Ariz. 1)	68
Brucellosis	47	Rabies, human	-
Cholera	4	Tetanus (Mass. 1, La. 1)	39
Congenital rubella syndrome	3	Trichinosis (Upstate N.Y. 1)	38
Congenital syphilis, ages < 1 year	302		
Diphtheria	-		

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.
†One of the 3 reported cases for this week was imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending October 8, 1988 and October 10, 1987 (40th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	23,753	4,646	596	99	526,282	595,825	19,161	17,385	1,955	1,642	717	121
NEW ENGLAND	989	299	19	4	16,558	18,346	668	947	104	71	36	15
Maine	26	14	1	-	320	540	17	45	4	1	3	-
N.H.	28	38	1	3	206	304	38	61	7	4	4	-
Vt.	10	17	6	-	96	171	13	31	6	4	1	-
Mass.	533	125	8	1	5,645	6,494	317	587	70	47	25	14
R.I.	61	66	-	-	1,496	1,652	74	68	10	-	3	1
Conn.	331	39	3	-	8,795	9,185	209	155	7	15	-	-
MID. ATLANTIC	7,989	460	51	4	82,127	92,190	1,341	2,435	141	216	184	8
Upstate N.Y.	1,028	286	32	1	11,764	13,653	575	592	55	18	72	-
N.Y. City	4,397	113	8	3	34,501	46,982	262	997	12	152	35	7
N.J.	1,944	61	11	-	11,659	12,591	274	582	50	35	40	1
Pa.	620	-	-	-	24,203	18,964	230	264	24	11	37	-
E.N. CENTRAL	1,725	758	153	12	89,595	91,572	1,286	1,853	179	93	156	4
Ohio	391	258	53	3	20,506	20,377	271	420	30	16	58	-
Ind.	80	75	17	-	6,982	7,257	127	266	18	20	18	-
Ill.	806	79	32	9	26,559	28,361	379	412	63	22	-	3
Mich.	356	310	36	-	28,834	27,573	312	546	45	32	50	-
Wis.	92	36	15	-	6,714	8,004	197	209	23	3	30	1
W.N. CENTRAL	563	190	45	10	22,474	24,229	1,115	808	86	28	63	1
Minn.	134	29	11	3	3,042	3,695	83	111	17	3	3	-
Iowa	33	27	9	3	1,657	2,371	38	72	13	2	16	-
Mo.	277	75	1	-	12,759	12,620	656	467	37	14	15	-
N. Dak.	4	-	4	-	130	228	6	9	3	5	1	-
S. Dak.	5	16	5	1	397	477	12	4	2	-	14	-
Nebr.	33	9	9	2	1,269	1,564	45	40	2	-	5	-
Kans.	77	34	6	1	3,220	3,274	275	105	12	4	9	1
S. ATLANTIC	4,051	1,003	89	36	150,242	156,042	1,812	3,717	296	250	111	1
Del.	58	32	3	-	2,368	2,637	36	116	7	3	13	-
Md.	453	152	8	3	15,545	17,864	236	542	33	23	17	1
D.C.	385	17	1	1	11,285	10,442	16	36	3	1	1	-
Va.	285	112	27	4	10,954	11,507	293	243	58	161	9	-
W. Va.	16	29	20	-	1,059	1,088	13	56	3	3	-	-
N.C.	212	110	19	-	20,997	22,410	253	642	72	-	29	-
S.C.	133	18	-	1	11,428	12,597	36	400	11	5	17	-
Ga.	556	111	1	-	28,676	27,951	469	502	12	6	15	-
Fla.	1,953	422	10	27	47,930	49,546	460	1,180	97	48	10	-
E.S. CENTRAL	618	324	51	8	41,904	45,066	648	1,102	147	11	40	2
Ky.	75	109	16	1	4,207	4,568	439	233	55	2	17	-
Tenn.	293	38	13	-	14,192	15,796	136	513	36	-	8	-
Ala.	159	150	22	2	12,782	14,388	47	274	46	9	12	2
Miss.	91	27	-	5	10,723	10,314	26	82	10	-	3	-
W.S. CENTRAL	2,140	599	68	3	57,286	68,710	2,295	1,547	169	414	16	24
Ark.	71	12	5	-	5,703	7,756	272	85	4	14	3	-
La.	295	88	19	1	11,561	12,059	112	270	21	12	5	1
Okla.	99	56	4	-	5,467	7,424	397	139	36	22	8	-
Tex.	1,675	443	40	2	34,555	41,471	1,514	1,053	108	366	-	23
MOUNTAIN	684	166	24	2	11,391	15,852	2,627	1,275	207	131	35	1
Mont.	11	3	-	-	336	442	33	44	10	4	1	-
Idaho	9	1	-	-	283	565	115	87	5	4	-	-
Wyo.	6	2	-	-	160	350	5	12	3	-	3	-
Colo.	253	63	3	-	2,428	3,553	174	161	62	60	8	1
N. Mex.	36	13	2	-	1,127	1,722	445	181	15	1	2	-
Ariz.	221	53	10	1	4,153	5,393	1,409	503	59	40	13	-
Utah	53	20	4	1	427	484	256	105	36	18	3	-
Nev.	95	11	5	-	2,477	3,343	190	182	17	4	5	-
PACIFIC	4,994	847	96	20	54,705	83,818	7,369	3,701	626	428	76	65
Wash.	283	-	7	4	5,329	6,843	1,709	660	157	51	15	4
Oreg.	141	-	-	-	2,454	3,136	1,073	460	66	21	-	1
Calif.	4,463	744	84	16	45,609	71,886	4,181	2,494	394	345	58	52
Alaska	16	18	3	-	826	1,296	397	48	5	6	-	1
Hawaii	91	85	2	-	487	657	9	39	4	5	3	7
Guam	1	-	-	-	122	157	9	13	-	2	1	5
P.R.	1,003	52	4	1	1,038	1,568	41	207	36	34	-	3
V.I.	32	-	-	-	353	213	1	6	2	-	-	-
Amer. Samoa	-	-	-	-	65	69	3	2	-	5	-	2
C.N.M.I.	-	-	-	-	39	-	1	3	-	4	-	1

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

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending October 8, 1988 and October 10, 1987 (40th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total									
	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	Cum. 1988	1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	1988	Cum. 1988	Cum. 1987
UNITED STATES	741	2	2,092	1	233	3,368	2,223	51	3,661	100	2,027	1,939	4	179	308
NEW ENGLAND	57	-	81	-	50	269	190	-	114	15	146	128	1	9	1
Maine	2	-	7	-	-	3	8	-	-	-	11	26	-	-	1
N.H.	3	-	66	-	44	162	22	-	102	8	42	29	1	5	-
Vt.	4	-	-	-	-	26	14	-	5	-	3	4	-	-	-
Mass.	31	-	1	-	2	54	85	-	7	2	57	42	-	3	-
R.I.	6	-	-	-	-	2	21	-	-	5	15	2	-	1	-
Conn.	11	-	7	-	4	22	40	-	-	-	18	25	-	-	-
MID. ATLANTIC	127	-	804	-	47	577	229	8	312	23	157	224	-	14	11
Upstate N.Y.	33	-	19	-	18	40	108	3	89	11	93	128	-	2	9
N.Y. City	68	-	44	-	5	460	56	5	99	1	5	8	-	7	1
N.J.	11	-	217	-	11	39	63	-	44	-	8	13	-	3	1
Pa.	15	-	524	-	13	38	2	-	80	11	51	75	-	2	-
E.N. CENTRAL	38	-	132	-	48	339	306	11	745	1	208	225	3	29	37
Ohio	9	-	2	-	23	5	110	-	109	-	43	55	-	1	-
Ind.	3	-	57	-	-	-	25	-	70	-	67	16	-	-	-
Ill.	2	-	55	-	16	159	67	8	282	-	30	16	3	24	26
Mich.	21	-	18	-	5	29	66	3	186	1	34	45	-	4	9
Wis.	3	-	-	-	4	146	38	-	98	-	34	93	-	-	2
W.N. CENTRAL	17	-	11	-	2	230	81	1	123	-	110	119	-	2	1
Minn.	5	-	10	-	1	39	18	-	-	-	49	13	-	-	-
Iowa	2	-	-	-	-	-	-	-	32	-	21	48	-	-	1
Mo.	6	-	1	-	1	189	28	1	32	-	17	30	-	-	-
N. Dak.	-	-	-	-	-	1	-	-	-	-	11	11	-	-	-
S. Dak.	-	-	-	-	-	-	3	-	1	-	5	3	-	-	-
Nebr.	1	-	-	-	-	-	12	-	11	-	-	1	-	-	-
Kans.	3	-	-	-	-	1	20	-	47	-	7	13	-	2	-
S. ATLANTIC	96	2	338	-	18	142	383	7	583	8	215	280	-	17	16
Del.	1	-	-	-	-	32	2	-	-	-	7	5	-	-	2
Md.	13	-	11	-	3	7	48	-	105	2	34	16	-	1	2
D.C.	11	-	-	-	-	1	7	4	237	-	1	-	-	-	1
Va.	14	-	168	-	2	1	42	-	119	-	21	48	-	11	1
W. Va.	1	-	6	-	-	-	7	1	14	-	8	37	-	-	-
N.C.	13	-	-	-	4	5	61	1	46	2	61	114	-	-	1
S.C.	9	-	-	-	-	2	33	-	5	-	1	-	-	-	-
Ga.	5	-	-	-	-	1	58	1	28	4	35	23	-	2	1
Fla.	29	2	153	-	9	93	125	-	29	-	47	37	-	3	8
E.S. CENTRAL	13	-	56	-	-	6	217	5	430	2	87	39	-	2	3
Ky.	-	-	35	-	-	-	49	-	208	-	12	1	-	-	2
Tenn.	-	-	1	-	-	-	122	3	205	2	28	11	-	2	1
Ala.	8	-	-	-	-	4	33	2	14	-	44	21	-	-	-
Miss.	5	-	20	-	-	2	13	N	N	-	3	6	-	-	-
W.S. CENTRAL	66	-	14	-	3	409	148	10	716	1	126	240	-	11	11
Ark.	3	-	-	-	1	-	17	-	99	1	22	12	-	4	2
La.	10	-	-	-	-	-	43	-	268	-	17	44	-	-	-
Okla.	10	-	8	-	-	3	14	7	195	-	60	133	-	1	5
Tex.	43	-	6	-	2	406	74	3	154	-	27	51	-	6	4
MOUNTAIN	35	-	117	-	21	495	64	5	175	29	597	164	-	6	24
Mont.	5	-	5	-	19	128	2	-	2	-	2	6	-	-	8
Idaho	2	-	-	-	1	-	8	-	3	5	298	48	-	-	1
Wyo.	-	-	-	-	-	2	-	-	3	-	1	5	-	-	1
Colo.	11	-	112	-	1	9	15	1	30	-	20	56	-	2	-
N. Mex.	2	-	-	-	-	317	11	N	N	2	45	11	-	-	-
Ariz.	9	-	-	-	-	35	18	4	116	22	205	30	-	-	4
Utah	4	-	-	-	-	1	9	-	7	-	25	8	-	3	10
Nev.	2	-	-	-	-	3	1	-	14	-	1	-	-	1	-
PACIFIC	292	-	539	1	44	901	605	4	463	21	381	520	-	89	204
Wash.	16	-	7	-	-	41	56	1	44	5	96	76	-	-	2
Oreg.	12	-	4	1§	1	87	35	N	N	15	44	60	-	-	2
Calif.	252	-	524	-	35	769	491	-	382	-	188	183	-	61	129
Alaska	3	-	1	-	-	-	6	2	11	-	7	6	-	-	2
Hawaii	9	-	3	-	8	4	17	1	15	1	46	195	-	28	69
Guam	-	-	-	-	1	2	-	-	2	-	-	-	-	1	1
P.R.	2	-	190	-	-	755	8	-	8	-	14	16	1	3	3
V.I.	-	-	-	-	-	-	-	-	31	-	-	-	-	-	1
Amer. Samoa	-	-	-	-	-	-	2	-	3	-	-	-	-	-	-
C.N.M.I.	1	-	-	-	-	-	1	-	2	-	-	-	-	-	-

*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 October 8, 1988 and October 10, 1987 (40th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	30,784	27,006	260	16,216	16,296	153	277	563	3,297
NEW ENGLAND	879	468	20	410	496	4	30	12	15
Maine	12	1	4	22	22	-	-	-	1
N.H.	6	3	4	8	17	-	-	-	5
Vt.	3	2	2	4	10	-	1	-	-
Mass.	331	218	8	228	275	3	17	7	-
R.I.	27	9	-	33	45	-	5	2	-
Conn.	500	235	2	115	127	1	7	3	9
MID. ATLANTIC	7,673	5,073	37	3,169	2,858	-	58	18	367
Upstate N.Y.	425	204	20	429	381	-	11	10	38
N.Y. City	5,483	3,735	6	1,703	1,371	-	34	6	-
N.J.	737	525	3	509	530	-	11	-	13
Pa.	1,028	609	8	528	576	-	2	2	316
E.N. CENTRAL	889	733	40	1,812	1,833	1	25	50	120
Ohio	82	84	27	337	338	-	5	38	5
Ind.	46	50	1	177	181	-	2	2	17
Ill.	410	393	1	770	812	-	12	7	29
Mich.	327	157	11	445	417	1	4	2	34
Wis.	24	49	-	83	85	-	2	1	35
W.N. CENTRAL	180	150	33	420	463	71	4	88	384
Minn.	17	14	5	68	93	3	2	2	112
Iowa	17	25	5	45	32	-	-	-	13
Mo.	112	70	7	213	254	42	2	54	19
N. Dak.	1	1	3	10	8	1	-	-	83
S. Dak.	-	10	3	26	23	16	-	7	112
Nebr.	27	10	4	12	18	2	-	1	14
Kans.	6	20	6	46	35	7	-	24	31
S. ATLANTIC	10,855	9,212	17	3,466	3,495	5	30	172	1,115
Del.	81	61	1	29	34	2	-	1	47
Md.	568	484	3	339	306	-	1	22	262
D.C.	530	281	-	157	128	-	1	-	7
Va.	327	231	-	311	353	2	11	15	293
W. Va.	34	10	-	59	82	-	1	2	85
N.C.	602	532	8	373	384	-	1	94	8
S.C.	561	578	2	379	361	-	-	19	93
Ga.	1,900	1,300	-	560	611	1	3	15	211
Fla.	6,252	5,735	3	1,259	1,236	-	12	4	109
E.S. CENTRAL	1,520	1,468	20	1,441	1,449	9	3	81	243
Ky.	50	14	9	379	334	5	1	28	97
Tenn.	652	572	8	416	427	3	-	37	69
Ala.	447	384	3	421	424	-	1	9	72
Miss.	371	498	-	225	264	1	1	7	5
W.S. CENTRAL	3,288	3,358	27	2,059	1,908	45	8	126	435
Ark.	183	204	1	227	231	29	-	23	69
La.	638	624	-	248	211	-	4	2	7
Okla.	122	129	9	193	179	13	-	87	28
Tex.	2,345	2,401	17	1,391	1,287	3	4	14	331
MOUNTAIN	647	539	30	424	496	11	8	11	306
Mont.	3	9	-	15	11	-	1	6	167
Idaho	2	5	5	18	26	-	-	1	10
Wyo.	1	3	-	5	2	2	-	3	34
Colo.	84	91	3	51	131	5	3	1	27
N. Mex.	43	48	1	78	78	2	1	-	11
Ariz.	126	250	12	193	207	1	3	-	33
Utah	14	22	9	18	18	1	-	-	8
Nev.	374	111	-	46	23	-	-	-	16
PACIFIC	4,853	6,005	36	3,015	3,298	7	111	5	312
Wash.	138	123	4	173	195	1	9	1	-
Oreg.	229	223	1	118	91	-	7	1	-
Calif.	4,451	5,645	30	2,572	2,812	4	92	3	302
Alaska	10	3	-	35	50	2	-	-	10
Hawaii	25	11	1	117	150	-	3	-	-
Guam	3	2	-	21	26	-	-	-	-
P.R.	543	705	-	184	222	-	4	-	56
V.I.	1	7	-	6	2	-	-	-	-
Amer. Samoa	-	-	-	3	8	-	1	-	-
C.N.M.I.	1	-	-	17	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending October 8, 1988 (40th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	590	414	103	44	21	8	52
Boston, Mass.	162	94	44	9	10	5	15
Bridgeport, Conn.	31	25	4	-	1	1	1
Cambridge, Mass.	25	21	4	-	-	-	4
Fall River, Mass.	29	24	2	2	1	-	-
Hartford, Conn.	60	36	10	9	4	1	2
Lowell, Mass.	27	23	3	1	-	-	3
Lynn, Mass.	16	12	1	3	-	-	-
New Bedford, Mass.	33	27	2	3	1	-	1
New Haven, Conn.	24	16	6	2	-	-	3
Providence, R.I.	23	15	3	4	1	-	-
Somerville, Mass.	6	4	1	1	-	-	-
Springfield, Mass.	57	41	10	4	1	1	8
Waterbury, Conn.	33	26	4	2	1	-	6
Worcester, Mass.	64	50	9	4	1	-	9
MID. ATLANTIC	2,739	1,754	535	289	71	88	119
Albany, N.Y.	44	33	5	4	1	1	2
Allentown, Pa.	16	13	3	-	-	-	-
Buffalo, N.Y.	108	76	20	6	3	3	6
Camden, N.J.	28	17	3	3	1	4	2
Elizabeth, N.J.	17	13	3	-	-	1	-
Erie, Pa.†	50	34	7	6	-	3	6
Jersey City, N.J.§	67	42	15	7	-	3	1
N.Y. City, N.Y.	1,450	881	291	199	37	42	46
Newark, N.J.	49	14	14	13	6	1	-
Paterson, N.J.	33	15	7	2	1	8	1
Philadelphia, Pa.	497	341	96	34	13	12	28
Pittsburgh, Pa.†	52	33	13	1	2	3	2
Reading, Pa.	37	27	9	1	-	-	4
Rochester, N.Y.	105	76	21	6	1	1	10
Schenectady, N.Y.	30	22	7	-	-	1	-
Scranton, Pa.†	22	18	2	-	2	-	2
Syracuse, N.Y.	63	41	14	1	2	5	2
Trenton, N.J.	32	25	2	3	2	-	2
Utica, N.Y.§	17	15	1	1	-	-	-
Yonkers, N.Y.	22	18	2	2	-	-	5
E.N. CENTRAL	2,188	1,458	417	160	57	96	91
Akron, Ohio	49	33	6	4	1	5	1
Canton, Ohio	44	34	9	1	-	-	4
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	147	91	30	16	5	5	10
Cleveland, Ohio	181	110	32	14	5	20	8
Columbus, Ohio	84	51	18	9	5	1	-
Dayton, Ohio	93	59	25	4	2	3	6
Detroit, Mich.	263	158	59	25	7	14	7
Evansville, Ind.	52	44	5	2	1	-	2
Fort Wayne, Ind.	41	29	7	4	1	-	-
Gary, Ind.	18	9	5	2	-	2	-
Grand Rapids, Mich.	53	41	10	-	1	1	7
Indianapolis, Ind.	131	92	19	9	4	7	-
Madison, Wis.	38	23	7	6	1	1	4
Milwaukee, Wis.	118	85	18	5	3	7	8
Peoria, Ill.	34	25	7	1	-	1	9
Rockford, Ill.	43	35	6	2	-	-	2
South Bend, Ind.	48	36	3	5	1	3	3
Toledo, Ohio	115	78	22	3	9	3	4
Youngstown, Ohio	72	63	4	3	1	1	-
W.N. CENTRAL	761	538	138	41	19	25	35
Des Moines, Iowa	50	37	10	-	2	1	1
Duluth, Minn.	24	19	3	2	-	-	4
Kansas City, Kans.	40	29	4	5	1	1	-
Kansas City, Mo.	94	65	19	5	-	5	6
Lincoln, Nebr.	24	17	5	2	-	-	1
Minneapolis, Minn.	214	154	37	14	3	6	18
Omaha, Nebr.	73	45	13	5	7	3	2
St. Louis, Mo.	123	84	23	5	5	6	-
St. Paul, Minn.	48	34	10	2	-	2	-
Wichita, Kans.§	71	54	14	1	1	1	3

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
S. ATLANTIC	1,185	708	276	116	47	38	45
Atlanta, Ga.	127	70	42	13	2	-	4
Baltimore, Md.	248	141	65	29	8	5	8
Charlotte, N.C.	81	61	12	2	2	4	7
Jacksonville, Fla.	134	82	28	9	10	5	6
Miami, Fla.	95	51	23	15	3	3	-
Norfolk, Va.	52	26	12	5	4	5	3
Richmond, Va.	69	45	12	6	4	2	3
Savannah, Ga.	51	28	16	4	-	3	-
St. Petersburg, Fla.	64	57	5	1	-	1	4
Tampa, Fla.	60	41	10	-	7	2	6
Washington, D.C.§	180	90	46	29	7	8	3
Wilmington, Del.§	24	16	5	3	-	-	1
E.S. CENTRAL	798	493	193	58	26	28	44
Birmingham, Ala.	96	57	18	12	5	4	-
Chattanooga, Tenn.	49	35	9	3	1	1	5
Knoxville, Tenn.	85	51	19	8	5	2	8
Louisville, Ky.	97	58	26	8	1	4	3
Memphis, Tenn.	207	129	53	9	6	10	13
Mobile, Ala.	78	44	16	7	7	4	5
Montgomery, Ala.	55	31	20	2	1	1	4
Nashville, Tenn.	131	88	32	9	-	2	6
W.S. CENTRAL	1,813	1,088	401	200	66	58	52
Austin, Tex.	53	30	11	9	2	1	2
Baton Rouge, La.	49	25	14	4	1	5	2
Corpus Christi, Tex.§	48	37	10	1	-	-	1
Dallas, Tex.	202	111	43	30	12	6	1
El Paso, Tex.	45	27	8	3	5	2	2
Fort Worth, Tex	101	62	24	9	3	3	4
Houston, Tex.§	734	434	170	90	24	16	18
Little Rock, Ark.	85	48	20	9	5	3	4
New Orleans, La.	165	91	41	20	5	8	-
San Antonio, Tex.	151	95	28	14	5	9	7
Shreveport, La.	73	54	12	4	1	2	5
Tulsa, Okla.	107	74	20	7	3	3	6
MOUNTAIN	655	423	127	63	28	13	32
Albuquerque, N. Mex.	75	49	18	5	3	-	6
Colo. Springs, Colo.	36	25	5	5	-	1	8
Denver, Colo.	103	69	18	9	5	2	2
Las Vegas, Nev.	95	63	24	7	-	-	5
Ogden, Utah	17	11	2	3	1	-	2
Phoenix, Ariz.	167	93	34	22	13	5	3
Pueblo, Colo.	20	19	-	-	-	1	-
Salt Lake City, Utah	43	29	10	2	1	1	1
Tucson, Ariz.	99	65	16	10	5	3	5
PACIFIC	1,893	1,172	409	205	52	46	112
Berkeley, Calif.	16	13	1	2	-	-	2
Fresno, Calif.	82	52	17	7	4	2	5
Glendale, Calif.	32	24	7	1	-	-	2
Honolulu, Hawaii	79	53	19	6	-	1	8
Long Beach, Calif.	56	38	11	3	1	3	10
Los Angeles Calif.	585	351	130	73	20	4	18
Oakland, Calif.	64	39	12	6	3	4	7
Pasadena, Calif.	30	17	6	2	-	5	-
Portland, Oreg.	106	66	24	11	3	2	4
Sacramento, Calif.	142	87	32	14	5	4	12
San Diego, Calif.	153	99	29	16	6	2	16
San Francisco, Calif.	164	92	35	31	-	5	5
San Jose, Calif.	162	99	39	15	3	6	14
Seattle, Wash.	119	69	28	13	5	4	4
Spokane, Wash.	49	35	9	3	-	2	4
Tacoma, Wash.	54	38	10	2	2	2	1
TOTAL	12,622††	8,048	2,599	1,176	387	400	582

*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 available 4 weeks.

Cholera — Continued

affected by cholera are at virtually no risk of infection. The traveler's best protection against cholera, as well as against many other enteric diseases, is to avoid food and water that might be contaminated.

However, many countries affected or threatened by cholera require evidence of cholera vaccination for entry. One dose of vaccine will usually satisfy entry requirements for persons who anticipate travel to such countries and who will be vaccinated in the United States.

With the threat or occurrence of epidemic cholera, health authorities of some countries may require evidence of a complete primary series of two doses or a booster dose within 6 months before arrival. The complete primary series is otherwise suggested only for special high-risk groups that work and live in highly endemic areas under less than sanitary conditions (Table 1).

Vaccination requirements published by WHO are regularly updated and summarized for travelers by the Public Health Service and distributed to state and local health departments, airlines, travel agents, many physicians, and others. Physicians and travelers should seek information on requirements from these sources.

Physicians administering vaccine to travelers should emphasize that an International Certificate of Vaccination against cholera must be validated for it to be acceptable to quarantine authorities. Validation can be obtained at most city, county, and state health departments as well as many private clinics and physicians' offices. Failure to secure validation may cause travelers to be revaccinated or quarantined. A properly documented certificate is valid for 6 months, beginning 6 days after vaccination or beginning on the date of revaccination if this revaccination is within 6 months of a previous injection.

Data have indicated that persons given yellow fever and cholera vaccines simultaneously or 1–3 weeks apart had initially lower-titered antibody responses to both vaccines. However, seroconversion rates were unaffected, and the clinical importance of these data are unknown. In view of these data, yellow fever and cholera vaccines ideally should be given at least 3 weeks apart. If that is not possible, and both vaccines must be given, then they can be given simultaneously or at any time within the 3-week interval, although a delay in expected yellow fever protection may occur.

Primary Immunization

Complete primary immunization consists of two doses of vaccine given at least 1 week apart. The intradermal route is satisfactory for persons ≥5 years of age (Table 1).

Booster Doses

Booster doses may be given every 6 months if necessary for travel or for residence in highly endemic, unsanitary areas. In areas where cholera occurs in a 2–3 month

TABLE 1. Recommended doses, by volume, for immunization against cholera

	Route and age			
	Intradermal*	Subcutaneous or intramuscular		
Dose no.	≥5 yrs	6 mos–4 yrs	5–10 yrs	>10 yrs
1 and 2	0.2 mL	0.2 mL	0.3 mL	0.5 mL
Boosters	0.2 mL	0.2 mL	0.3 mL	0.5 mL

*Higher levels of protection (antibody) may be achieved in children <5 years old by the subcutaneous or intramuscular routes.

Cholera — Continued

season, protection is best if the booster dose is given at the beginning of the season. The primary series does not need to be repeated for booster doses to be effective.

PRECAUTIONS AND CONTRAINDICATIONS

Reactions

Vaccination often results in 1–2 days of pain, erythema, and induration at the site of injection. The local reaction may be accompanied by fever, malaise, and headache.

Serious reactions following cholera vaccination are extremely rare. If a person has had a serious reaction to the vaccine, revaccination is not advised. Most governments will permit an unvaccinated traveler to proceed if he/she carries a physician's statement of medical contraindication. However, some countries may quarantine such unvaccinated persons or place them under surveillance if they come from areas with cholera.

Pregnancy

No specific information exists on the safety of cholera vaccine during pregnancy. Its use should be individualized to reflect actual need.

SELECTED BIBLIOGRAPHY

Bart KJ, Gangarosa EJ. Cholera. In: Kelley VC, ed. Brennemann's practice of pediatrics. Vol II, chap. 18c. New York: Harper and Row, 1977:1–12.

Barua D, Burrows W, eds. Cholera. Philadelphia: WB Saunders, 1974.

CDC. Health information for international travel, 1988. Atlanta: US Department of Health and Human Services, Public Health Service, 1988; HHS publication no. (CDC)88-8280.

Felsenfeld O, Wolf RH, Dutta NK. Serological responses of Patas monkeys (*Erythrocebus patas*) to vaccination against cholera and yellow fever. Proc Soc Exp Biol Med 1973;143:548–50.

Gangarosa EJ, Barker WH. Cholera: implications for the United States. JAMA 1974;227:170–1.

Gateff C, Dodin A, Wiart J. Comparaison des réactions sérologiques induites par un vaccin anticholérique classique et une fraction vaccinante purifiée associés ou non au vaccin antiamaril. Ann Microbiol (Paris) 1975;126:231–46.

McCormack WM, Chowdhury AM, Jahangir N, et al. Tetracycline prophylaxis in families of cholera patients. Bull WHO 1968;38:787–92.

Philippines Cholera Committee. A controlled field trial on the effectiveness of the intradermal and subcutaneous administration of cholera vaccine in the Philippines. Bull WHO 1973; 49:389–94.

Snyder JD, Blake PA. Is cholera a problem for US travelers? JAMA 1982;247:2268–9.

Sommer A, Khan M, Mosley WH. Efficacy of vaccination of family contacts of cholera cases. Lancet 1973;1:1230–2.

International Notes

Poliomyelitis — Israel

From July 31 to September 28, 1988, 16 persons in Israel (population 4.6 million) were reported with confirmed or suspected paralytic poliomyelitis. Thirteen cases were reported from the District of Hadera (population 180,000), located approximately 30 miles northeast of Tel Aviv.

Eight cases occurred in persons 20–33 years old, four in persons 11–19 years old, one in a 5-year-old child, and three in children 2–21 months old. Of the three cases not occurring in residents of Hadera, two were in children 9 and 21 months of age. To date, Type I poliovirus has been isolated from eight persons.

Poliomyelitis — Continued

Israel began vaccination against polio with inactivated polio vaccine (IPV) in 1957. In the early 1960s, oral polio vaccine (OPV) replaced IPV nationwide. The vaccine schedule consisted of OPV given at 2, 4, 6, and 12–14 months of age. Between 1971 and 1981, an average of 14 paralytic poliomyelitis cases was reported annually in Israel. Hadera had reported the highest incidence of paralytic polio before 1982. In 1982, the use of an enhanced potency IPV (eIPV) was instituted in Hadera and one other of the 15 districts in Israel. Between 1982 and 1987, fewer than two cases of paralytic poliomyelitis were reported annually in Israel. None of the cases in the current outbreak occurred in eIPV recipients.

Because of the outbreak, vaccination of all persons ≤39 years was carried out in Hadera and in the second eIPV district, primarily with OPV. Vaccination in other districts is in progress. It is anticipated that vaccination of the entire national population ≤39 years will be completed within 2 weeks.

Reported by: Dept of Epidemiology, Ministry of Health, Jerusalem, Israel. Div of Immunization, Center for Prevention Svcs, CDC.

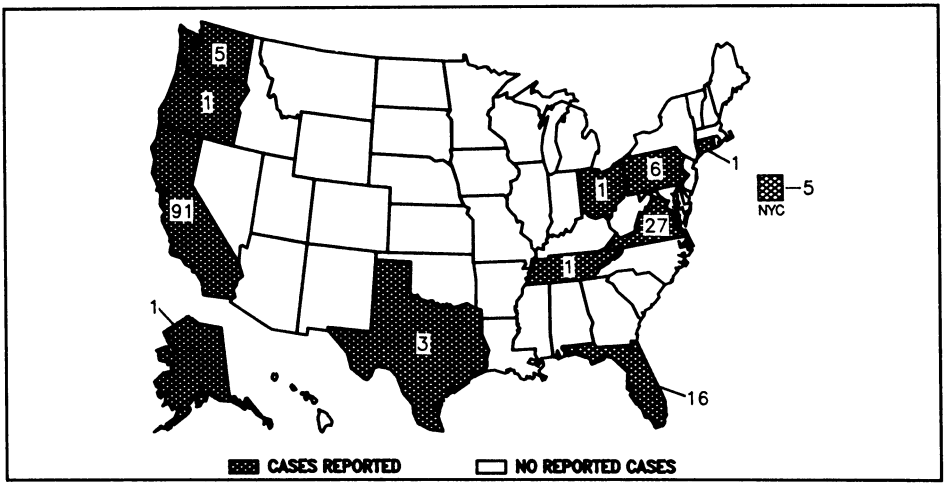
Editorial Note: In developed countries, such as Japan, Australia, New Zealand, Canada, and the countries of industrialized Europe, the risk of acquiring poliomyelitis is usually no greater than in the United States. In contrast, all developing countries should generally be considered endemic for poliomyelitis. Proof of poliomyelitis immunization is not required for international travel. However, the Immunization Practices Advisory Committee (ACIP) recommends that travelers to countries where poliomyelitis is occurring, which now temporarily includes Israel, be immunized. Schedules for primary immunization against poliomyelitis require three or more doses. In general, OPV is the vaccine of choice for persons <18 years of age. Unimmunized adults ≥18 years should receive at least two doses of eIPV at least 4 weeks apart, and preferably a complete primary series, before traveling. If travel plans do not permit this interval, one dose of OPV or eIPV is recommended. For adults incompletely immunized with OPV or IPV, the remaining doses should be given to complete the primary series, regardless of the interval since the last dose or the type of vaccine previously received; either OPV or eIPV can be used to complete the series. One additional dose of either OPV or eIPV should be given to travelers of all ages who completed a primary series of OPV or IPV. Ideally, this booster dose should be administered at least 2 months before scheduled departure to ensure maximum protective benefit. ACIP recommendations on poliomyelitis prevention should be consulted for further details (*1,2*).

World Health Organization consultants in Israel expect that the containment measures in progress and those planned will terminate the outbreak.

References

1. Immunization Practices Advisory Committee. Poliomyelitis prevention. MMWR 1982; 31:22–6,31–4.
2. Immunization Practices Advisory Committee. Poliomyelitis prevention: enhanced-potency inactivated poliomyelitis vaccine—supplementary statement. MMWR 1987;36:795–8.

FIGURE I. Reported measles cases — United States, Weeks 36–39, 1988



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

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

☆U.S. Government Printing Office: 1989-631-108/81530 Region IV

HHS Publication No. (CDC) 89-8017