CENTERS FOR DISEASE CONTROL

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Progress in Chronic Disease Prevention

Cholesterol Awareness in Selected States — Behavioral Risk Factor Surveillance, 1987

Over the past 10 years, the association between high levels of serum cholesterol and increased risk of coronary heart disease (CHD) has been well documented (*1*). In addition, a growing body of evidence demonstrates that individuals with elevated cholesterol levels can reduce their risk of CHD by lowering their serum cholesterol and that a 1% decline in serum cholesterol results in a 2% decline in the risk of cardiovascular disease (*2*). The 3%–4% decline in serum cholesterol reported among U.S. adults from 1960 to 1980 has probably contributed to the overall decline in CHD mortality observed during this period (*3*).

In November 1985, the National Heart, Lung, and Blood Institute (NHLBI) initiated the National Cholesterol Education Program (NCEP), a cooperative undertaking by health organizations in the United States (*4*). The goal of the program is to contribute to lowering the morbidity and mortality from CHD by reducing the prevalence of elevated serum cholesterol in this country.* The NCEP focuses on public education; its central theme is "Know your blood cholesterol number." Individuals are encouraged to ask about serum cholesterol the next time they see their doctor; to have their cholesterol tested if they have not already done so; to know their number, or level; and to learn whether their cholesterol level needs to be lower.

To determine the proportion of adults who report having taken these steps, data from the 33 states (including the District of Columbia) that participated in the 1987 Behavioral Risk Factor Surveillance System (BRFSS) were analyzed. Since 1984, state health departments have collected these data by conducting telephone surveys of the adult residents of their states (*5*). Telephone surveys using random-digit dialing are conducted every month throughout the year, and approximately 1,500 interviews are completed annually in each state. Respondents are selected randomly from all adults living in each household. The results presented here are weighted to account for the age, race, and sex distribution of adults in each state in 1980 as well as for the respondents' probability of selection.

*A serum cholesterol level of 240 mg/dL or greater is considered "high"; 200 to 239 mg/dL is considered "borderline-high"; and less than 200 mg/dL is considered "desirable" (*4*).

Cholesterol Awareness — Continued

The 1987 survey included three questions regarding cholesterol testing and awareness. Respondents were asked whether they had ever had their cholesterol tested. If so, they were asked whether they had been told their cholesterol level, and those who had been given this information were asked what their level was.

The proportion of adults in each state who reported having had their cholesterol tested ranged from 29% to 57%, with a median of 47% (Table 1). The proportion of adults who reported being told their value ranged from 3% to 29%, with a median of 19%. Finally, the proportion of adults who were able to provide a value for their cholesterol ranged from 1% to 9%, with a median of 6% (Figure 1).

Although current levels of individual cholesterol awareness in the United States are low, they appear to be increasing. Surveys conducted by the NHLBI in 1983 and and again in 1986 show that the proportion of adults in the United States who reported that their serum cholesterol had been checked rose from 35% to 46%, and the proportion who claimed to know their cholesterol level rose from 3% to 7% (*6*). The proportion of U.S. adults who had had their cholesterol tested (46%) and who knew their cholesterol level (7%) in 1986 are similar to the median values of the states participating in the 1987 BRFSS (47% and 5%).

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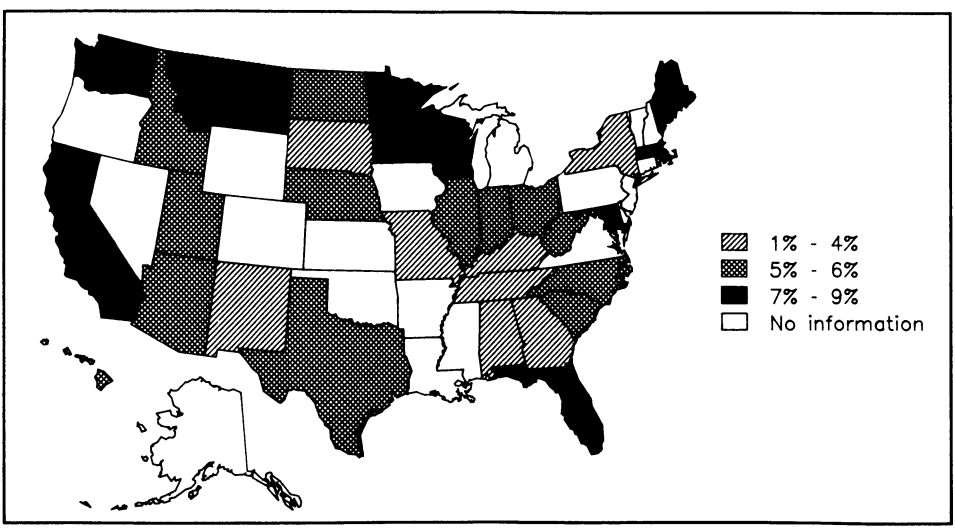
FIGURE 1. Percentage of respondents who claim to know their cholesterol level, by state — Behavioral Risk Factor Surveillance System, 1987



Cholesterol Awareness — Continued

TABLE 1. Cholesterol awareness — Behavioral Risk Factor Surveillance System, 1987

State*	Sample Size†	Respondents Having Cholesterol Checked (%)	95% CI§	Respondents Told Their Cholesterol Level (%)	95% CI§	Respondents Knowing Their Cholesterol Level (%)	95% CI§
Alabama	1,182	(42)	±3	(15)	±2	(2)	±1
Arizona	1,178	(47)	±3	(19)	±2	(6)	±1
California	1,793	(50)	±3	(21)	±2	(7)	±1
District of Columbia	1,116	(55)	±3	(22)	±3	(5)	±1
Florida	1,237	(51)	±3	(22)	±3	(7)	±2
Georgia	1,332	(43)	±3	(17)	±2	(3)	±1
Hawaii	1,862	(47)	±3	(22)	±2	(6)	±1
Idaho	1,786	(42)	±3	(18)	±2	(5)	±1
Illinois	1,762	(44)	±3	(15)	±2	(5)	±1
Indiana	2,091	(41)	±2	(14)	±2	(6)	±1
Kentucky	1,787	(43)	±3	(14)	±2	(4)	±1
Maine	1,226	(47)	±3	(20)	±2	(9)	±2
Maryland	1,048	(57)	±4	(24)	±3	(9)	±2
Massachusetts	1,420	(47)	±3	(21)	±2	(7)	±1
Minnesota	3,234	(48)	±2	(23)	±2	(8)	±1
Missouri	1,357	(44)	±3	(17)	±2	(4)	±1
Montana	1,186	(50)	±3	(23)	±3	(8)	±2
Nebraska	1,180	(44)	±3	(22)	±3	(6)	±1
New Mexico	1,161	(29)	±3	(3)	±1	(1)	±1
New York	1,169	(33)	±3	(9)	±2	(4)	±1
North Carolina	1,763	(49)	±3	(17)	±2	(6)	±1
North Dakota	1,611	(49)	±3	(20)	±2	(6)	±1
Ohio	1,489	(47)	±3	(16)	±2	(5)	±1
Rhode Island	1,783	(42)	±3	(13)	±2	(5)	±1
South Carolina	1,782	(47)	±3	(10)	±2	(5)	±1
South Dakota	1,185	(46)	±3	(19)	±2	(4)	±1
Tennessee	2,384	(47)	±2	(15)	±2	(4)	±1
Texas	1,179	(46)	±3	(19)	±2	(6)	±1
Utah	1,427	(41)	±3	(20)	±2	(5)	±1
Washington	1,172	(53)	±3	(29)	±3	(9)	±2
West Virginia	1,627	(48)	±3	(17)	±2	(6)	±1
Wisconsin	1,338	(46)	±3	(22)	±2	(8)	±2
Range		29% – 57%		3% – 29%		1% – 9%	
Median		47%		19%		6%	

*Data from New Hampshire unavailable at time of publication.
†The sample size was used as the denominator for each estimate.
§CI = confidence interval.

Cholesterol Awareness — Continued

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Editorial Note: The proportion of adults who reported having had their cholesterol tested varied widely from state to state. This variation may reflect differences either in the availability and use of public or private cholesterol testing or in the respondents' awareness of the results of past testing.

Fewer than one in ten adults in the states participating in the BRFSS claimed to know their cholesterol value. This low level of awareness appears to result from several factors. First, fewer than half of the adults who had had their cholesterol tested said that they were told their value, and second, fewer than a third of those who were told their cholesterol level remembered it.

In recognition of the need for federal, state, and local activities supporting cholesterol awareness, April 1988 has been designated as "National Know Your Cholesterol Month" (*4*). Efforts such as this should be continued to encourage all adults to have their cholesterol tested, to encourage health-care providers to inform patients of their cholesterol value and its significance, and to help individuals to "know their numbers."

Continuing the downward trend of serum cholesterol levels in the United States will depend initially on improved awareness. However, long-term progress in reducing risk from elevated cholesterol will require broad, population-based changes in diet as well as adherence to drug regimens, when warranted. Data from the BRFSS can be useful in planning and monitoring the progress of population-based programs to improve cholesterol awareness.

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Current Trends

Trends in Years of Potential Life Lost Due to Infant Mortality and Perinatal Conditions, 1980–1983 and 1984–1985

The majority of deaths from three of the seven leading causes of years of potential life lost (YPLL) occur during the first year of life (*1*). Analysis of overall YPLL from infant deaths and of YPLL from perinatal conditions* for 1980–1983 (*2*) and 1984–1985 reveals that YPLL for all genders and races has declined.

Data from the national mortality computer tapes and natality statistics (*3*) from the National Center for Health Statistics, CDC, were used for this analysis. The classification scheme for perinatal and other causes of death and the formula used for calculating YPLL have been described (*2,4*). Since YPLL from infant deaths for any given year should be evaluated in light of the number of live births for that year, average YPLL per 1,000 live births was calculated.

Between 1980–1983 and 1984–1985, the average annual YPLL per 1,000 live births declined for all genders and races. Declines were greatest for white female infants (14%) and white male infants (13%). Black male infants and male infants of other races had a 12% decline, and black and other female infants had a 10% decline. YPLL rates declined most rapidly for deaths caused by birth trauma/asphyxia (Table 1). The average YPLL for birth trauma/asphyxia dropped 33% for whites (from 36/1,000 live births to 24/1,000) and 31% for blacks and others (from 59/1,000 to 41/1,000).

For 1980–1983, the average annual YPLL for deaths occurring within the first year of life was 2,787,465; 1,861,691 (66.8%) occurred because of deaths during the neonatal period (<28 days), and 925,774, because of deaths during the postneonatal period (28 days to<1 year) (*2*). For 1984–1985, the average annual YPLL within the first year of life was 2,579,920; 1,685,549 (65.3%) occurred because of deaths during the neonatal period, and 896,741, because of deaths during the postneonatal period.

*Conditions arising between 28 weeks gestation and 7 days of life.

TABLE 1. Average years of potential life lost (YPLL) and percentage decline in average YPLL per 1,000 live births due to perinatal conditions, by race — United States, 1980–1983 and 1984–1985

Perinatal Conditions	Average YPLL/1,000 Live Births					
	White			Black and Other†		
	1980–1983	1984–1985	Decline (%)	1980–1983	1984–1985	Decline (%)
Prematurity/ Low Birthweight	47	42	(10.6)	133	118	(11.3)
Respiratory Distress	82	76	(7.3)	124	111	(10.5)
Other Respiratory Illness	39	37	(5.1)	83	70	(15.7)
Birth Trauma	36	24	(33.3)	59	41	(30.5)
Other	94	81	(13.8)	194	176	(9.3)
Total*	**299**	**259**	**(13.4)**	**592**	**515**	**(13.0)**

*Totals may not be exact because of rounding.
†Includes infants of unknown race.

YPLL — Continued

The average YPLL per 1,000 live births declined from 749 for the period 1980–1983 to 694 for 1984–1985.

Conditions arising during the perinatal period were responsible for 47% (1,301,746) of YPLL among infants from 1980–1983 (*2*) and 45% (1,162,490) of YPLL among infants from 1984–1985. During both study periods, respiratory conditions accounted for approximately one-third of the average YPLL due to perinatal conditions; respiratory distress syndrome was the most frequent respiratory condition. Male infants had higher annual YPLL rates than female infants (Table 2). Differences in YPLL rates by gender were greatest for deaths due to respiratory distress syndrome; the rate for male infants exceeded the rate for female infants by 34%. The ratio of blacks to whites for all perinatal conditions was 2.3 for male infants and 2.5 for female infants.

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Editorial Note: Deaths due to prematurity as defined in Table V (see page 255) exclude conditions such as slow fetal growth and fetal maturation (International

(Continued on page 256)

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

Disease	16th Week Ending			Cumulative, 16th Week Ending		
	April 23, 1988	April 25, 1987	Median 1983-1987	April 23, 1988	April 25, 1987	Median 1983-1987
Acquired Immunodeficiency Syndrome (AIDS)	937	U *	153	9,560	6,081	2,027
Aseptic meningitis	76	84	66	1,152	1,418	1,296
Encephalitis: Primary (arthropod-borne & unspec)	11	19	14	188	257	257
Post-infectious	1	2	2	23	21	29
Gonorrhea: Civilian	10,748	16,882	15,632	204,318	249,114	252,297
Military	228	364	354	3,744	5,366	6,224
Hepatitis: Type A	340	496	423	7,360	7,719	6,916
Type B	428	524	493	6,157	7,743	7,526
Non A, Non B	35	64	73	732	970	1,039
Unspecified	49	69	115	653	1,034	1,525
Legionellosis	11	26	11	205	248	187
Leprosy	4	-	6	53	63	84
Malaria	17	14	14	207	209	209
Measles: Total†	34	113	113	700	1,177	882
Indigenous	33	70	79	612	1,020	776
Imported	1	43	13	88	157	106
Meningococcal infections	68	68	68	1,114	1,232	1,075
Mumps	101	384	85	1,601	5,975	1,291
Pertussis	13	29	33	687	553	558
Rubella (German measles)	3	4	16	65	99	160
Syphilis (Primary & Secondary): Civilian	729	671	552	11,302	10,307	8,704
Military	2	1	5	61	63	74
Toxic Shock syndrome	7	3	11	87	99	121
Tuberculosis	368	430	430	5,486	5,977	5,977
Tularemia	-	6	1	27	31	26
Typhoid Fever	6	9	8	104	87	87
Typhus fever, tick-borne (RMSF)	2	4	4	21	17	24
Rabies, animal	60	117	117	1,134	1,486	1,486

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1988		Cum. 1988
Anthrax	-	Leptospirosis (Hawaii 1)	9
Botulism: Foodborne	4	Plague	1
Infant	11	Poliomyelitis, Paralytic	-
Other	2	Psittacosis	22
Brucellosis	15	Rabies, human	-
Cholera	-	Tetanus (N.C. 2, Ky. 1)	12
Congenital rubella syndrome (Calif. 1)	1	Trichinosis (Calif. 1)	6
Congenital syphilis, ages < 1 year	-		
Diphtheria	-		

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.
†One of the 34 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 April 23, 1988 and April 25, 1987 (16th 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	9,645	1,152	188	23	204,318	249,114	7,360	6,157	732	653	205	53
NEW ENGLAND	344	58	9	-	6,182	8,519	261	410	72	41	9	9
Maine	14	5	1	-	147	249	12	21	3	1	1	-
N.H.	8	10	-	-	100	141	17	18	4	3	1	-
Vt.	3	3	3	-	49	62	3	13	5	-	-	-
Mass.	203	25	4	-	2,189	3,138	149	246	48	32	5	8
R.I.	13	12	-	-	550	710	38	48	8	-	2	1
Conn.	103	3	1	-	3,147	4,219	42	64	4	5	-	-
MID. ATLANTIC	3,559	141	20	-	31,125	40,112	429	762	46	63	41	4
Upstate N.Y.	460	80	14	-	4,059	5,199	275	227	24	8	24	-
N.Y. City	2,094	24	5	-	13,750	21,504	66	328	4	43	2	4
N.J.	727	37	1	-	4,481	5,018	88	207	18	12	-	-
Pa.	278	-	-	-	8,835	8,391	-	-	-	-	15	-
E.N. CENTRAL	661	141	34	2	32,098	34,902	373	601	39	39	60	-
Ohio	140	60	16	2	7,586	7,442	113	172	12	6	22	-
Ind.	51	23	5	-	2,514	2,801	46	84	3	14	5	-
Ill.	325	2	-	-	9,233	10,713	32	34	-	2	-	-
Mich.	113	50	9	-	10,515	10,799	134	250	17	17	24	-
Wis.	32	6	4	-	2,250	3,147	48	61	7	-	9	-
W.N. CENTRAL	210	56	13	2	8,047	9,893	446	310	29	10	14	-
Minn.	42	13	2	-	1,116	1,555	16	41	5	3	-	-
Iowa	11	12	7	-	592	958	26	31	4	-	4	-
Mo.	101	12	-	-	4,571	5,101	249	188	14	5	1	-
N. Dak.	-	-	-	-	46	112	2	2	1	-	1	-
S. Dak.	3	5	-	1	173	196	-	1	1	-	5	-
Nebr.	16	3	1	1	471	582	15	16	-	-	2	-
Kans.	37	11	3	-	1,078	1,389	138	31	4	2	1	-
S. ATLANTIC	1,478	267	25	8	58,225	65,320	596	1,279	96	88	37	1
Del.	14	5	2	-	834	977	10	36	4	1	4	-
Md.	151	29	2	2	6,007	7,191	70	206	6	3	5	1
D.C.	155	7	-	-	3,792	4,411	5	13	2	1	-	-
Va.	126	29	12	1	4,065	5,035	122	81	23	57	4	-
W. Va.	5	6	1	-	506	518	3	23	2	3	-	-
N.C.	93	47	7	-	9,485	9,747	122	222	25	-	14	-
S.C.	61	4	-	-	4,364	5,515	16	190	4	3	4	-
Ga.	185	31	1	-	11,385	11,154	101	212	4	1	3	-
Fla.	688	109	-	5	17,787	20,772	147	296	26	19	3	-
E.S. CENTRAL	254	82	16	5	15,705	18,067	317	384	56	6	8	1
Ky.	34	29	4	1	1,266	1,846	285	76	24	2	4	-
Tenn.	120	8	5	-	5,209	6,124	23	185	14	-	2	-
Ala.	65	35	7	2	5,434	5,927	3	106	16	4	2	1
Miss.	35	10	-	2	3,796	4,170	6	17	2	-	-	-
W.S. CENTRAL	753	104	14	-	23,318	28,535	748	443	59	160	7	6
Ark.	30	3	2	-	2,099	2,722	92	26	1	3	-	-
La.	130	17	1	-	5,072	5,294	41	100	9	6	3	-
Okla.	35	10	4	-	2,062	2,999	199	66	16	14	4	-
Tex.	558	74	7	-	14,085	17,520	416	251	33	137	-	6
MOUNTAIN	330	49	16	1	4,206	6,659	1,050	497	75	68	12	-
Mont.	5	2	-	-	126	161	17	20	4	2	-	-
Idaho	3	1	-	-	117	237	53	29	2	1	-	-
Wyo.	1	1	-	-	72	127	1	4	3	-	1	-
Colo.	121	16	2	-	994	1,385	64	58	9	32	4	-
N. Mex.	14	1	1	-	415	708	193	63	4	1	1	-
Ariz.	118	15	5	-	1,404	2,397	536	216	30	19	3	-
Utah	25	7	3	1	208	229	121	38	17	11	2	-
Nev.	43	6	5	-	870	1,415	65	69	6	2	1	-
PACIFIC	2,056	254	41	5	25,412	37,107	3,140	1,471	260	178	17	32
Wash.	108	-	1	3	2,048	2,721	629	166	38	18	6	2
Oreg.	71	-	-	-	918	1,374	594	215	30	8	-	-
Calif.	1,841	226	38	2	21,860	32,095	1,816	1,050	188	148	9	29
Alaska	7	6	1	-	345	592	98	28	3	3	-	1
Hawaii	29	22	1	-	241	325	3	12	1	1	2	-
Guam	-	-	-	-	35	60	2	3	-	2	-	3
P.R.	394	9	1	-	442	679	7	76	16	12	-	-
V.I.	9	-	-	-	118	73	-	3	-	-	-	-
Amer. Samoa	-	-	-	-	-	178	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	13	34	-	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 April 23, 1988 and April 25, 1987 (16th 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	207	33	612	1	88	1,177	1,114	101	1,601	13	687	553	3	65	99
NEW ENGLAND	19	-	2	-	44	92	90	1	6	1	75	14	-	-	-
Maine	2	-	-	-	-	3	3	-	-	-	11	-	-	-	-
N.H.	-	-	1	-	43	77	8	-	3	-	21	1	-	-	-
Vt.	-	-	-	-	-	6	4	-	-	-	1	3	-	-	-
Mass.	12	-	1	-	-	2	40	1	3	-	33	3	-	-	-
R.I.	3	-	-	-	-	-	14	-	-	-	1	-	-	-	-
Conn.	2	-	-	-	1	4	21	-	-	1	8	7	-	-	-
MID. ATLANTIC	26	24	175	-	2	158	90	20	163	1	20	75	1	5	3
Upstate N.Y.	13	-	-	-	2	16	48	5	33	1	8	58	-	1	1
N.Y. City	7	-	15	-	-	114	16	-	45	-	1	-	1	2	1
N.J.	4	-	-	-	-	8	26	1	21	-	1	4	-	1	1
Pa.	2	24	160	-	-	20	-	14	64	-	10	13	-	1	-
E.N. CENTRAL	9	3	45	1	4	142	109	14	403	-	74	75	-	20	17
Ohio	1	-	-	-	3	4	44	-	49	-	16	25	-	-	-
Ind.	-	-	-	-	-	-	9	14	36	-	38	1	-	-	-
Ill.	-	3	33	-	-	66	2	-	139	-	2	4	-	16	16
Mich.	7	-	12	1†	1	23	38	-	122	-	13	21	-	4	1
Wis.	1	-	-	-	-	49	16	-	57	-	5	24	-	-	-
W.N. CENTRAL	6	-	-	-	-	33	43	-	77	1	34	34	-	-	1
Minn.	2	-	-	-	-	-	13	-	-	1	5	7	-	-	-
Iowa	-	-	-	-	-	-	-	-	25	-	14	3	-	-	1
Mo.	3	-	-	-	-	32	16	-	19	-	5	13	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	6	2	-	-	-
S. Dak.	-	-	-	-	-	-	1	-	-	-	2	2	-	-	-
Nebr.	-	-	-	-	-	-	5	-	5	-	-	-	-	-	-
Kans.	1	-	-	-	-	1	8	-	28	-	2	7	-	-	-
S. ATLANTIC	29	1	136	-	9	37	198	15	144	3	58	118	-	1	9
Del.	-	-	-	-	-	-	1	-	-	-	3	-	-	-	-
Md.	2	1	1	-	2	-	22	2	9	2	12	2	-	-	2
D.C.	5	-	-	-	-	-	5	12	62	-	-	-	-	-	-
Va.	6	-	46	-	2	-	25	-	29	-	7	32	-	-	1
W. Va.	-	-	6	-	-	-	-	-	4	-	-	16	-	-	-
N.C.	5	-	-	-	1	-	33	1	19	1	22	51	-	-	-
S.C.	3	-	-	-	-	-	21	-	3	-	-	-	-	-	-
Ga.	2	-	-	-	-	-	31	-	8	-	13	13	-	-	1
Fla.	6	-	83	-	4	37	60	-	10	-	1	4	-	1	5
E.S. CENTRAL	3	1	6	-	-	-	106	-	218	3	10	7	-	-	2
Ky.	-	-	-	-	-	-	20	-	58	-	-	1	-	-	2
Tenn.	-	-	-	-	-	-	62	-	152	1	7	1	-	-	-
Ala.	3	-	-	-	-	-	18	-	6	2	2	3	-	-	-
Miss.	-	1	6	-	-	-	6	N	N	-	1	2	-	-	-
W.S. CENTRAL	18	-	9	-	-	75	75	27	270	-	29	40	-	4	1
Ark.	-	-	-	-	-	-	10	-	3	-	5	2	-	3	1
La.	2	-	-	-	-	-	21	14	118	-	2	9	-	-	-
Okla.	5	-	8	-	-	1	8	5	71	-	22	29	-	1	-
Tex.	11	-	1	-	-	74	36	8	78	-	-	-	-	-	-
MOUNTAIN	10	-	113	-	-	230	36	7	94	1	264	49	-	2	6
Mont.	1	-	-	-	-	1	-	-	-	-	1	2	-	-	-
Idaho	-	-	-	-	-	-	2	-	1	1	217	18	-	-	1
Wyo.	-	-	-	-	-	-	-	-	2	-	1	2	-	-	1
Colo.	4	-	113	-	-	-	9	1	21	-	6	17	-	1	-
N. Mex.	1	-	-	-	-	227	8	N	N	-	1	1	-	-	-
Ariz.	2	-	-	-	-	2	10	5	59	-	18	8	-	-	-
Utah	1	-	-	-	-	-	6	-	2	-	19	1	-	-	4
Nev.	1	-	-	-	-	-	1	1	9	-	1	-	-	1	-
PACIFIC	87	4	126	-	29	410	367	17	226	3	123	141	2	33	60
Wash.	6	-	-	-	-	-	29	1	10	1	26	22	-	-	-
Oreg.	5	-	-	-	-	34	17	N	N	-	3	13	-	-	1
Calif.	75	4	126	-	28	374	304	15	210	2	72	66	1	30	55
Alaska	1	-	-	-	-	-	4	1	6	-	3	3	-	-	-
Hawaii	-	-	-	-	1	2	13	-	-	-	19	37	1	3	4
Guam	-	-	-	-	1	2	-	-	2	-	-	-	-	1	-
P.R.	1	-	109	-	-	301	4	-	4	-	3	11	-	-	1
V.I.	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*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 April 23, 1988 and April 25, 1987 (16th 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	11,302	10,307	87	5,486	5,977	27	104	21	1,134
NEW ENGLAND	315	147	9	109	164	1	7	-	3
Maine	5	1	1	3	10	-	-	-	1
N.H.	3	2	3	-	5	-	-	-	2
Vt.	-	1	2	-	4	-	-	-	-
Mass.	130	74	3	71	78	1	5	-	-
R.I.	11	4	-	9	16	-	-	-	-
Conn.	166	65	-	26	51	-	2	-	-
MID. ATLANTIC	2,278	1,763	13	956	1,111	-	17	2	120
Upstate N.Y.	148	69	7	174	178	-	2	1	1
N.Y. City	1,518	1,229	2	391	543	-	8	1	-
N.J.	253	193	2	185	188	-	7	-	-
Pa.	359	272	2	206	202	-	-	-	119
E.N. CENTRAL	350	307	13	684	695	1	10	-	20
Ohio	34	36	10	121	148	-	3	-	-
Ind.	18	15	-	74	63	-	2	-	3
Ill.	192	187	-	275	292	-	4	-	5
Mich.	99	44	3	176	170	1	1	-	4
Wis.	7	25	-	38	22	-	-	-	8
W.N. CENTRAL	72	41	11	158	171	11	3	1	139
Minn.	6	5	-	29	45	-	1	-	59
Iowa	8	7	2	13	8	-	-	-	13
Mo.	39	21	4	76	86	9	2	1	5
N. Dak.	1	-	-	2	1	-	-	-	21
S. Dak.	5	4	1	16	7	-	-	-	32
Nebr.	7	3	2	4	11	1	-	-	1
Kans.	6	1	2	18	13	1	-	-	8
S. ATLANTIC	3,999	3,567	9	1,274	1,167	4	15	12	381
Del.	49	31	-	13	11	1	-	-	16
Md.	214	187	1	115	99	-	-	-	85
D.C.	181	101	-	60	37	-	-	-	3
Va.	135	80	-	135	104	2	7	-	132
W. Va.	1	4	-	31	41	-	-	-	28
N.C.	243	188	5	98	119	-	1	10	-
S.C.	176	242	-	126	122	-	-	2	20
Ga.	657	504	-	201	174	1	2	-	69
Fla.	2,343	2,230	3	495	460	-	5	-	28
E.S. CENTRAL	581	624	11	437	494	4	1	3	109
Ky.	20	5	4	120	116	3	1	-	49
Tenn.	198	287	4	100	161	-	-	1	32
Ala.	194	171	3	143	164	-	-	2	28
Miss.	169	161	-	74	53	1	-	-	-
W.S. CENTRAL	1,223	1,334	7	675	654	3	2	1	158
Ark.	58	70	-	66	65	1	-	-	33
La.	231	230	-	105	104	-	2	-	-
Okla.	49	45	2	66	70	2	-	1	14
Tex.	885	989	5	438	415	-	-	-	111
MOUNTAIN	197	233	8	117	187	3	5	1	92
Mont.	2	7	-	-	8	-	1	-	74
Idaho	-	1	2	2	16	-	-	1	-
Wyo.	-	-	-	1	1	-	-	-	6
Colo.	28	32	1	8	35	3	3	-	-
N. Mex.	17	21	-	31	32	-	-	-	4
Ariz.	56	113	1	58	86	-	1	-	7
Utah	7	8	4	-	1	-	-	-	1
Nev.	87	51	-	17	8	-	-	-	-
PACIFIC	2,287	2,291	6	1,076	1,334	-	44	1	112
Wash.	61	45	-	66	60	-	3	-	-
Oreg.	90	83	-	40	40	-	5	-	-
Calif.	2,122	2,156	6	908	1,152	-	34	1	109
Alaska	3	2	-	11	21	-	-	-	3
Hawaii	11	5	-	51	61	-	2	-	-
Guam	-	1	-	7	4	-	-	-	-
P.R.	180	301	-	54	76	-	2	-	22
V.I.	1	3	-	3	2	-	-	-	-
Amer. Samoa	-	83	-	-	52	-	-	-	-
C.N.M.I.	-	2	-	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending April 23, 1988 (16th Week)

Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	617	443	103	40	14	17	57
Boston, Mass.	155	92	34	16	5	8	12
Bridgeport, Conn.	22	14	6	2	-	-	-
Cambridge, Mass.	23	21	2	-	-	-	4
Fall River, Mass.	36	25	6	5	-	-	-
Hartford, Conn.	44	30	7	4	1	2	4
Lowell, Mass.	25	16	5	2	2	-	-
Lynn, Mass.	14	11	3	-	-	-	-
New Bedford, Mass.	27	20	6	1	-	-	4
New Haven, Conn.	40	28	6	4	1	1	6
Providence, R.I.	58	45	10	2	-	1	5
Somerville, Mass.	6	5	1	-	-	-	-
Springfield, Mass.	57	45	7	1	2	2	5
Waterbury, Conn.	34	26	5	1	1	1	8
Worcester, Mass.	76	65	5	2	2	2	9
MID. ATLANTIC	2,943	1,905	597	300	68	73	162
Albany, N.Y.	55	32	11	5	1	6	3
Allentown, Pa.§	18	16	2	-	-	-	-
Buffalo, N.Y.	117	80	21	7	1	8	6
Camden, N.J.	44	15	16	6	2	5	1
Elizabeth, N.J.	31	21	7	3	-	-	-
Erie, Pa.†	42	31	8	1	1	1	4
Jersey City, N.J.	54	29	10	12	-	3	2
N.Y. City, N.Y.	1,475	940	291	181	38	25	65
Newark, N.J.	72	36	20	13	-	3	4
Paterson, N.J.	22	12	6	3	1	-	-
Philadelphia, Pa.	496	334	90	42	13	17	35
Pittsburgh, Pa.†	96	53	33	6	1	3	4
Reading, Pa.	42	35	5	-	2	-	3
Rochester, N.Y.	121	94	17	5	4	1	15
Schenectady, N.Y.	37	30	5	2	-	-	-
Scranton, Pa.†	22	15	5	2	-	-	3
Syracuse, N.Y.	94	62	27	4	1	-	11
Trenton, N.J.	55	33	13	5	3	1	1
Utica, N.Y.	19	16	3	-	-	-	2
Yonkers, N.Y.	31	21	7	3	-	-	3
E.N. CENTRAL	2,271	1,517	463	148	68	75	96
Akron, Ohio	58	37	12	6	1	2	-
Canton, Ohio	39	31	7	-	1	-	2
Chicago, Ill.§	564	362	125	45	10	22	16
Cincinnati, Ohio	101	65	20	5	2	9	10
Cleveland, Ohio	146	93	37	10	4	2	8
Columbus, Ohio	126	75	26	12	6	7	-
Dayton, Ohio	116	82	22	5	4	3	3
Detroit, Mich.	241	157	54	19	7	4	7
Evansville, Ind.	41	30	6	4	-	1	4
Fort Wayne, Ind.	73	55	10	1	4	3	5
Gary, Ind.	22	10	9	1	1	1	1
Grand Rapids, Mich.	53	34	13	3	1	2	2
Indianapolis, Ind.	186	127	39	8	8	4	7
Madison, Wis.	35	25	6	-	3	1	4
Milwaukee, Wis.	140	98	22	9	7	4	6
Peoria, Ill.	54	36	9	6	1	2	5
Rockford, Ill.	56	40	7	4	3	2	2
South Bend, Ind.	44	31	8	3	1	1	2
Toledo, Ohio§	111	79	22	5	1	4	9
Youngstown, Ohio	65	50	9	2	3	1	3
W.N. CENTRAL	797	540	161	45	27	24	56
Des Moines, Iowa	67	44	13	6	2	2	3
Duluth, Minn.	27	24	3	-	-	-	3
Kansas City, Kans.	35	17	14	2	2	-	3
Kansas City, Mo.	113	72	23	12	1	5	11
Lincoln, Nebr.	35	29	5	-	-	1	3
Minneapolis, Minn.	149	97	32	9	5	6	13
Omaha, Nebr.	75	55	13	4	2	1	2
St. Louis, Mo.	150	92	35	7	12	4	8
St. Paul, Minn.	72	60	7	2	1	2	3
Wichita, Kans.	74	50	16	3	2	3	7
S. ATLANTIC	1,419	858	318	141	50	50	66
Atlanta, Ga.	149	78	32	20	1	18	6
Baltimore, Md.	347	206	84	33	15	9	14
Charlotte, N.C.	95	48	28	13	3	3	3
Jacksonville, Fla.	117	80	19	10	4	4	11
Miami, Fla.	88	54	20	9	3	2	1
Norfolk, Va.	74	41	16	9	4	4	5
Richmond, Va.	91	54	31	4	2	-	8
Savannah, Ga.§	70	53	13	3	1	-	5
St. Petersburg, Fla.	92	78	11	2	1	-	3
Tampa, Fla.	72	41	16	5	5	3	3
Washington, D.C.	200	106	45	32	10	7	7
Wilmington, Del.	24	19	3	1	1	-	-
E.S. CENTRAL	729	478	155	57	19	20	41
Birmingham, Ala.	122	88	22	3	5	4	4
Chattanooga, Tenn.	74	48	22	4	-	-	8
Knoxville, Tenn.	86	60	12	8	3	3	8
Louisville, Ky.	99	66	22	8	2	1	4
Memphis, Tenn.	138	84	33	9	3	9	9
Mobile, Ala.	53	35	9	6	2	1	4
Montgomery, Ala.	49	29	10	7	1	2	1
Nashville, Tenn.	108	68	25	12	3	-	3
W.S. CENTRAL	1,371	844	298	119	61	49	63
Austin, Tex.	57	34	14	6	-	3	1
Baton Rouge, La.	43	29	8	6	-	-	1
Corpus Christi, Tex.	41	30	9	-	2	-	4
Dallas, Tex.	213	123	44	26	12	8	14
El Paso, Tex.	78	47	17	6	4	4	5
Fort Worth, Tex	74	56	10	2	1	5	4
Houston, Tex.§	308	176	74	34	13	11	7
Little Rock, Ark.	73	41	16	8	4	4	4
New Orleans, La.	138	88	29	8	9	4	-
San Antonio, Tex.	179	108	40	12	12	7	13
Shreveport, La.	54	34	13	5	1	1	3
Tulsa, Okla.	113	78	24	6	3	2	7
MOUNTAIN	630	419	130	49	23	9	37
Albuquerque, N. Mex.	94	60	20	8	5	1	1
Colo. Springs, Colo.	43	29	4	7	2	1	7
Denver, Colo.	85	64	14	5	2	-	4
Las Vegas, Nev.	119	72	30	14	2	1	3
Ogden, Utah	17	10	6	-	1	-	1
Phoenix, Ariz.	83	49	20	5	6	3	12
Pueblo, Colo.	44	31	8	3	2	-	2
Salt Lake City, Utah	48	34	9	2	-	3	2
Tucson, Ariz.	97	70	19	5	3	-	5
PACIFIC	1,988	1,298	374	193	69	49	120
Berkeley, Calif.	11	11	-	-	-	-	1
Fresno, Calif.	68	44	10	7	3	4	7
Glendale, Calif.	33	26	4	3	-	-	1
Honolulu, Hawaii	81	57	14	6	2	2	9
Long Beach, Calif.	112	67	32	2	3	8	13
Los Angeles Calif.	511	325	95	59	24	3	20
Oakland, Calif.	82	55	12	8	5	2	5
Pasadena, Calif.	37	23	7	3	2	2	1
Portland, Oreg.	134	92	26	5	10	1	7
Sacramento, Calif.	149	90	39	14	1	5	16
San Diego, Calif.	146	98	24	16	6	2	13
San Francisco, Calif.	180	96	31	46	3	4	5
San Jose, Calif.	157	107	28	8	6	8	13
Seattle, Wash.	172	122	33	10	3	4	1
Spokane, Wash.	60	46	10	2	1	1	5
Tacoma, Wash.	55	39	9	4	-	3	3
TOTAL	12,765††	8,302	2,599	1,092	399	366	698

*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.

TABLE V. Estimated years of potential life lost (YPLL) before age 65* and cause-specific mortality, by cause of death — United States, 1986

Cause of Mortality (ICD, 9th Revision)	YPLL for Persons Dying in 1986	Cause-Specific Mortality, 1986† (Rate/100,000)
All Causes (Total)	12,054,242	870.8
Unintentional Injuries§ (E800–E949)	2,371,024	39.7
Malignant Neoplasms (140–208)	1,821,682	193.3
Diseases of the Heart (390–398,402,404–429)	1,534,607	318.7
Suicide/Homicide (E950–E978)	1,342,693	22.0
Congenital Anomalies (740–759)	651,523	5.1
Prematurity¶ (765–769)	**438,351**	**2.8**
Sudden Infant Death Syndrome (798)	313,555	2.0
Acquired Immunodeficiency Syndrome**	246,823	3.6
Cerebrovascular Disease (430–438)	232,583	61.3
Chronic Liver Diseases and Cirrhosis (571)	225,028	10.9
Pneumonia and Influenza (480–487)	166,389	29.2
Chronic Obstructive Pulmonary Diseases (490–496)	127,889	31.3
Diabetes Mellitus (250)	126,652	15.1

*For details of calculation, see footnotes to Table V, *MMWR* 1988;37:45.
†Cause-specific mortality rates as reported in the National Center for Health Statistics' *Monthly Vital Statistics Report* are compiled from a 10% sample of all deaths.
§Equivalent to accidents and adverse effects.
¶Category derived from disorders relating to short gestation and respiratory distress syndrome.
**Reflects CDC surveillance data.

YPLL — Continued

Classification of Diseases, Ninth Revision [ICD-9] 764), birth trauma (ICD-9 767), asphyxia (ICD-9 768), respiratory conditions of the fetus and newborn other than respiratory distress syndrome (ICD-9 770), and other perinatal conditions (ICD-9 640–676, 760.0–760.1, 760.3–762.9, 766, 772–779). An analysis of deaths resulting from perinatal conditions includes these causes and, thus, gives a more comprehensive estimate of YPLL due to infant deaths.

The marked decline in YPLL due to birth trauma/asphyxia suggests improvements in care given at the time of labor and delivery and/or in neonatal care for infants with birth trauma/asphyxia. Further studies are needed to explore these possible conclusions.

For the period 1984–1985, YPLL due to perinatal conditions per 1,000 live births was 2.4 times greater for blacks than for whites (Table 2). This analysis suggests that YPLL may be lower for other minorities than for whites. However, the outcomes for infants vary considerably by minority group (*5*), and additional analysis is necessary. Since the publication of the Report of the Secretary's Task Force on Black and Minority Health in 1985 (*5*), new strategies have been designed to diminish the excess infant deaths among blacks and to evaluate outcomes for infants among other minority populations. Evaluation of activities that narrow the disparity between blacks and whites will be needed.

TABLE 2. Average years of potential life lost (YPLL) per 1,000 live births due to perinatal conditions, by race and sex — United States, 1984–1985

Perinatal Conditions	Average YPLL/1,000 Live Births							
	White		Black		Other†		Total	
	Male	Female	Male	Female	Male	Female	Male	Female
Prematurity/ Low Birthweight	45	39	148	137	32	25	61	54
Respiratory Distress	90	57	154	113	49	26	99	65
Other Respiratory Illness	42	32	93	76	22	23	49	39
Birth Trauma	26	21	54	46	20	17	30	25
Other	89	74	230	196	51	51	110	93
Total*	**291**	**223**	**679**	**567**	**174**	**143**	**348**	**276**

*Totals may not be exact because of rounding.
†Includes infants of unknown race.

References

1. Centers for Disease Control. Changes in premature mortality—United States, 1979-1986. MMWR 1988;37:47-8.
2. Centers for Disease Control. Years of potential life lost before age 65 due to perinatal conditions—United States, 1980-1983. MMWR 1987;36:179-80,185-7.
3. National Center for Health Statistics. Advance report of final natality statistics, 1985. Hyattsville, Maryland: National Center for Health Statistics, 1987; DHHS publication no. (PHS)87-1120. (Monthly vital statistics report; vol. 36, no. 4, supplement).
4. Centers for Disease Control. Years of potential life lost attributable to low birthweight—United States, 1980 birth cohort. MMWR 1986;35:188-90,195.
5. US Department of Health and Human Services. Report of the Secretary's Task Force on Black and Minority Health. Washington, DC: US Department of Health and Human Services, Public Health Service, 1986.

International Notes

Paralytic Poliomyelitis – Senegal, 1986–1987: Update on the N-IPV Efficacy Study

In 1986, an outbreak of paralytic poliomyelitis, which was most likely caused by type 1 poliovirus, in the Kolda Region of Senegal provided an opportunity to conduct vaccine efficacy studies of the new, enhanced-potency inactivated poliovirus vaccine (N-IPV). N-IPV had been used in that area since 1980. Serologic studies of patients who received two doses of N-IPV given under field conditions have shown seroconversion rates of 90% to 100% for each of the three polio types included in the vaccine (*1-4*). However, preliminary results from Phase I of the matched case-control study conducted in the Kolda Region from October–November 1986 showed a discrepancy between the apparent clinical efficacy of N-IPV and the expected efficacy based on prior serological data (*5*).

In May 1987, Phase II of the Senegal study was conducted to improve the reliability of the estimate and to determine what factors might have had an impact on the efficacy of N-IPV. Methodology was the same for Phase I and Phase II. During Phase II, investigators conducted house-to-house searches for additional cases of poliomyelitis in 10 large villages, one city, and 1,841 (81%) of the 2,263 villages in the Kolda Region. Medical specialists who were unaware of the patients' vaccination status examined each patient and certified all cases identified during both phases.

The matched case-control study initiated in Phase I was continued, and up to five matched controls were selected for each case. Patients who had onset of paralytic disease since April 1, 1986, and who had been jointly certified by the medical specialists (a neurologist and an infectious disease specialist) to have residual paralysis after a standardized examination* were included in the study. Controls who had experienced no polio-like illness were matched to patients by age and village.

Investigators identified a total of 89 certified cases of paralytic poliomyelitis in the Kolda Region (crude attack rate = 16 certified cases per 100,000 persons). Onsets of paralysis occurred from April 1986 through February 1987, with a clear peak of activity during August 1986 (Figure 1). Eighty-five (96%) of the patients were under 5 years of age, and 63% were male. Thirty percent of the patients had had contact with the official health-care system.

Vaccination status was determined from vaccination cards for both patients and controls. Persons lacking cards were counted as unvaccinated. The vaccination histories of 87 of the 89 patients and their 364 controls were compared (Table 1). Eighteen percent of patients and 20% of controls had received one dose of N-IPV, and 6% of patients and 22% of controls had received two doses of N-IPV.

Analysis of vaccine efficacy was completed using logistic regression (*6,7*). The clinical efficacy of one dose of N-IPV (compared with zero doses) against residual paralysis was 36% (95% confidence interval [CI], 0% to 67%). For two doses (compared with zero doses) the point estimate of efficacy was 89% (95% CI, 62% to 97%).

Separate vaccine coverage surveys were completed in each of the three departments of the Kolda Region. A standard methodology using 30 randomly selected clusters was employed (*8*). For each survey, vaccination status was obtained for an

*In all cases, examination was performed ≥60 days after onset of illness.

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estimated 210 children who were 12–35 months of age as of May 1986. Results indicated that 26% to 28% of the children in that age group had received two doses of N-IPV as of May 1986.

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Editorial Note: The results obtained during Phase II of this study based on certified cases of poliomyelitis in the Kolda Region indicate that two doses of N-IPV were approximately 89% effective in preventing paralytic poliomyelitis with residual paralysis. This estimate is compatible with previous serological reports. One dose of N-IPV did not confer effective protection. Although none of the cases in the Kolda Region were confirmed by viral isolation, all were most probably due to type 1 poliovirus, which was documented as the overall cause of the outbreak in both Senegal and The Gambia. The higher efficacy obtained during Phase II as compared with Phase I probably reflects the more specific case definition used, especially the requirement for certification of the diagnosis by experts.

FIGURE 1. Certified cases of poliomyelitis with residual paralysis, by month of onset — Kolda Region, Senegal, April 1986–February 1987

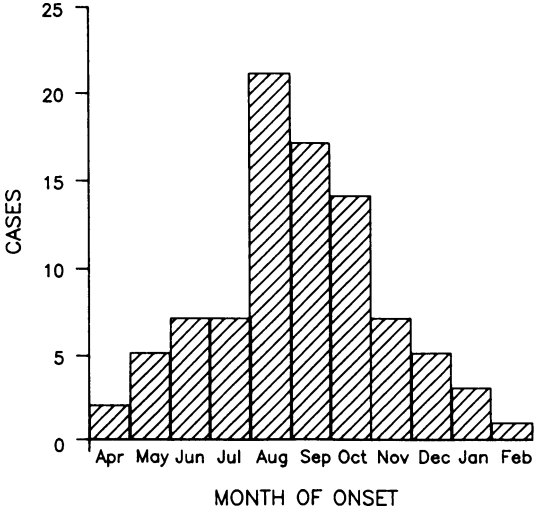

TABLE 1. Vaccination status of patients and controls in a case-control study — Kolda Region, Senegal, 1986-1987

Doses of N-IPV*	Patients		Controls	
	No.	(%)	No.	(%)
0	66	(76)	213	(58)
1	16	(18)	72	(20)
2	5	(6)	79	(22)
Total	**87**	**(100)**	**364**	**(100)**

*New, enhanced-potency inactivated poliovirus vaccine.

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The low level of polio vaccine coverage in the Kolda Region failed to prevent this outbreak of paralytic poliomyelitis.

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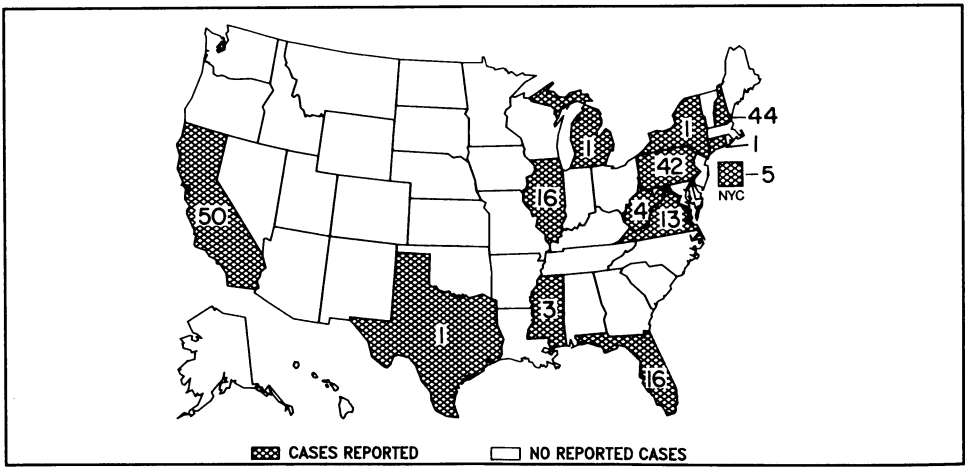
FIGURE I. Reported measles cases — United States, Weeks 12–15, 1988



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