REPORT NO. 278
JULY 19, 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: Chief, Poliomyelitis Surveillance Unit, Communicable Disease Center, Atlanta 22, Georgia.

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SUMMARY

During the six week period ending July 13, 1963, there were 57 cases of poliomyelitis reported; 44 developed paralysis. The total for the year thus far is 113 cases (92 paralytic), considerably below any previous year.

In Section II, the most recent available data on known mass, community-wide oral polio vaccine programs is presented. From dates of licensure through June 1963, more than 43 million persons have received Type I oral polio vaccine, 30 million Type II, and 26 million Type III, in these programs.

Two cases of poliomyelitis with onsets of illness within 30 days of receiving oral polio vaccine have been reported during the past six weeks and are discussed in Section III. Thus far in 1963, there have been no cases reported within 30 days following inactivated polio vaccine.

A report on the outbreak of Type I poliomyelitis in Cumberland and Perry Counties, Pennsylvania, where 21 cases have occurred, is presented in Section IV. The recent occurrence of four paralytic cases in Walker County, Alabama, is also discussed in this Section.

A brief account of the recent epidemic on the island of Barbados, B.W.I., where 45 cases occurred, chiefly among young children, is presented in Section V.

I. CURRENT POLIOMYELITIS MORBIDITY TRENDS

A total of 57 cases of poliomyelitis (44 paralytic) was reported for the six week period ending July 13, 1963. One hundred cases, including 74 paralytic, were reported during the same period in 1962.

Pennsylvania accounted for 17 of the 44 paralytic cases. (See Section IV) Alabama reported 8 paralytic cases and California 4 cases. No more than 3 paralytic cases have been reported by any other State during this period.

The cumulative totals for 1963 and the preceding four years are presented below. The total for the current year remains considerably lower than in any previous year.

Poliomyelitis (Cumulated Weekly) through the 28th Week for 1963 and the Past Four Years

	1963	1962	1961	1960	1959
Paralytic	92	189	180	454	974
Total	113	252	277	612	1458

The six-week totals for the current year and the past four years are shown in the following table.

Six-Week Totals (23rd through 28th week) for 1963 and the Past Four Years

	1963	1962	1961	1960	1959
Paralytic	44	74	53	217	569
Total	57	100	92	281	877

II. MASS ORAL POLIOMYELITIS VACCINATION PROGRAMS

Tables I and II on pages 3, 4, and 5 show estimated amounts of Types I, II, and III oral polio vaccines administered during known mass community-wide programs from dates of vaccine licensure through June 1963. Table I shows the number of doses given by month of administration. Oral polio vaccine usage of each type by State is presented in Table II.

Approximately 43 million doses of Type I oral vaccine, 30 million doses of Type II, and 26 million doses of Type III have been administered through June 1963. California accounts for 37.7 percent of the total number of Type III vaccine given. This State administered Type III most extensively during March 1963, with 5.6 million persons receiving the vaccine.

Table I

ORAL POLIO VACCINE ADMINISTERED IN MASS PROGRAMS
BY MONTH OF ADMINISTRATION FROM DATES OF LICENSURE
THROUGH JUNE, 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	5,613,714	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	944,657	1,489,481	1,986,964
February	673,430	120,014	3,878,973
March	2,776,129	462,484	6,680,265
April	19,097	756,569	270,645
May		8,524	
June	51,000		
Unk. Month 1962	2,047,461	1,485,122	422,089
TOTAL	43,251,294	30,193,042	26,240,187

Table II

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

State	Type I	Type II	Type III
Alabama	341,737	266,882	0
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	24,000
Kentucky	1,661,497	1,303,399	883,018
Louisiana	200,000	200,000	100,000
Maine	265,162	103,066	17,603
Maryland	1,078,271	995,049	93,143
Massachusetts	1,379,828	0	1,888,640
Michigan	51,200	22,300	100,980
Minnesota	844,219	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	5,823,621	4,401,853	4,337,082
Oklahoma	946,039	392,690	113,227
Oregon	0	0	804,239
Pennsylvania	747,706	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	6,522
Virginia	1,235	1,900	2,500
Washington	320,888	191,190	83,000
West Virginia	358,393	82,012	600
Wisconsin	357,011	179,021	7,616
Wyoming	79,403	40,362	44,210
TOTAL	43,251,294	30,193,042	26,240,187

III. ROUTINE SURVEILLANCE - 1963

A. Cases Occurring within 30 Days Following Inactivated Vaccine

To date in 1963, there have been no reported cases of poliomyelitis occurring within 30 days following inactivated vaccine.

B. Cases Occurring within 30 Days Following Oral Vaccine

During the six-week period ending July 13, 1963, 2 cases of poliomyelitis, both paralytic, occurring within 30 days following oral polio vaccine were reported to the Poliomyelitis Surveillance Unit on individual case forms. One of the cases, a 21 year old male from San Francisco County, California, had received Type III oral polio vaccine 8 days prior to onset. The other case, a 47 year old male from Ada County, Idaho, had taken Type I vaccine 2 days before illness occurred.

A line listing of these 2 cases appears below:

State	County	Age	Sex	Onset	Date Fed	Interval Days	Type Fed	Doses IPV	Virus Isol.
Calif.	San Francisco	21	M	5-28	5-20	8	III	2	--
Idaho	Ada	47	M	3-12	3-10	2	I	0	I

Thus far in 1963, individual case forms have been received on 10 cases of poliomyelitis, all paralytic, with onset following within 30 days of oral polio vaccine administration.

IV. STATE REPORTS

A. Pennsylvania

Dr. Wm. D. Schrack, Jr., Director, Communicable Disease Control, Pennsylvania State Department of Health, reported a total of twenty-seven cases of poliomyelitis during 1963 through the 28th week. Of these, 21 are localized in the Carlisle area (including cases in both Cumberland and Perry Counties), and four are from Philadelphia. The remaining two are well separated in distance and time.

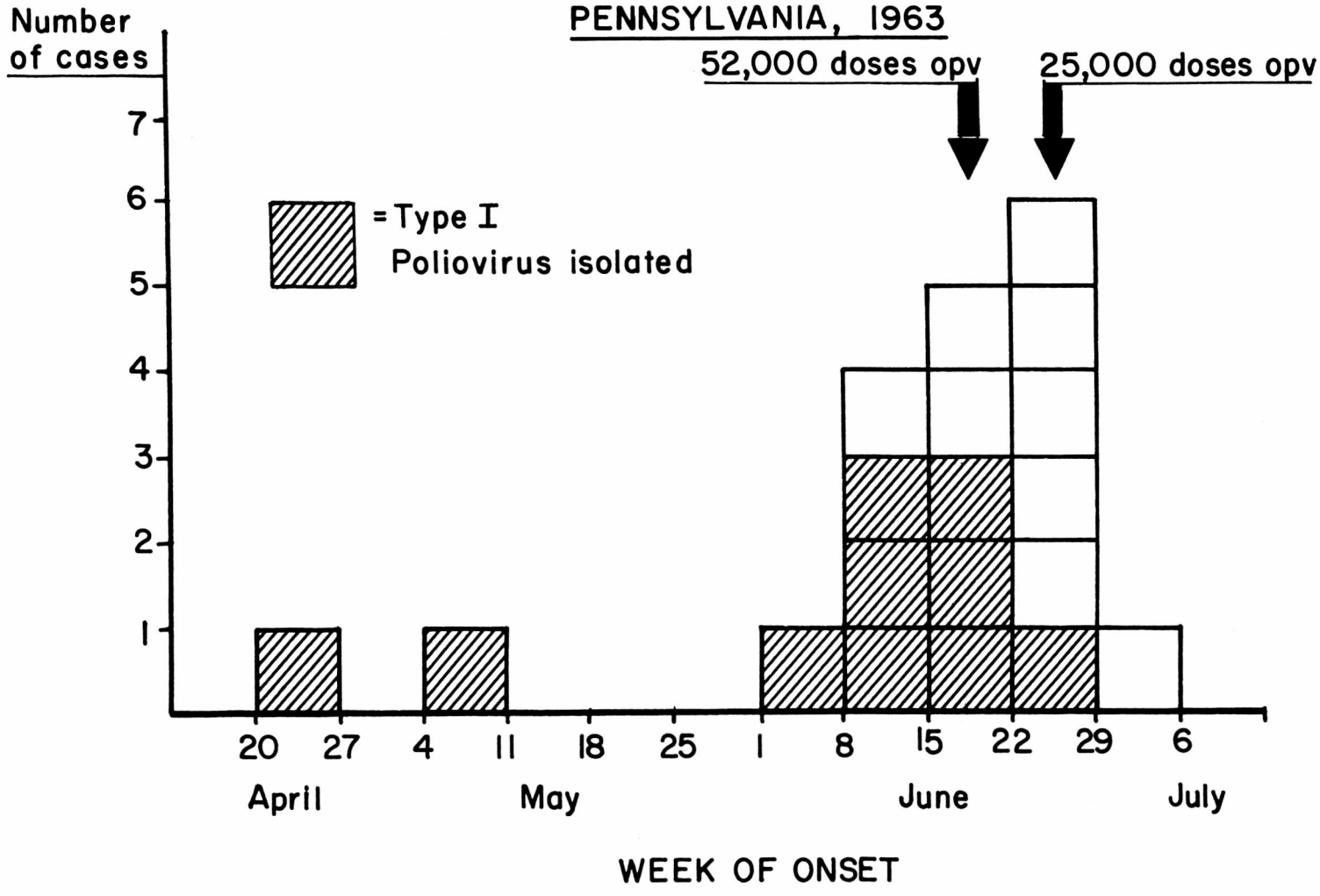
1. Carlisle

The outbreak in the Carlisle area represents the largest clustering of cases in the United States thus far in 1963. Type I poliovirus has already been isolated from ten of the cases.

An epidemic curve for the Carlisle area cases appears in Figure I. The earliest onset was in late April and the second in early May;

Figure I

CASES OF
POLIOMYELITIS, CARLISLE AREA,
PENNSYLVANIA, 1963



however, it was not until June that a build-up of cases occurred. A peak was reached during the week ending June 29, when seven persons had onsets of illness.

With two exceptions, all of the cases were among children, half of them of pre-school age. The age distribution is tabulated below:

Age Group	No. Cases	Percent Cases
0-4	9	43
5-9	6	29
10-14	4	18
15-19	1	5
20-29	0	0
30-39	0	0
40+	1	5
TOTAL	21	100%

Seven of the cases were reported as paralytic. Among the 15 cases on whom a vaccine history has been obtained thus far, only two cases have had three or more doses of IPV. A line listing of all of the cases follows:

Case No.	Age	Race	Sex	Onset	IPV	Paralytic Status	Virus Isolated
1	1 6/12	W	F	4-23	0	P	Type I
2	6	W	M	5-6	0	NP	Type I
3	2	W	M	6-8	0	P	Type I
4	1	W	F	6-9	0	P	Type I
5	11/12	W	M	6-9	0	P	Type I
6	1	W	M	6-9	Unk.	P	
7	18	W	M	6-11	0	P	Type I
8	52	W	M	6-17	Unk.	P	Type I
9	3	W	F	6-21	1	P	Type I
10	10	W	M	6-21	0	NP	
11	8	W	F	6-22	0	NP	Type I
12	11	W	M	6-22	4	NP	
13	5	W	M	6-22	0	NP	
14*	5	W	M	6-23	0	NP	
15	9	W	M	6-23	Unk.	NP	Type I
16*	12	W	M	6-24	0	P	
17	4	W	M	6-26	Unk.	NP	
18	4	W	F	6-27	3	P	
19	11	W	F	6-28	Unk.	P	
20	6	W	F	6-29	Unk.	P	
21	4	W	F	7-2	Unk.	P	

*Cases from Perry County. Remainder from Cumberland County

Plans for a mass oral vaccine campaign were begun as soon as it became evident that poliomyelitis cases were beginning to accumulate. Utilizing monovalent Type I vaccine from the CDC epidemic reserve, more than 102,000 persons have been vaccinated. Intensive programs were conducted on successive Saturdays, June 22 and June 29, accounting for 85% of the vaccine distribution. In addition, vaccine has been dispensed continuously at the Carlisle Hospital since June 22. The use of tally sheets afforded a rapid count of vaccinees according to age. Preliminary figures for age distribution of those receiving vaccine in Cumberland and Perry Counties are listed below.

Age Group	Total Population	Total Vaccinated	Percent Vaccinated
0-4*	16,457	10,730	65.4
5-9	15,924	11,915	74.8
10-14	14,483	10,847	74.9
15-19	12,228	9,508	77.8
20-39	39,915	26,721	66.9
40+	52,391	22,860	43.6
Unknown	--	9,540	--
TOTAL	151,398	102,121	67.5

*Vaccine offered to children from age 6 weeks.

2. Philadelphia

The four cases from Philadelphia, all with Type I isolations, are pre-school age children from scattered areas of the city. The dates of onset range between 5/24/63 and 6/16/63. Only one case had received any polio vaccine. None of the cases had contact with each other or anyone from the Carlisle area. A line listing of the cases appears below:

Case No.	Age	Race	Sex	Onset	IPV	Paralytic Status
1	1	W	M	5/24	0	P
2	3	W	M	6/3	0	NP
3	2 1/2	W	F	6/10	3	P
4	1	W	F	6/16	0	NP

The polio advisory committee to the Philadelphia City Health Department met on June 9, 1963, to assess the problem. It was the feeling of the committee that there was no immediate cause for alarm; however, the potential threat of an outbreak was recognized. Intensive surveillance will be continued. Should further cases occur, they plan to reconvene to decide whether or not to accelerate plans for a mass campaign, presently scheduled for autumn.

B. Alabama

Dr. W. H. Y. Smith, Director, Preventable Diseases, reports that among the eleven cases reported during 1963, four cases (all paralytic) have occurred in Walker County, situated northwest of Jefferson County (Birmingham). No other case concentrations have been noted in the State. The onsets of illness of the Walker County cases ranged from June 3 through July 2. None of these four children had received any previous inactivated polio vaccine. Intensive virologic efforts are currently underway to identify the polio type involved so that a mass oral vaccination campaign in that county can be instituted. A line listing of the cases appears below.

Case No.	Residence	Age	Race	Sex	Paralytic Status	Previous IPV	Date of Onset
1	Carbon Hill	3	W	F	P	0	6/3/63
2*	Carbon Hill	4	W	F	P	0	6/5/63
3	Cordova	9	W	M	P	0	6/27/63
4	Quinton	4	C	M	P	0	7/2/63

* Cases 1 and 2 are neighbors.

V. FOREIGN REPORT - Barbados

Dr. M. A. Byer, O.B.E., Director of Medical Services on the Carribean island of Barbados, B. W. I., reports a recent outbreak of 45 cases of poliomyelitis among the island's 230,000 population.

The first cases became ill during mid-April; however, it was early May before any build up of cases occurred. The peak occurred between mid-May and early June. The dates of onset of the cases are tabularized on the following page.

Week	No. Cases
4/7-4/13	1
4/14-4/20	3
4/21-4/27	1
4/28-5/4	0
5/5-5/11	5
5/12-5/18	9
5/19-5/25	9
5/26-6/1	8
6/1-6/8	7
6/9-6/15	2
TOTAL	45

The outbreak occurred primarily among pre-school age children, as shown in Table III. More than two-thirds of the cases were among children age 5 or under, with the highest attack rate in this group.

Table III

Age Specific Attack Rates, Barbados, 1963

Age Group	No. Cases	Percent Cases	Rate/100,000
0-5	32	71	83
6-10	5	11	18
11-15	3	7	12
16-20	1	2	10
21-29	4	9	11
30+	0	-	0
TOTAL	45	100	19

The cases were widely scattered throughout the island. The largest number of cases occurred in Bridgetown, the capitol and principal city. The highest attack rate, however, occurred in a rural parish on the east coast of the island. Type I poliovirus has been isolated from a considerable number of the cases.

There was no accurate estimate of inactivated polio vaccine usage prior to the outbreak; however, it was felt that only a small number of children had been immunized. After the early cases were reported, 54,000 doses of trivalent oral polio vaccine were administered on the island. Most of this vaccine was given to school age children throughout the island. During early June, a mass immunization program directed primarily at pre-school children utilizing 50,000 doses of Type I vaccine from the CDC epidemic reserve was conducted. Preliminary data indicates that more than 50 percent of children age 0-6 years were vaccinated during this program.

CURRENT U.S. POLIO INCIDENCE

COMPARED WITH YEARS 1958, 1960, and 1962

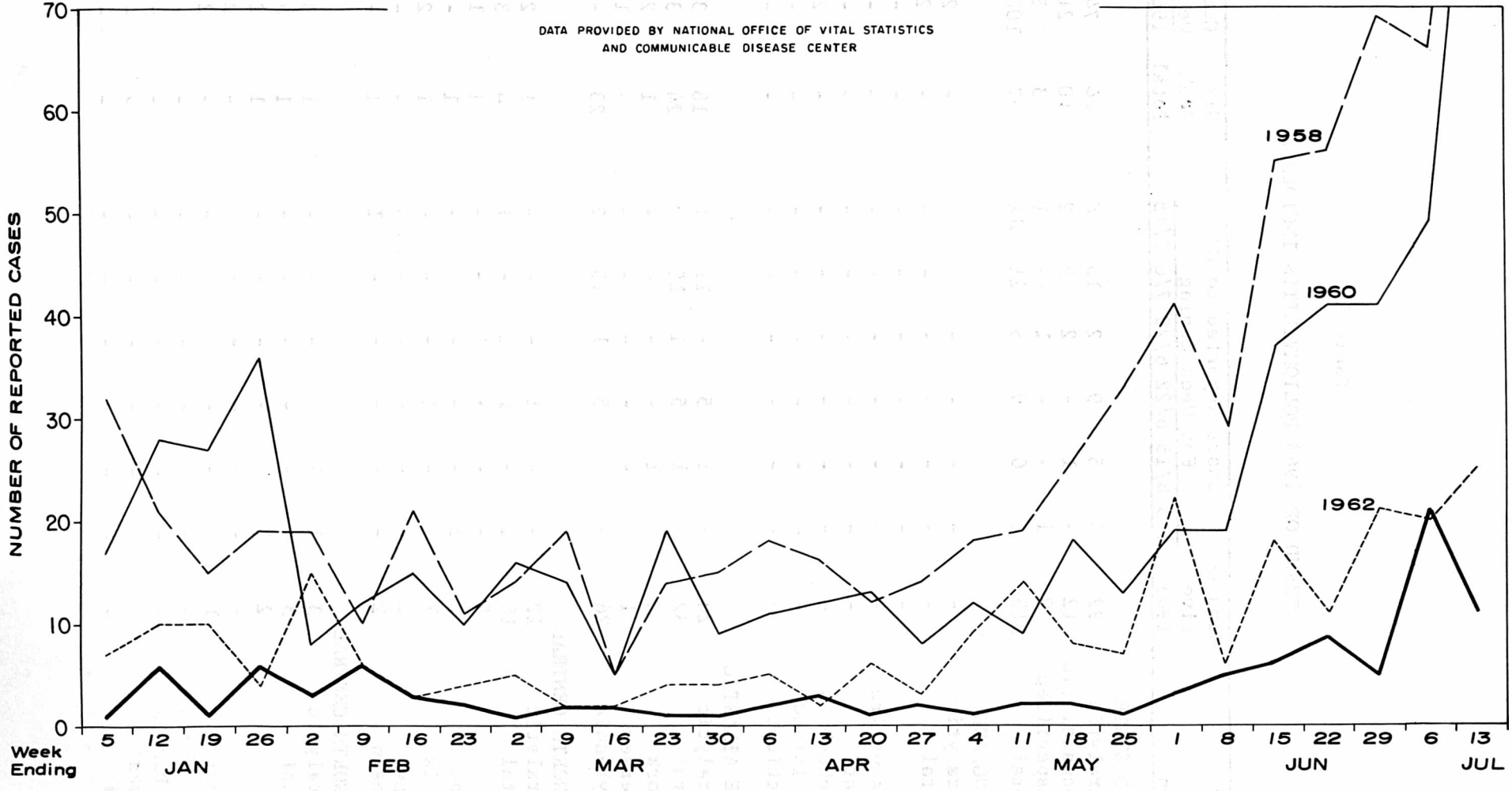


Table 1

TREND OF 1963 POLIOMYELITIS INCIDENCE

State and Region	Cumulative 1963	Cases Reported to CDC For Week Ending 6/8	6/15	6/22	6/29	7/6	7/13	Six Week Total	Comparable Six Weeks Totals in 1962	1961	1960
UNITED STATES											
Paralytic	92	4	5	9	2	16	8	44	74	53	217
Nonparalytic	12	-	1	-	2	5	2	10	21	27	55
Unspecified	9	1	-	-	1	-	1	3	5	12	9
Total	113	5	6	9	5	21	11	57	100	92	281
NEW ENGLAND											
Paralytic	-	-	-	-	-	-	-	-	2	-	50
Total	-	-	-	-	-	-	-	-	2	-	60
Maine	-	-	-	-	-	-	-	-	-	-	1
New Hampshire	-	-	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	-	-	-	-	-
Massachusetts	-	-	-	-	-	-	-	-	2	-	1
Rhode Island	-	-	-	-	-	-	-	-	-	-	57
Connecticut	-	-	-	-	-	-	-	-	-	-	1
MIDDLE ATLANTIC											
Paralytic	24	-	1	5	-	11	1	18	3	4	13
Total	32	-	1	5	1	15	2	24	3	5	17
New York	5	-	1	-	-	-	-	1	2	3	7
New Jersey	1	-	-	-	-	-	-	-	1	2	2
Pennsylvania	26	-	-	5	1	15	2	23	-	-	8
EAST NORTH CENTRAL											
Paralytic	12	-	-	1	-	-	-	1	2	4	16
Total	18	1	-	1	1	-	1	4	3	7	24
Ohio	5	-	-	-	1	-	-	1	1	4	2
Indiana	2	1	-	-	-	-	-	1	-	1	2
Illinois	7	-	-	1	-	-	-	1	2	1	15
Michigan	2	-	-	-	-	-	-	-	-	1	5
Wisconsin	2	-	-	-	-	-	1	1	-	-	-
WEST NORTH CENTRAL											
Paralytic	3	1	-	-	-	-	-	1	3	4	8
Total	3	1	-	-	-	-	-	1	6	10	15
Minnesota	2	1	-	-	-	-	-	1	2	-	6
Iowa	-	-	-	-	-	-	-	-	2	-	4
Missouri	1	-	-	-	-	-	-	-	2	6	3
North Dakota	-	-	-	-	-	-	-	-	-	-	-
South Dakota	-	-	-	-	-	-	-	-	-	-	-
Nebraska	-	-	-	-	-	-	-	-	-	-	1
Kansas	-	-	-	-	-	-	-	-	-	4	1

Table 1 (Continued)

State and Region	Cumulative 1963	Cases Reported to CDC For Week Ending 6/8	6/15	6/22	6/29	7/6	7/13	Six Week Total	Comparable Six Weeks Totals in 1962	1961	1960
SOUTH ATLANTIC											
Paralytic	10	1	1	-	2	-	1	5	4	19	25
Total	13	1	2	-	3	-	1	7	5	29	33
Delaware	-	-	-	-	-	-	-	-	-	-	-
Maryland	-	-	-	-	-	-	-	-	-	3	-
D. C.	-	-	-	-	-	-	-	-	-	-	-
Virginia	2	-	1	-	-	-	-	1	-	-	-
West Virginia	1	1	-	-	-	-	-	1	3	5	4
North Carolina	3	-	-	-	1	-	-	1	-	-	3
South Carolina	3	-	-	-	2	-	1	3	-	3	18
Georgia	1	-	-	-	-	-	-	-	-	12	1
Florida	3	-	1	-	-	-	-	1	2	6	7
EAST SOUTH CENTRAL											
Paralytic	15	-	1	2	-	4	6	13	3	6	10
Total	17	-	1	2	-	5	6	14	5	11	11
Kentucky	-	-	-	-	-	-	-	-	3	2	1
Tennessee	4	-	-	1	-	-	2	3	1	4	2
Alabama	11	-	-	1	-	5	3	9	1	4	5
Mississippi	2	-	1	-	-	-	1	2	-	1	3
WEST SOUTH CENTRAL											
Paralytic	16	-	1	1	-	-	-	2	46	8	21
Total	16	-	1	1	-	-	-	2	63	16	38
Arkansas	1	-	-	1	-	-	-	1	-	-	5
Louisiana	13	-	1	-	-	-	-	1	3	6	11
Oklahoma	-	-	-	-	-	-	-	-	1	1	1
Texas	2	-	-	-	-	-	-	-	59	9	21
MOUNTAIN											
Paralytic	-	-	-	-	-	-	-	-	1	1	4
Total	-	-	-	-	-	-	-	-	2	2	6
Montana	-	-	-	-	-	-	-	-	1	1	4
Idaho	-	-	-	-	-	-	-	-	-	-	-
Wyoming	-	-	-	-	-	-	-	-	-	-	-
Colorado	-	-	-	-	-	-	-	-	1	-	1
New Mexico	-	-	-	-	-	-	-	-	-	-	1
Arizona	-	-	-	-	-	-	-	-	-	-	-
Utah	-	-	-	-	-	-	-	-	-	1	-
Nevada	-	-	-	-	-	-	-	-	-	-	-
PACIFIC											
Paralytic	12	2	1	-	-	1	-	4	10	7	70
Total	14	2	1	-	-	1	1	5	11	12	77
Washington	-	-	-	-	-	-	-	-	-	1	-
Oregon	2	-	-	-	-	-	1	1	1	3	4
California	12	2	1	-	-	1	-	4	10	8	71
Alaska	-	-	-	-	-	-	-	-	-	-	1
Hawaii	-	-	-	-	-	-	-	-	-	-	1
TERRITORY											
Puerto Rico	4	-	-	-	-	-	-	-	2	1	158

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 evaluation of this report are gratefully acknowledged.

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West Virginia	Dr. L. A. Dickerson
Wisconsin	Dr. Josef Preizler
Wyoming	Dr. Robert Alberts