REPORT NO. 281
OCTOBER 28, 1963

COMMUNICABLE DISEASE CENTER

POLIOMYELITIS

SURVEILLANCE

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U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

PREFACE

Summarized in this report is information received from State Health Departments, university investigators, virology laboratories and other pertinent sources, domestic and foreign. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

Contributions to the Surveillance Report are most welcome. Please address to:
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SUMMARY

A total of 96 cases of poliomyelitis, 80 paralytic, have been reported during the six week period ending October 19, 1963. The largest concentration of cases occurred in Pennsylvania (24) and Virginia (16). The only other States reporting more than 4 cases were Michigan (11), Alabama (9) and Georgia (8). State reports from Virginia, Michigan, Alabama and Georgia are presented in Section II.

Data on age and vaccination status for 1963 cases of paralytic poliomyelitis are included in Section III. Sixty-four percent of the cases with known vaccination status have never received any inactivated vaccine.

In Section IV, a summary of poliomyelitis cases occurring within 30 days of vaccine administration is presented. A tabulation of the 247 non-polio enterovirus isolates reported to the Polio Surveillance Unit thus far in 1963 is included in Section V. A high proportion of Coxsackie B_1 isolates have been reported.

Estimates of the amount of oral polio vaccine administered during known community-wide programs are also included in this report. To date, 48 million doses of Type I, 34 million doses of Type II and 30 million doses of Type III oral vaccine are known to have been administered.

I. CURRENT POLIOMYELITIS MORBIDITY TRENDS

During the six-week period ending October 19, 1963, a total of 96 cases of poliomyelitis (80 paralytic) were reported. There were 198 cases reported during the same period in 1962.

The largest number of cases, 24, was reported from Pennsylvania. These cases were primarily from the metropolitan Philadelphia area where a mass community immunization campaign utilizing Type I oral poliomyelitis vaccine was carried out on September 22, and September 29, (see P.S.U. Report No. 280). Through October 19, 61 cases, including 48 paralytic, have been reported from the metropolitan Philadelphia area.

Sixteen cases were reported from Virginia and represent a localized outbreak in the Petersburg area, which is described in Section II. The only other States reporting more than 4 cases during this six-week period were Michigan (11), Alabama (9), and Georgia (8). Reports from these States are included in Section II of this report.

The cumulative totals for 1963 and the preceding four years are presented on the following page. The total for the current year remains considerably below any previous year.

Polio (Cumulated Weekly) through 42nd Week for Past Five Years

	1963	1962	1961	1960	1959
Paralytic	285	554	700	1850	4704
Total	336	702	1086	2680	7199

The six-week totals for the current year and the past four years, presented in the following table, also reveals that current incidence is lower than in previous years.

Six-Week Totals (37th thru 42nd Week) for Past Five Years

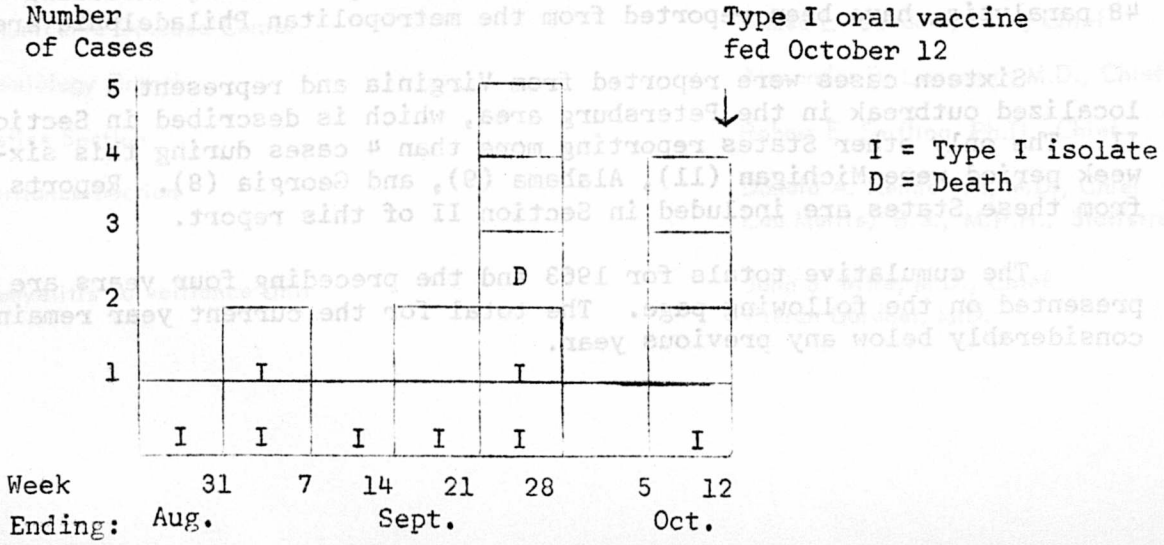
	1963	1962	1961	1960	1959
Paralytic	80	161	246	650	1587
Total	96	198	404	945	2248

II. STATE REPORTS

A. Virginia - A total of 16 cases (14 paralytic) of poliomyelitis, including one death, was reported from the Petersburg, Virginia area during the six-week period ending October 12, 1963, by Dr. James B. Kenley, Director, Bureau of Epidemiology, Virginia State Department of Health. This area had had no reported cases during the preceding four years.

Following the initial case with onset on August 28, 3 cases occurred during the first half of September. During the last two weeks of September and first two weeks of October, 12 additional cases occurred as shown on the following histogram.

POLIOMYELITIS IN PETERSBURG, VIRGINIA AREA - 1963
BY WEEK OF ONSET



A tabulation of the cases by age and inactivated vaccine status appears below. Thirteen of the sixteen cases were unvaccinated, 2 had received one dose of IPV and one case received single doses of IPV in 1956, 1957, 1959 and 1961. All cases occurred in Negroes, although this group comprises only 50% of the population. Ten of the 16 cases were among school children, 3 were pre-school age and 3, including the death, were 20 years of age or older.

POLIOMYELITIS BY AGE AND INACTIVATED VACCINE STATUS**
PETERSBURG, VIRGINIA AREA, 1963

Age	0V	1-2V	3V	4+V	Total
0-4	2	1	0	0	3
5-9	3*	0	0	0	3
10-19	5*	1	0	1	7
20+	3	0	0	0	3
TOTAL	13	2	0	1	16

*Includes one non-paralytic case.
**None of these cases are known to have received oral polio vaccine.

It is interesting to note the low proportion of paralytic cases in pre-school age children, 21.5% (3/14), as compared to the national average of 51.3%. A similar distribution was noted in the 1961 poliomyelitis outbreak in Newberry County, South Carolina (see P.S.U. Report No. 243) where 18 of the 21 cases reported were among Negroes and only 23.5% (4/17) of the paralytic cases were in pre-school age children.

Because of the unusual incidence of poliomyelitis cases in the Petersburg area, a mass community program utilizing Type I monovalent oral poliomyelitis vaccine from the Communicable Disease Center epidemic reserve was carried out on October 12. Although enough vaccine was provided for the 80,000 people in the Petersburg area, the demand for vaccine from those coming to the clinics from surrounding areas was such that the vaccine supply was quickly exhausted. Additional vaccine from CDC's epidemic reserve was made available and on October 16, approximately 23,000 more people received the vaccine. No new cases of poliomyelitis have been reported from the Petersburg area since October 12. A line listing of the 16 cases is shown on the following page.

POLIOMYELITIS CASES IN PETERSBURG, VIRGINIA AREA, 1963

Case	Initial	Location	Age	Race	Sex	Para. Status	Onset	IPV	Virus Isolation
1	P.H.	Petersburg	1	N	F	P	9-7	1	I
2	R.M.	Petersburg	10	N	F	P	8-28	0	I
3	A.P.	Petersburg	2	N	M	P	9-14	0	I
4	J.H.	Chester	17	N	M	P	9-3	1	I
5	P.G.	Petersburg	9	N	F	NP	9-16	0	I
6	W.B.	Petersburg	6	N	M	P	9-25	0	I
7	T.M.	Petersburg	11	N	M	NP	10-8	0	-
8*	R.M.	Petersburg	35	N	F	P	9-26	0	-
9	J.G.	Dinwiddie	13	N	M	P	9-26	0	I
10	J.B.	Dinwiddie	8	N	M	P	10-7	0	I
11	W.D.	Dinwiddie	11	N	M	P	10-7	0	-
12	L.W.	Dinwiddie	39	N	F	P	9-29	0	-
13	J.B.	Petersburg	12	N	M	P	9-23	0	-
14	H.F.	Dinwiddie	11	N	F	P	9-23	4	-
15	A.J.	Dinwiddie	4	N	M	P	10-12	0	-
16	M.J.	Petersburg	20	N	F	P	9-21	0	-

* Died on 10-8 - autopsy showed anterior horn cell degeneration.

B. Michigan - Dr. George H. Agate, Director of Epidemiology, Michigan Department of Health, reports the occurrence of 7 cases of poliomyelitis, 5 with paralysis, in Grand Rapids during August and September as shown below. Type I poliovirus was isolated from stool specimens on each of the cases.

Week Ending:	8-10	8-17	8-24	8-31	9-7	9-14	9-21	9-28
No. of cases:	1	0	0	2	1	1	1	1

The cases were clustered in lower socioeconomic areas south of the business district. With the exception of a case in a 26 year old female clerk in a department store, cases were limited to pre-school age Negro children who were inadequately immunized.

A mass community program utilizing Type I oral polio vaccine from the CDC epidemic reserve was held in Grand Rapids and Kent County on September 21. Approximately 348,000 people (93.9% of the population based on the 1960 census) received the vaccine. No new cases have been reported from the Grand Rapids - Kent County area since September 23. A line listing of the 7 cases is shown below.

POLIOMYELITIS CASES IN GRAND RAPIDS, MICHIGAN, 1963

Case	Initials	Age	Race	Sex	Onset	Paralytic Status	IPV	OPV	Virus Isolation
1	M.H.	2	N	M	8-10	P	0	0	I
2	L.C.	2	N	F	8-27	P	0	0	I
3	A.T.	3	N	F	8-28	P	0	0	I
4	D.S.	2	N	F	9-1	NP	0	0	I
5	B.R.	26	W	F	9-10	P	3	0	I
6	G.F.	2	N	F	9-19	NP	2	0	I
7	D.W.	1	N	F	9-23	P	0	I 9-21-63	I

C. Alabama - Dr. W.H.Y. Smith, Director, Preventable Diseases, Alabama State Department of Public Health, reports a total of 9 cases from Alabama over the past six weeks. The cases were scattered over the northern part of the State, with no clustering of cases in any particular area. No more than 3 cases were reported during any single week in this period.

D. Georgia - There were 8 cases reported by Dr. W.J. Murphy, Director, Epidemiologic Investigations, Georgia Department of Public Health, over the past 4 weeks. Four of the cases with onsets of illness in late August and early September, were reported from Lowndes County (Valdosta). There was no other case concentration noted during this period.

III. 1963 PARALYTIC POLIOMYELITIS REPORTED TO THE POLIO SURVEILLANCE UNIT

Of the 285 cases of paralytic poliomyelitis reported by weekly telegram through the week ending October 19, 1963, the Poliomyelitis Surveillance Unit has received individual case forms on 187. The inactivated vaccination status of these 187 paralytic cases is presented below by age group.

One-hundred twenty (64.2 percent) of the 187 cases with known vaccination history were unvaccinated. Thirty-eight (20.3 percent) had received 3 or more doses of inactivated vaccine.

PARALYTIC POLIOMYELITIS BY AGE GROUP AND INACTIVATED VACCINATION HISTORY REPORTED ON PSU FORMS (through Oct. 19, 1963)

Age Group	Doses of Inactivated Vaccine					Total	Percent
	0V	1-2V	3V	4+V	Unk.		
0-4	72	9	7	5	3	96	51.3
5-9	15	5	5	6	1	32	17.1
10-14	13	1	4	2	1	21	11.2
15-19	4	3	1	1	1	10	5.3
20-29	8	0	3	1	2	14	7.5
30-39	3	3	2	0	0	8	4.3
40+	5	0	0	1	0	6	3.2
TOTAL	120	21	22	16	8	187	100.0
PERCENT DOSES	67.0	11.7	12.3	8.9	-	100.0	

IV. ROUTINE SURVEILLANCE

A. Cases Occurring Within 30 Days Following Inactivated Vaccine.

To date in 1963, there has been one reported case of paralytic poliomyelitis occurring within 30 days following inactivated vaccine. This patient, a 3 year old female from Monroe County, Michigan, had onset on 4-28-63 following her fourth dose of inactivated vaccine on 4-23-63.

B. Cases Occurring Within 30 Days Following Oral Vaccine

Through October 19, 1963, 26 cases of poliomyelitis (24 paralytic) occurring within 30 days following oral polio vaccine have been reported to the Poliomyelitis Surveillance Unit on individual case forms.

Seven (6 paralytic) of the 26 cases have been reported since the last Poliomyelitis Surveillance Unit Report (No. 280, September 20, 1963) and are summarized in the line listing below. Four cases occurred following Type I oral polio vaccine and 3 cases following Type III oral polio vaccine. The two cases in Perry County, Pennsylvania received vaccine during a mass oral polio vaccine campaign during an outbreak of poliomyelitis.

State	County	Age	Sex	Onset	Date Fed	Interval (Days)	Type Fed	Doses IPV	Paralytic Status
Maine	Kennebec	43	M	5-8-63	4-21-63	17	I	0	P
Mass.	Middlesex	27	F	6-7-63	5-19-63	19	III	4	P
Minn.	Anoka	24	M	9-15-63	9-1-63	14	I	3	P
Penn.	Schuykill	30	M	6-8-63	5-25-63	14	III	0	P
Penn.	Perry*	12	M	6-24-63	6-22-63	2	I	0	P
Penn.	Perry*	5	M	6-23-63	6-22-63	1	I	0	NP
Wisconsin	LaCrosse	38	F	5-4-63	4-21-63	13	III	3	P

* Epidemic area in which mass vaccine program was carried out.

V. ENTEROVIRUS SURVEILLANCE

Thus far in 1963, the Poliomyelitis Surveillance Unit has received reports on 247 non-polio enterovirus isolations. These are tabulated by State on the following page.

It is of interest to note that the 52 Coxsackie B_1 isolates account for 21.5% of the total. This represents a sharp increase since 1962, when only 2.4% of the non-polio enterovirus isolates were Coxsackie B_1.

Non-Poliovirus Isolations from 1963 Specimens

State	ECHO 4	ECHO 9	ECHO 11	ECHO 14	ECHO Other*	Coxsackie A_9	Coxsackie B_1	Coxsackie B_2	Coxsackie B_3	Coxsackie B_5	Coxsackie Other**	Total
Calif.	11	1		2	7	1	4				1	27
Conn.	2	2	1	1					1			7
Ga.	1											1
Idaho									2			2
Ill.		2			4	6	14	1	1	2		30
Kansas		1	12		2		15					30
Ky.	1	7							1			9
La.			1		2	3	4	3			6	19
Mass.		2				3						5
Mich.	2	2		1			2					7
Minn.			1	7	2	5						15
Mo.										1		1
N.M.		4										4
N.Y.	3	4		1	2	14		2			4	30
Ohio		2					1		1			4
Oregon		3										3
Pa.		1	1		1			5			1	9
S.C.	1											1
Tenn.						1	3		1			5
Texas		7			1	5	9	2	1		2	27
Wash.		4		1		3		1			1	10
Wisconsin				1								1
TOTAL	21	42	15	15	21	41	52	14	8	3	15	247

*ECHO virus isolations as follows: Calif. - $1E_8$, $2E_{10}$, $1E_{13}$, $1E_{22}$, $2E_{31}$; Ill. - $2E_6$, $2E_8$; Kansas - $2E_6$; La. - $2E_{17}$; Minn. - $2E_5$; N.Y. - $1E_7$, $1E_{10}$; Pa. - $1E_8$; Texas - $1E_5$.

**Coxsackie virus isolations as follows: Calif. - $1A_6$; La. - $5A_2$, $1B_4$; N.Y. - $1A_2$, $2A_{23}$, $1B_4$; Pa. - $1B_4$; Texas - $2B_4$; Wash. - $1B_4$.

VI. MASS ORAL POLIOMYELITIS VACCINE PROGRAMS

The following tables on pages 10, 11 and 12 show estimated amounts of Types I, II and III oral polio vaccines administered during known mass community-wide programs from dates of licensure through September 1963. Table I shows the number of doses given by month of administration and is followed by Table II which presents vaccine usage by State.

Approximately 48 million doses of Type I, 34 million doses of Type II, and 30 million of Type III oral vaccine are known to have been administered through September 1963. The great majority of the vaccine administered during the past three months has been in epidemic areas. Over one million doses of the Type I vaccine administered in September was fed in metropolitan Philadelphia where 61 cases of poliomyelitis have occurred through October 19.

Table I

ORAL POLIO VACCINE ADMINISTERED IN MASS PROGRAMS
BY MONTH OF ADMINISTRATION FROM DATES OF LICENSURE
THROUGH SEPTEMBER, 1963

Month	Type I	Type II	Type III
August 1961	348,684		
September			
October	400	40,000	
November	147,863	111,000	
December	89,835	400	
January 1962	1,142,920		
February	44,550	453,170	
March	601,833	680,121	
April	494,656	425,230	915,246
May	5,622,714	265,912	1,675,410
June	2,761,487	407,118	6,082,574
July	1,515,532	1,886,591	1,911,858
August	3,173,061	649,100	257,439
September	9,860,870	1,953,290	1,435,394
October	8,475,661	3,284,037	434,106
November	936,781	9,044,986	97,871
December	1,531,673	6,669,893	191,353
January 1963	1,928,057	1,489,481	1,986,964
February	673,430	120,014	3,878,973
March	2,776,129	2,602,634	6,680,265
April	19,097	756,569	270,645
May		8,524	1,047,000
June	97,779		
July	4,342		
August	78,220		
September	1,597,242		28,000
Unk. Month 1962	2,078,370	1,485,122	422,089
Unk. Month 1963	1,185,370		2,423,736
Unk. Month 1962-63	1,034,161	1,276,932	44,539
TOTAL	48,220,717	33,610,124	29,783,462

Table II

ORAL POLIO VACCINE ADMINISTERED IN MASS PROGRAMS BY STATE
FROM DATES OF LICENSURE THROUGH SEPTEMBER, 1963

State	Type I	Type II	Type III
Alabama	419,957	266,882	198,776
Alaska	72,617	81	0
Arizona	957,953	867,430	890,353
Arkansas	689,845	92,106	192,381
California	10,103,682	9,715,637	9,882,657
Colorado	761,106	743,376	745,814
Connecticut	799,836	0	7,233
Delaware	892	0	887
Dist. of Col.	0	0	0
Florida	222,543	200,941	185,346
Georgia	487,958	443,570	1,190
Hawaii	483,883	478,419	0
Idaho	269,081	9,837	0
Illinois	614,464	172,543	77,052
Indiana	230,925	184,830	96,958
Iowa	370,876	302,399	252,900
Kansas	1,038,882	1,102,000	709,142
Kentucky	1,661,497	1,303,399	883,018
Louisiana	200,000	200,000	100,000
Maine	265,162	103,066	17,603
Maryland	1,109,180	1,075,949	594,778
Massachusetts	2,364,128	2,140,150	2,935,640
Michigan	399,200	22,300	100,980
Minnesota	1,741,758	1,346,470	853,609
Mississippi	26,000	0	0

Table II (Continued)

State	Type I	Type II	Type III
Missouri	0	0	0
Montana	0	0	0
Nebraska	911,356	816,133	931,422
Nevada	248,391	228,519	133,000
New Hampshire	138,178	116,645	108,498
New Jersey	190	0	0
New Mexico	578,123	543,830	397,292
New York	917,158	181,792	779,273
North Carolina	0	0	0
North Dakota	146,332	44,672	964
Ohio	6,028,548	5,480,505	5,335,407
Oklahoma	946,039	392,690	113,227
Oregon	0	0	804,239
Pennsylvania	3,048,169	83,902	91,144
Rhode Island	678,811	635,686	0
South Carolina	25,550	24,083	24,365
South Dakota	609,650	0	10,000
Tennessee	0	0	0
Texas	6,599,959	3,678,417	2,071,469
Utah	800,000	0	0
Vermont	10,843	0	34,522
Virginia	1,235	1,900	2,500
Washington	320,888	191,190	83,000
West Virginia	358,393	82,012	600
Wisconsin	482,076	296,401	92,013
Wyoming	79,403	40,362	44,210
TOTAL	48,220,717	33,610,124	29,783,462

Fig. 1

CURRENT U.S. POLIO INCIDENCE
Compared with 1958, 1960, and 1962

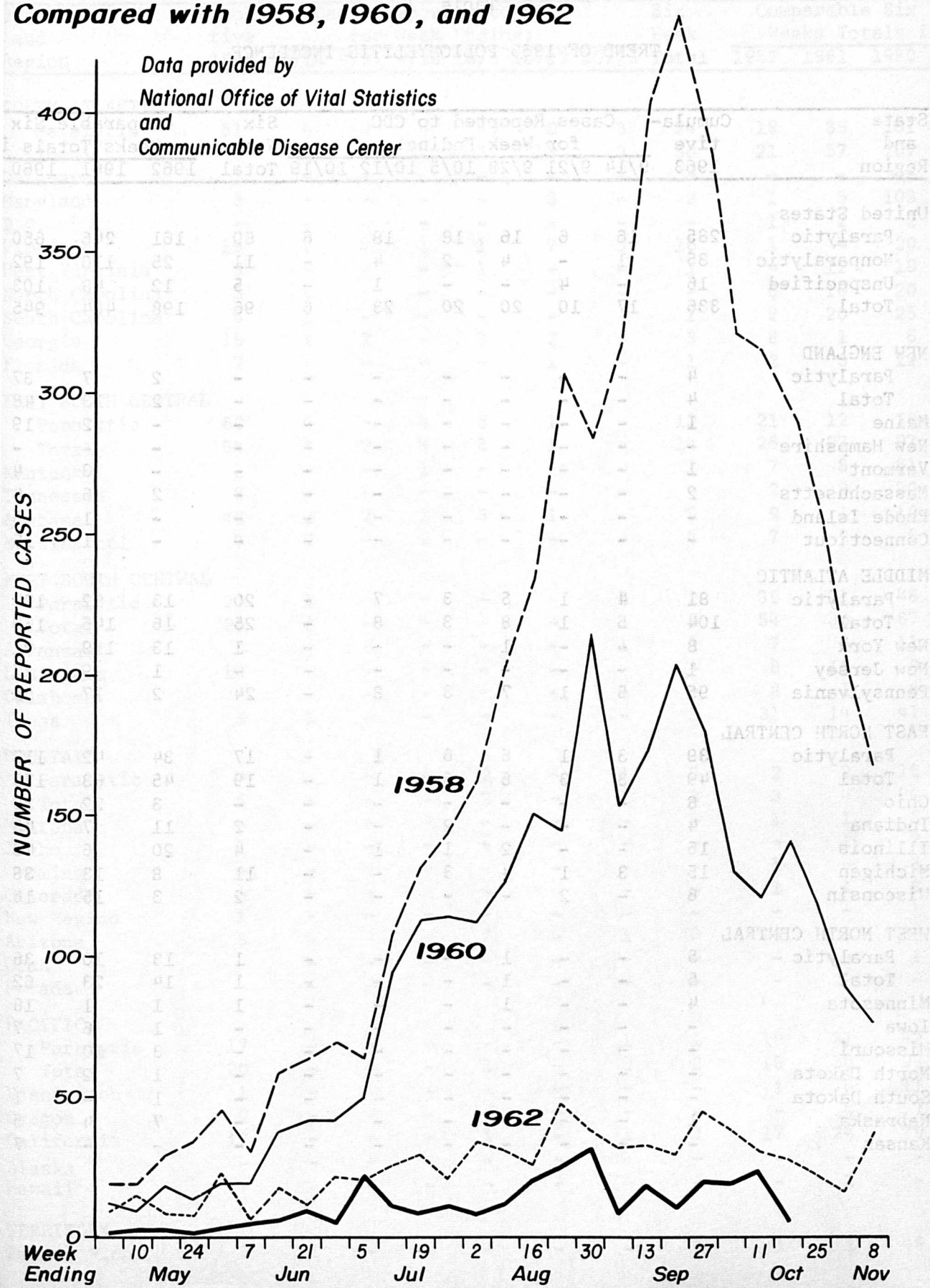


Table 1

TREND OF 1963 POLIOMYELITIS INCIDENCE

State and Region	Cumulative 1963	Cases Reported to CDC for Week Ending: 9/14	9/21	9/28	10/5	10/12	10/19	Six Week Total	Comparable Six Weeks Totals in 1962	1961	1960
United States											
Paralytic	285	16	6	16	18	18	6	80	161	246	650
Nonparalytic	35	1	-	4	2	4	-	11	25	110	192
Unspecified	16	-	4	-	-	1	-	5	12	48	103
Total	336	17	10	20	20	23	6	96	198	404	945
NEW ENGLAND											
Paralytic	4	-	-	-	-	-	-	-	2	7	37
Total	4	-	-	-	-	-	-	-	2	13	48
Maine	1	-	-	-	-	-	-	-	-	2	19
New Hampshire	-	-	-	-	-	-	-	-	-	-	-
Vermont	1	-	-	-	-	-	-	-	-	3	4
Massachusetts	2	-	-	-	-	-	-	-	2	6	4
Rhode Island	-	-	-	-	-	-	-	-	-	1	5
Connecticut	-	-	-	-	-	-	-	-	-	1	16
MIDDLE ATLANTIC											
Paralytic	81	4	1	5	3	7	-	20	13	82	104
Total	104	5	1	8	3	8	-	25	16	145	169
New York	8	-	-	1	-	-	-	1	13	119	91
New Jersey	1	-	-	-	-	-	-	-	1	9	27
Pennsylvania	95	5	1	7	3	8	-	24	2	17	51
EAST NORTH CENTRAL											
Paralytic	39	3	1	6	6	1	-	17	34	42	118
Total	49	3	3	6	6	1	-	19	45	63	178
Ohio	8	-	-	-	-	-	-	-	3	22	38
Indiana	4	-	-	-	2	-	-	2	11	7	46
Illinois	16	-	-	2	1	1	-	4	20	6	40
Michigan	15	3	1	4	3	-	-	11	8	13	38
Wisconsin	6	-	2	-	-	-	-	2	3	15	16
WEST NORTH CENTRAL											
Paralytic	5	-	-	1	-	-	-	1	13	10	36
Total	5	-	-	1	-	-	-	1	14	23	62
Minnesota	4	-	-	1	-	-	-	1	1	1	18
Iowa	-	-	-	-	-	-	-	-	1	6	7
Missouri	-	-	-	-	-	-	-	-	3	10	17
North Dakota	-	-	-	-	-	-	-	-	1	2	7
South Dakota	-	-	-	-	-	-	-	-	1	-	1
Nebraska	1	-	-	-	-	-	-	-	7	4	5
Kansas	-	-	-	-	-	-	-	-	-	-	7

Table 1 (Continued)

State and Region	Cumulative 1963	Cases Reported to CDC for Week Ending: 9/14	9/21	9/28	10/5	10/12	10/19	Six Week Total	Comparable Six Weeks Totals in 1962	1961	1960
SOUTH ATLANTIC											
Paralytic	51	4	4	-	4	9	3	24	19	39	181
Total	60	4	4	1	5	13	3	30	21	57	207
Delaware	1	-	-	-	-	-	-	-	-	-	-
Maryland	3	-	-	-	-	3	-	3	1	5	103
D.C.	-	-	-	-	-	-	-	-	1	2	2
Virginia	18	2	2	1	1	7	3	16	1	4	20
West Virginia	3	-	-	-	1	-	-	1	-	12	19
North Carolina	3	-	-	-	-	-	-	-	6	10	20
South Carolina	6	1	-	-	-	-	-	1	2	20	25
Georgia	19	1	2	-	3	2	-	8	8	1	6
Florida	7	-	-	-	-	1	-	1	2	3	12
EAST SOUTH CENTRAL											
Paralytic	60	4	-	4	3	1	-	12	21	12	28
Total	64	4	2	4	3	1	-	14	25	27	97
Kentucky	1	-	-	1	-	-	-	1	7	8	61
Tennessee	8	-	-	-	-	-	-	-	2	9	20
Alabama	48	2	2	1	3	1	-	9	9	1	10
Mississippi	7	2	-	2	-	-	-	4	7	9	6
WEST SOUTH CENTRAL											
Paralytic	24	1	-	-	-	-	1	2	39	21	48
Total	25	1	-	-	-	-	1	2	54	36	67
Arkansas	5	-	-	-	-	-	1	1	7	5	11
Louisiana	14	-	-	-	-	-	-	-	8	16	9
Oklahoma	-	-	-	-	-	-	-	-	8	1	6
Texas	6	1	-	-	-	-	-	1	31	14	41
MOUNTAIN											
Paralytic	4	-	-	-	2	-	1	3	2	2	16
Total	5	-	-	-	2	-	1	3	3	4	20
Montana	-	-	-	-	-	-	-	-	1	1	5
Idaho	1	-	-	-	-	-	-	-	-	1	2
Wyoming	-	-	-	-	-	-	-	-	1	-	3
Colorado	-	-	-	-	-	-	-	-	1	1	8
New Mexico	1	-	-	-	-	-	-	-	-	-	1
Arizona	3	-	-	-	2	-	1	3	-	1	-
Utah	-	-	-	-	-	-	-	-	-	-	1
Nevada	-	-	-	-	-	-	-	-	-	-	-
PACIFIC											
Paralytic	17	-	-	-	-	-	1	1	18	31	82
Total	20	-	-	-	1	-	1	2	18	36	97
Washington	1	-	-	-	-	-	-	-	1	6	11
Oregon	2	-	-	-	-	-	-	-	-	4	7
California	17	-	-	-	1	-	1	2	17	24	79
Alaska	-	-	-	-	-	-	-	-	-	-	-
Hawaii	-	-	-	-	-	-	-	-	-	2	-
TERRITORY											
Puerto Rico	5	1	-	-	-	-	-	1	1	1	49

Table 1 (Continued)

Cumula-	Cases Reported to CDC						Six	Comparable Six
tive	For Week Ending:						Weeks	Weeks Totals in
1968	9/14	9/21	9/28	10/5	10/12	10/19	Total	1962 1961 1960

Key to all disease surveillance activities are those in each State who serve the function as State epidemiologists. Responsible for the collection, interpretation and transmission of data and epidemiological information from their individual States, the State epidemiologists perform a most vital role. Their major contributions to the evolution of this report are gratefully acknowledged.

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