

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.

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SUMMARY

A total of 114 cases of poliomyelitis, 103 with paralysis, have been reported during the six week period ending September 13, 1963. The largest case concentration occurred in Pennsylvania (50) and Alabama (37). No other State reported more than eight cases during this six week period.

Detailed reports on outbreaks in Philadelphia, Pennsylvania and in northwest Alabama are presented in Section 2. In addition, small outbreaks in Grand Rapids, Michigan and Petersburg, Virginia are discussed. A tabulation of the 133 non-polio enterovirus isolations reported thus far in 1963 to the Poliomyelitis Surveillance Unit are presented in Section 3. In Section 4, an additional four cases of poliomyelitis occurring within thirty days of the oral vaccines is presented. Thus far this year there have been no reported cases of polio within thirty days of receiving inactivated poliomyelitis vaccine.

A description of the current Type III outbreak in Quebec, Canada, where more than 60 cases have occurred is included in Section 5 as a special foreign report.

1. CURRENT POLIOMYELITIS MORBIDITY TRENDS

During the six-week period ending September 13, 1963, there were 114 cases of poliomyelitis (103 paralytic) reported. There were 202 cases reported during the same period in 1962. A total of 50 cases were reported from Pennsylvania during this six week period. Most of these cases were from Philadelphia and are discussed in detail in Section 2. Alabama accounted for 23 cases, with most of the cases occurring in the northwest part of the State. Small localized outbreaks have been reported in Michigan and Virginia.

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.

Polio (Cumulated Weekly) through 37th Week for Past Five Years

	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>
Paralytic	222	416	517	1312	3455
Total	257	536	780	1908	5474

The six week totals for the current year and the past four years are shown in the following table. These totals are also much lower than for any previous year.

<u>Six Weeks Totals (32nd thru 37th Week) for Past Five Years</u>					
	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>
Paralytic	103	162	278	632	1855
Total	114	202	418	960	3023

2. STATE REPORTS

A. Pennsylvania

A total of 50 cases were reported by Dr. William D. Schrack, Director of Communicable Diseases, Pennsylvania Department of Health, during the six week period ending September 14, 1963, bringing the State's total to 79 cases for the year. Previously, there was a localized outbreak in the Carlisle area (PSU No. 278), the peak occurring there in late June. The recent high incidence of cases from Pennsylvania is due primarily to the 44 reported cases of polio from the City of Philadelphia. This total exceeds the annual totals in that city since the introduction of inactivated poliomyelitis vaccine in 1955 (with the single exception of 1958 when 76 cases were reported for the entire year). The annual totals for Philadelphia for poliomyelitis for the past 10 years are shown in the following table.

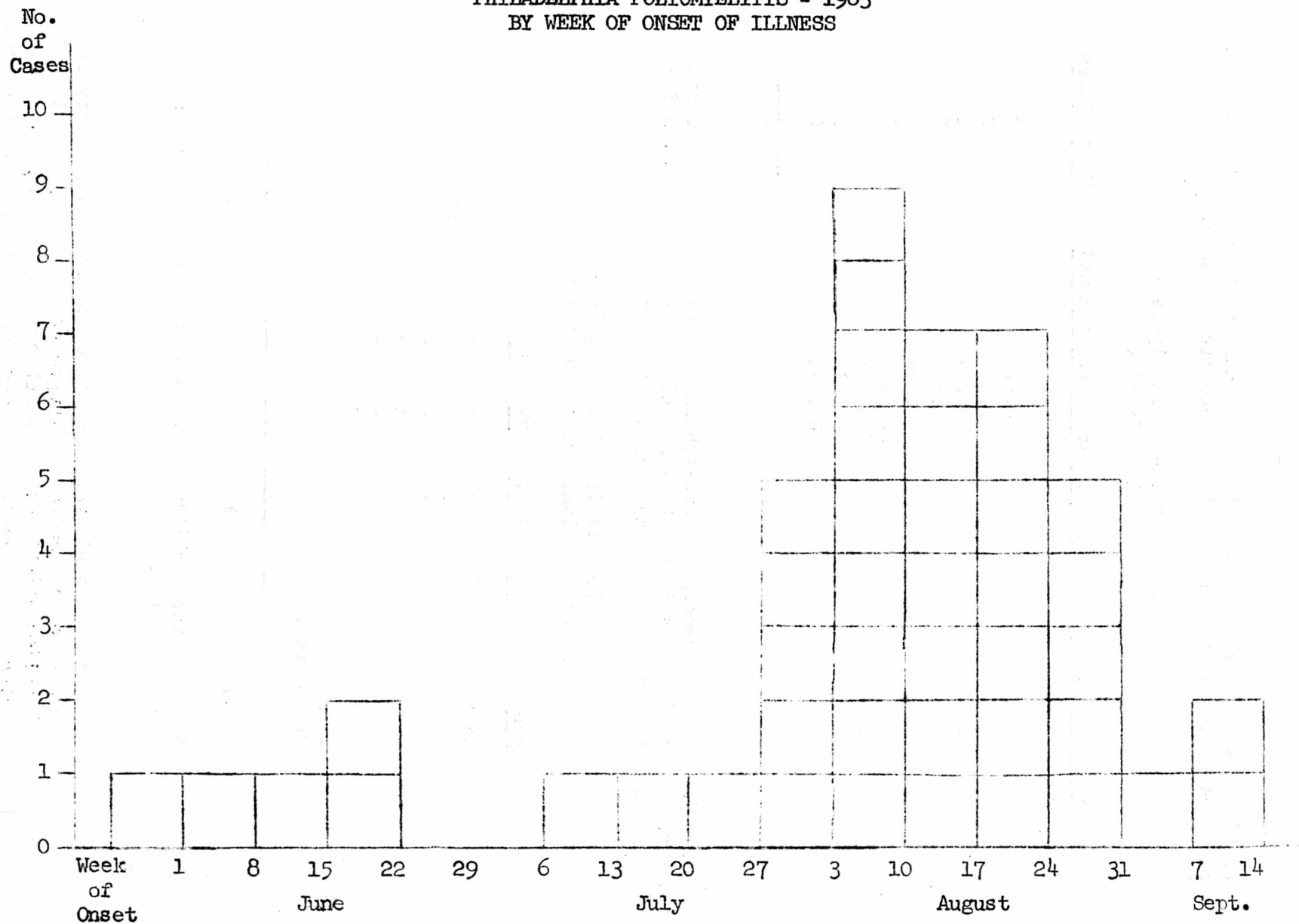
Poliomyelitis - Philadelphia By Year

<u>Year</u>	<u>Total Cases</u>	<u>Year</u>	<u>Total Cases</u>
1954	228	1959	21
1955	40	1960	8
1956	13	1961	1
1957	10	1962	0
1958	76	1963	44*

*Cases reported through September 14.

Following the occurrence of sporadic cases during June and July, an abrupt increase in cases occurred in early August. Five cases were reported with onsets of illness the week ending August 3; 9 cases the week ending August 10; 7 cases the week ending August 17; and 7 cases the week ending August 24. The cases by week of onset are portrayed on the following page. Thus far, Type I poliovirus has been isolated from specimens from 26 cases. Although cases are reported from 8 of

PHILADELPHIA POLIOMYELITIS - 1963
BY WEEK OF ONSET OF ILLNESS



Philadelphia's 10 health districts, more than one-half of the cases are concentrated in health district No. 6 (See table below).

Poliomyelitis - Philadelphia - 1963
By Health District

<u>Health Districts</u>	<u>Population (1960 Census)</u>	<u>Total Cases</u>
1	96,545	1
2	200,974	2
3	203,984	2
4	197,224	2
5	192,319	7
6	154,894	24
7	253,655	3
8	233,707	2
9	265,238	1
10	202,241	0
		<hr/> 44

Inadequately vaccinated pre-school age children comprised the majority of polio cases in the Philadelphia outbreak. The following table shows the cases by age and vaccination status.

Poliomyelitis - Philadelphia - 1963
By Age and Inactivated Vaccine Status*

<u>Age</u>	<u>0V</u>	<u>1-2V</u>	<u>3V</u>	<u>4+V</u>	<u>Total</u>
Under 1	2	-	-	-	2
1	6	3	1	-	10
2	4	1	-	-	5
3	5	1	1	-	7
4	-	2	-	-	2
5-9	3	3	2	3	11
10-19	2	-	1	-	3
20 and over	3	-	1	-	4
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total	25	10	6	3	44

*None of these children are known to have received oral polio vaccine.

Because of the unusual incidence of polio cases in the City of Philadelphia, plans for a mass community program utilizing Type I monovalent oral poliomyelitis vaccine which had been originally scheduled for October 27, have been accelerated and will be carried out

on Sunday, September 22. This will be under the combined aegis of the Philadelphia City Health Department, the County Medical Society, and numerous volunteer civic organizations. In addition, Type I monovalent oral poliomyelitis vaccine has been dispensed at a number of centers in Philadelphia by the City Health Department since September 11. The vaccine, supplied from the CDC epidemic reserve, has been available at City Health Centers and other locations in the City. This program has been aimed primarily at the "hard core" areas of the City where most of the cases have been occurring.

1963 Philadelphia Polio Cases

<u>Case No.</u>	<u>Initials</u>	<u>Dist. No.</u>	<u>Age</u>	<u>Sex</u>	<u>Race</u>	<u>Date of Onset</u>	<u>Para. Status</u>	<u>IPV</u>	<u>Virus Isolations</u>
1	G.S.	6	1	M	W	5-29	P	0	I
2	C.H.	6	3	M	W	6-3	NP	0	I
3	D.K.	6	2	F	W	6-10	P	2	I
4	M.B.	6	1	F	W	6-16	NP	0	I
5	L.M.	7	6	F	W	6-21	P	4	I
6	J.K.	5	1	M	C	7-25	NP	1	I
7*	J.W.	6	1	M	W	7-31	P	0	I
8	P.V.	6	2	M	W	8-1	P	0	I
9*	W.W.	6	3	M	W	7-31	P	0	I
10	R.K.	6	4	F	W	7-19	P	1	I
11	R.C.	6	1	M	W	7-31	NP	0	I
12	A.L.	6	2	F	C	8-3	P	0	I
13	T.M.	4	10	M	C	7-8	NP	0	I
14	R.B.	3	7	M	C	8-6	P	1	I
15	L.S.	6	3	F	C	8-7	P	2	I
16	J.R.	6	27	M	W	8-10	P	0	
17	D.L.	5	6	F	C	8-11	P	2	I
18	T.H.	6	3	F	W	8-5	P	0	I
19	C.K.	6	7	F	W	8-10	P	3	I
20	G.R.	6	7/12	M	W	7-20	P	0	I
21	J.B.	7	1	M	W	8-6	P	3	I
22	S.H.	6	3	F	W	8-5	P	0	I
23	W.W.	6	2	F	C	8-19	P	?	I
24	P.H.	6	1	F	W	8-13	P	1	**
25	R.D.	8	3	M	W	8-7	NP	0	**
26	A.B.	8	7	M	C	8-13	NP	0	**
27	R.C.	6	7/12	M	W	8-16	NP	0	**
28	C.H.	6	7	M	C	8-28	P	0	**
29	W.F.	5	6	M	C	8-18	P	0	**
30	J.H.	6	1	M	W	8-16	P	0	**
31	J.W.	5	1	F	C	8-25	P	2	**
32	M.C.	6	5	M	C	8-30	P	?	**
33	S.B.	2	6	M	W	8-19	P	4	I
34	M.D.	2	6	F	W	8-20	P	3	**
35	B.H.	2	12	F	C	8-11	P	3	I

1963 Philadelphia Polio Cases (Continued)

Case No.	Initials	Dist. No.	Age	Sex	Race	Date of Onset	Para. Status	IPV	Virus Isolations
36	K.T.	5	4	F	C	8-14	P	2	**
37	K.C.	3	11	M	C	8-20	NP	0	**
38	W.J.	7	8	M	C	8-3	NP	4	**
39	B.G.	4	22	F	C	8-23	P	0	**
40	C.M.	6	1	F	W	9-1	P	0	**
41		9	24	M	W	9-6	P	0	**
42		7	3	M	W	8-15	NP	3	I
43	E.R.	5	2	M	W	9-9	P	0	**
44	E.F.	1	23	F	C	9-10	P	3	**

* Siblings

** Viral Studies in Process

B. Alabama

Dr. W.H.Y. Smith, Director of Preventable Diseases, Alabama State Department of Public Health, reports there have been a total of 41 cases in Alabama thus far in 1963. Of these, 19 have been concentrated in four counties. The remainder are scattered through the northern part of the State. An outbreak in Walker County in the northwest portion of the State was reported in PSU No. 278 and 279.

During late August, it came apparent that Type I polio cases were concentrating in 3 counties north of Walker County (Lawrence, Winston, and Marion Counties), so that by August 20, there were 12 known cases in the 3 county area. The total population for this area is 61,000; however, there are no communities larger than 2,500 people. The dates of onset of the cases varied from late June through mid-August. One case became ill on June 22, and was the only case that month. Five of the cases became ill in July, and 6 during the first two weeks of August. Ten of the 12 cases were among white persons; however, it should be noted that about 85% of the population of this area is white. All of the cases occurred among children, 7 of them under age 5. All of the cases were paralytic, and only 2 had received previous polio immunization. The cases were widely scattered geographically, and no factor common to all of them could be found. The cases are summarized in the form of a line listing shown on the following page.

<u>County</u>	<u>Age</u>	<u>Race</u>	<u>Sex</u>	<u>Onset</u>	<u>IPV</u>	<u>Para. Status</u>	<u>Virus Isol.</u>
Lawrence	12	W	F	7-11	0	P	*
Lawrence	12	W	F	7-20	3	P	*
Lawrence	2	W	F	8-1	0	P	*
Lawrence	4	C	F	8-4	0	P	*
Winston	9	W	F	6-22	0	P	I
Winston	14	W	M	7-30	0	P	I
Winston	4	W	M	8-4	3	P	*
Winston	14	W	M	8-11	0	P	*
Winston	3	W	M	8-11	0	P	*
Marion	3	W	F	7-5	0	P	No Spec.
Marion	3	C	F	7-14	0	P	*
Marion	4	W	M	8-7	0	P	*

*In process at State Health Department Laboratory

A mass vaccination program utilizing vaccine from the CDC epidemic reserve was carried on simultaneously in the 3 county area on August 24. A total of 35,764 persons received the monovalent Type I oral vaccine.

C. Michigan

Dr. George H. Agate, Director of Epidemiology, Michigan Department of Health, reports 3 recent paralytic cases among pre-school age Negro children in Grand Rapids. All 3 cases live in a slum area south of the business district. Type I poliovirus has been isolated from stool specimens on each of the cases. The dates of onset range from 8/10 to 8/28. In addition, there have been several suspect cases hospitalized with onsets as recent as September 17.

A mass community program utilizing vaccine from the CDC epidemic reserve will be held in Grand Rapids on Saturday, September 21. A line listing of the reported cases can be found below.

<u>Initials</u>	<u>Age</u>	<u>Race</u>	<u>Sex</u>	<u>IPV</u>	<u>Onset</u>	<u>Virus Isol.</u>	<u>Para. Status</u>
M.H.	2	C	M	0	8-10	I	P
L.C.	2	C	F	0	8-27	I	P
A.T.	3	C	F	0	8-28	I	P

D. Vermont

Dr. Linus J. Leavens, Director of Communicable Disease Control, Vermont State Department of Health, reports a recent case of paralytic polio from the community of Albany (a few miles south of the Canadian border). This is a 19 month old unvaccinated white male child from whom a Type III poliovirus has been isolated from the stool.

Because of the occurrence of a number of cases of Type III polio in Quebec (see Foreign Reports) many of which are very close to the Vermont-Canada border, the State Health Department has begun a vaccination program in the northern tier of counties along the border. Utilizing Type III monovalent vaccine from the CDC epidemic reserve, immunization programs are being carried out in Franklin, Orleans and Essex counties (total population 55,000).

E. Virginia

Dr. James B. Kenley, Director of the Bureau of Epidemiology, Virginia State Department of Health, reports three recent paralytic cases in the City of Petersburg and an additional case in the near-by community of Chester. All of these cases have recent onsets of illness and are among unvaccinated Negro children. Virologic study is currently underway in an effort to ascertain the poliovirus type.

3. ENTEROVIRUS SURVEILLANCE

Thus far in 1963, the Poliomyelitis Surveillance Unit has received reports on 133 non-polio enterovirus isolations. These are tabulated by State below.

Non-Poliiovirus Isolations From 1963 Specimens

State	ECHO					Coxsackie						Total
	4	9	11	14	Other*	A9	B1	B2	B3	B5	Other**	
Calif.	8	1		2	4	1						16
Conn.		2		1					1			4
Ga.	1											1
Idaho									2			2
Ill.		1			2	4	11	1		1		20
Kansas			11		1		14					26
Ky.	1	5							1			7
La.				1	1	2	1	2			5	12
Mass.						1						1
Mich.	2	1		1								4
Minn.					1	5						6
Mo.										1		1
N.M.		4										4
N.Y.	2			1	1	3		1			2	10
Ohio		1										1
Oregon		2										2
Pa.		1	1		1			1				4
S.C.	1											1
Tenn.							3		1			4
Wash.		4		1		1						6
Wisconsin				1								1
Total	15	22	12	8	11	17	29	5	5	2	7	133

*ECHO virus isolates as follows: Calif. E13, E22, 2E31; Ill. E6, E8;

Kansas E6; La. E17; Minn. E5; N.Y. E7; Pa. E8.

**Coxsackie virus isolates as follows: La. 5A2; N.Y. A2, A23

4. ROUTINE SURVEILLANCE

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 September 13, 1963, 4 cases of polio, all paralytic, occurring within 30 days following oral polio vaccine, were reported to the Poliomyelitis Surveillance Unit on individual case forms. One case followed vaccination with Type I, and occurred in the epidemic area of Cumberland County, Pennsylvania. In addition, 3 cases have been reported following Type III vaccine from California, Minnesota, and Tennessee. All 4 cases are summarized in the line listing below.

<u>State</u>	<u>County</u>	<u>Age</u>	<u>Sex</u>	<u>Onset</u>	<u>Date Fed</u>	<u>Intv. (Days)</u>	<u>Type Fed</u>	<u>Doses IPV</u>	<u>Para. Status</u>
California	Kings	10 mos.	M	4-1	3-10	21	III	0	P
Minnesota	Hennepin	19	M	5-27	5-13	14	III	0	P
Tennessee	Montgomery	11 mos.	M	6-16	6-6	10	III	0	P
Penn.	Cumberland	11	F	6-27	6-26	1	I	0	P

5. FOREIGN REPORT - Canada

Dr. A.R. Foley, Provincial Epidemiologist, Quebec, reports that cases of poliomyelitis have recently been occurring in the Province. There were sporadic cases reported during late spring and early summer; however, there was a sharp increase in number of cases during August. Type III poliovirus has been isolated from 2 of the cases. About 65% of the cases have been in the "eastern townships" centered around the City of Sherbrooke. There have been 12 cases in the Montreal Metropolitan area. Thus far, there have been 7 deaths. The age distribution (given below) indicates involvement primarily of school age children.

Poliomyelitis - Quebec 1963 By Age

<u>Age</u>	<u>No. Cases</u>	<u>% Cases*</u>
0-4	12	21
5-9	14	25
10-14	18	32
15+	12	21
Unk.	7	
Total	63	

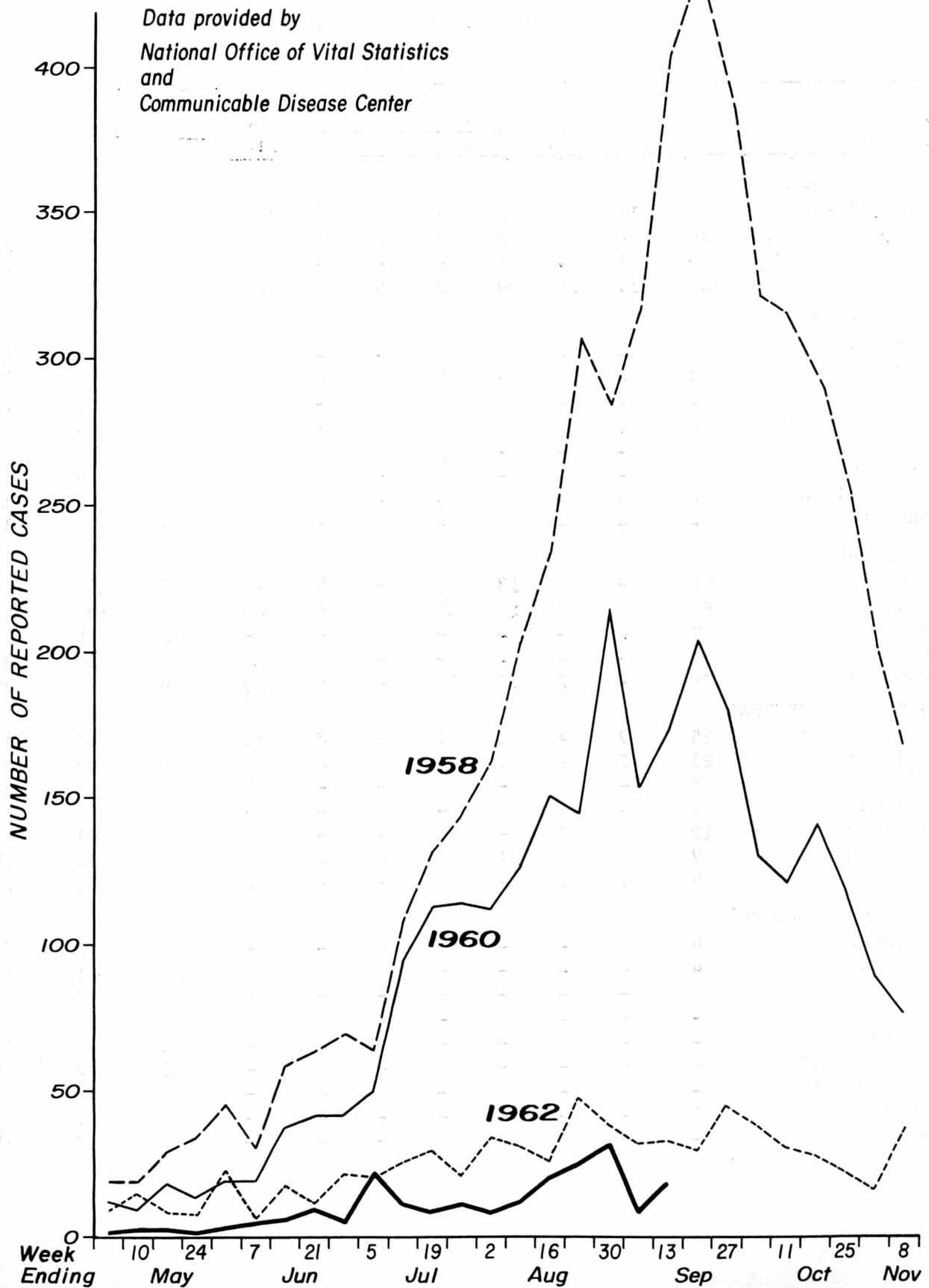
*Percentages calculated on 56 cases with known ages.

No information is available at present on the vaccination status of the cases; however, it is known that approximately 65% of the population residing in the epidemic area have received 3 or more doses of inactivated polio vaccine.

On August 10, a program of vaccination using a balanced trivalent oral vaccine was begun in areas of the province where cases were occurring. To date, approximately 137,000 doses have been administered.

Fig. 1

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



TREND OF 1963 POLIOMYELITIS INCIDENCE

[illegible]

Table 1 (Continued)

State and Region	Cumula- tive 1963	Cases Reported to CDC for Week Ending:							Six Week Total	Comparable Six Weeks Totals in		
		8/10	8/17	8/24	8/31	9/7	9/14	1962		1961	1960	
SOUTH ATLANTIC												
Paralytic	30	3	3	2	2	1	4	15	16	54	115	
Total	33	3	3	2	2	1	4	15	17	69	154	
Delaware	1	-	1	-	-	-	-	1	-	-	-	
Maryland	-	-	-	-	-	-	-	-	-	14	32	
D.C.	-	-	-	-	-	-	-	-	1	-	-	
Virginia	4	-	-	-	-	-	2	2	4	7	12	
West Virginia	1	-	-	-	-	-	-	-	2	11	16	
North Carolina	3	-	-	-	-	-	-	-	2	6	32	
South Carolina	6	2	-	-	-	-	1	3	3	8	43	
Georgia	12	1	1	2	2	1	1	8	4	8	9	
Florida	6	-	1	-	-	-	-	1	1	15	10	
EAST SOUTH CENTRAL												
Paralytic	52	5	9	5	1	6	4	30	23	19	24	
Total	54	5	9	5	1	6	4	30	29	26	77	
Kentucky	-	-	-	-	-	-	-	-	11	3	48	
Tennessee	8	-	1	-	1	2	-	4	6	7	17	
Alabama	41	5	7	5	-	4	2	23	11	4	3	
Mississippi	5	-	1	-	-	-	2	3	1	12	9	
WEST SOUTH CENTRAL												
Paralytic	23	1	1	-	-	-	1	3	55	24	37	
Total	24	1	1	-	-	1	1	4	72	47	61	
Arkansas	4	1	-	-	-	1	-	2	4	9	10	
Louisiana	14	-	-	-	-	-	-	-	4	20	2	
Oklahoma	-	-	-	-	-	-	-	-	8	1	4	
Texas	6	-	1	-	-	-	1	2	56	17	45	
MOUNTAIN												
Paralytic	1	-	-	-	-	-	-	-	-	4	7	
Total	1	-	-	-	-	-	-	-	2	8	25	
Montana	-	-	-	-	-	-	-	-	-	-	1	
Idaho	1	-	-	-	-	-	-	-	1	4	1	
Wyoming	-	-	-	-	-	-	-	-	1	-	14	
Colorado	-	-	-	-	-	-	-	-	-	3	5	
New Mexico	-	-	-	-	-	-	-	-	-	-	2	
Arizona	-	-	-	-	-	-	-	-	-	-	1	
Utah	-	-	-	-	-	-	-	-	-	1	1	
Nevada	-	-	-	-	-	-	-	-	-	-	-	
PACIFIC												
Paralytic	16	-	1	-	-	-	-	1	22	23	137	
Total	18	-	1	-	-	-	-	1	22	27	158	
Washington	1	-	-	-	-	-	-	-	2	7	12	
Oregon	2	-	-	-	-	-	-	-	-	4	7	
California	15	-	1	-	-	-	-	1	20	15	137	
Alaska	-	-	-	-	-	-	-	-	-	-	-	
Hawaii	-	-	-	-	-	-	-	-	-	1	2	
TERRITORY												
Puerto Rico	5	-	-	-	-	-	1	1	2	1	71	

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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