

FOR ADMINISTRATIVE USE

CDC POLIOMYELITIS SURVEILLANCE REPORT

NO. 134

NOVEMBER 15, 1957

U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Public Health Service Bureau of State Services

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SPECIAL NOTE

Information presented in this report represents a summary of preliminary data regarding poliomyelitis and polio-like diseases reported to CDC from State Health Departments, participating diagnostic and reference laboratories, Epidemic Intelligence Service Officers, National Office of Vital Statistics, and other pertinent sources. It is to be emphasized that these data are provisional and intended for the information and administrative use of physicians involved in investigation and control of poliomyelitis and polio-like diseases. Anyone desiring to quote this information is urged to contact the person or persons responsible for the items reported in order that the exact interpretation of the report and the current status of the investigation be obtained.

A. Current Poliomyelitis Morbidity Trends

National poliomyelitis incidence decreased during the last two weeks. A total of 67 cases was reported to NOVS for the week ending November 9, following 112 and 77 cases reported respectively for the weeks ending October 26 and November 2. Figure 1 presents the national poliomyelitis incidence curves by weeks for the years 1947, 1952 through 1956, and to date in 1957.

Table 1 shows the distribution of total cases by state and region, and of paralytic cases by region, for the past six weeks, with six-week totals for the comparable periods of the past four years. Of the 67 cases reported during the last week, 25 were reported from the North Central Region, primarily from Ohio, Michigan and Indiana. It may be noted that no cases of polio have yet been reported during 1957 from the state of Rhode Island.

Of the 67 cases reported last week, 35 were categorized as paralytic, 17 as nonparalytic and 15 as unspecified. Figure 2 shows the U.S. incidence by paralytic status for the 30th through the 45th weeks of 1955, 1956 and 1957. The proportion of cases indicated as paralytic has continued to increase during the past 11-12 weeks, but with particularly low paralytic and total incidence this year. The numbers of cases by paralytic status reported for the 45th week and the cumulative totals to date in 1957 may be compared with similar data for 1955 and 1956:

	<u>45th Week</u>			<u>Cumulative Thru the 45th Week</u>		
	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
Paralytic	208	142	35	9796	6196	1988
Nonparalytic	142	78	17	10612	5625	2739
Unspecified	114	42	15	7121	2642	910
TOTAL	464	262	67	27529	14463	5638
Percent Paralytic (of cases with paralytic status specified)	59	65	67	48	52	42

B. Report from Louisiana - Dr. John M. Bruce, Chief, Section of Epidemiology, Louisiana State Department of Health, has prepared data summarizing poliomyelitis cases in the state of Louisiana during the period January 1 through October 31, 1957. During this period a total of 160 cases was reported, including 69 paralytic and 91 nonparalytic.

Table 2 presents these 160 cases by paralytic and vaccination status and by virus isolation results. It is notable that of 45 paralytic cases which received laboratory study, type I poliovirus was isolated in 26, whereas of 65 nonparalytic cases studied, only 5 yielded type I poliovirus. Also from Table 2 it may be seen that virus was isolated from only 3 of the 40 vaccinated cases studied, while 28 of the 70 unvaccinated cases yielded virus (all type I). Thus, laboratory study has been completed by the Louisiana State Health Department Laboratory on an overall total of 110 cases, with results negative in 79 cases and positive (type I isolated) in 31.

Age distribution of Louisiana cases this year, by paralytic and vaccinated status, is presented in Table 3. Of the total 160 cases, the largest number, 59, or 37%, largely paralytic, were under age 5, while 40, or 25% were in the 5-9 year age group and 28, or 18%, over age 20.

C. Report from England - Reports from the British Ministry of Health have recorded uncorrected poliomyelitis notifications during recent weeks as follows:

<u>Week Ending</u>	<u>Paralytic</u>	<u>Nonparalytic</u>	<u>Total</u>
September 7	158	121	279
September 14	116	84	200
September 21	113	85	198
September 28	87	37	124
October 5	87	29	116
October 12	68	26	94
October 19	64	16	80

The following table, presenting the number of cases reported for the 42nd week and the cumulative total cases reported up to and including the 42nd week, compare the data for 1957 with the figures for the preceding nine years.

<u>Year</u>	<u>Total cases up to and including 42nd week</u>	<u>Cases in 42nd Week</u>
1948	1,703	80
1949	4,890	414
1950	7,293	278
1951	2,515	119
1952	3,706	119
1953	4,515	135
1954	1,933	62
1955	5,701	347
1956	2,984	140
1957	4,830	80

Thus, it may be seen that the cumulative total for the current year was exceeded for the comparable periods during 1949, 1950 and 1955. However, in ten individual districts of 15,000 or more population the notification rate to date in 1957 exceeds 75 cases per 100,000 population.

D. Routine Poliomyelitis Surveillance

1. Under-30-day vaccinated cases - During the two-week period ending November 13, PSU received reports of two paralytic and three non-paralytic poliomyelitis cases with onset of symptoms within 30 days of a polio vaccine inoculation.

One of the paralytic cases was reported from Alameda County, California, in a 4 year old girl whose onset of illness in June of 1957 was 27 days following second inoculation of polio vaccine (manufacturer and lot number unknown). Bulbar paralysis developed, with residual right facial paresis. Type I poliovirus was isolated from stool specimens.

Kentucky reported a case in an eleven months old female with onset of illness 12 days following a single inoculation. Site of inoculation, first paralysis, vaccine manufacturer and lot number were not known.

2. Triply-vaccinated cases - Reports of 19 paralytic and 36 non-paralytic triply-vaccinated poliomyelitis cases were received during the two-week period ending November 13. The paralytic triply-vaccinated cases are listed in Table 2; one of these, #3V-148, was a fatality reported from Knox County, Texas. Onset of illness in this 12 year old triply-vaccinated boy (last inoculation a year ago) was 9-24-57, with paresis becoming evident on 10-8-57. Paresis progressed to total involvement, including the development on October 9 of bulbar symptoms with pharyngeal and respiratory paralysis. The patient expired on 10-12-57. No virus has been isolated from stool, blood, spinal fluid, spinal cord and brain tissue specimens examined in the Texas State Health Department Laboratories.

Also included in Table 2 is case #3V-74 (listed previously in preliminary form in PSU Report No. 123) with additional clinical details including the observation of definite residual paresis six weeks after the acute illness.

PSU has now received reports of 114 paralytic (including two fatalities) and 462 nonparalytic cases in triply-vaccinated individuals with onset of symptoms in 1957.

3. Vaccine Distribution - Current and cumulative vaccine releases, shipments and inventory estimates are presented in Table 3. The amount of vaccine shipped fell from 8.0 million cc's shipped during the month of September to only 2.7 million cc's during October, including 1.8 million exported under the Department of Commerce export policy. Vaccine cleared but not shipped by manufacturers totaled almost 18.5 million cc's the week ending November 1.

E. Aseptic Meningitis

Report from California

The following is abstracted from California Surveillance Report, Poliomyelitis Report #8, California State Department of Public Health, October 17, 1957:

"Non-paralytic polio versus aseptic meningitis. As in the United States as a whole, the proportion of cases reported as paralytic in California appears to have increased during recent weeks. Tabulation of cases by month of onset indicates that while paralytic incidence has remained relatively stable, with a low of 17 cases with onset in April and a high of 34 cases with onset in August, incidence of nonparalytic illness has shown a decidedly marked seasonal pattern rising from a low of 23 cases in April to a peak in August of 103 cases, with a subsequent decline in incidence....

"This distribution of cases reported as nonparalytic polio appears to be attributable in part to the seasonal occurrence of aseptic meningitis in California this summer. Although agents other than polio are being increasingly identified with the syndrome of aseptic meningitis, in the absence of distinguishing clinical features, many of these illnesses are diagnosed as nonparalytic polio.

"Of the first 30 cases of reported nonparalytic polio studied by the Virus Laboratory this season, 'non-polio viruses' - Coxsackie or unidentified orphan viruses - were isolated in 13 cases, 3 cases had mumps virus infection, and no agent was identified in 14. No isolations of polio virus were made.

"Although aseptic meningitis of undetermined etiology is not listed as an 'officially reportable' disease category, voluntary reports have been received this year from 21 counties, representing most areas of the state. During the present 'polio disease year' 101 such reports have been received. Seventy-four of these cases were reported as 'aseptic meningitis, possible polio'. July and August were the predominant months of onset in these cases. These cases are not included in the tables on polio incidence. Specimen transmittal slips received by the Viral and Rickettsial Disease Laboratory give further indication of the occurrence of aseptic meningitis throughout the state this summer. . . ."

(This Report was prepared by Dr. Lauri David Thrupp and Miss Helen Forester with assistance from the Statistics Section, CDC.)

Figure 1: CURRENT U.S. POLIO INCIDENCE
COMPARED WITH YEARS 1952-1956

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS

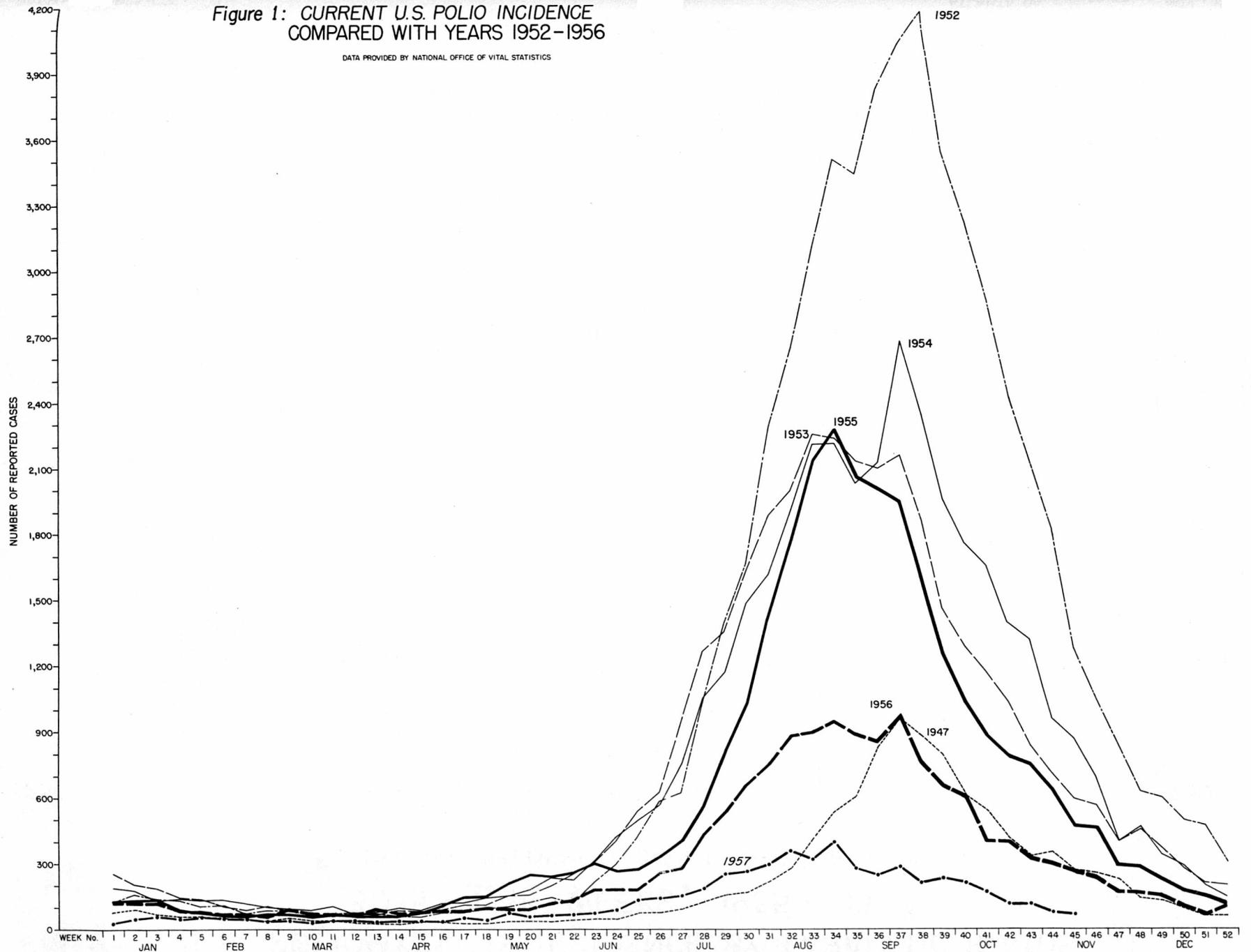


Fig. 2: U. S. POLIOMYELITIS INCIDENCE BY PARALYTIC STATUS
30th - 45th WEEKS, 1955 - 1957*

*BASED ON PRELIMINARY DATA PROVIDED BY NOVS

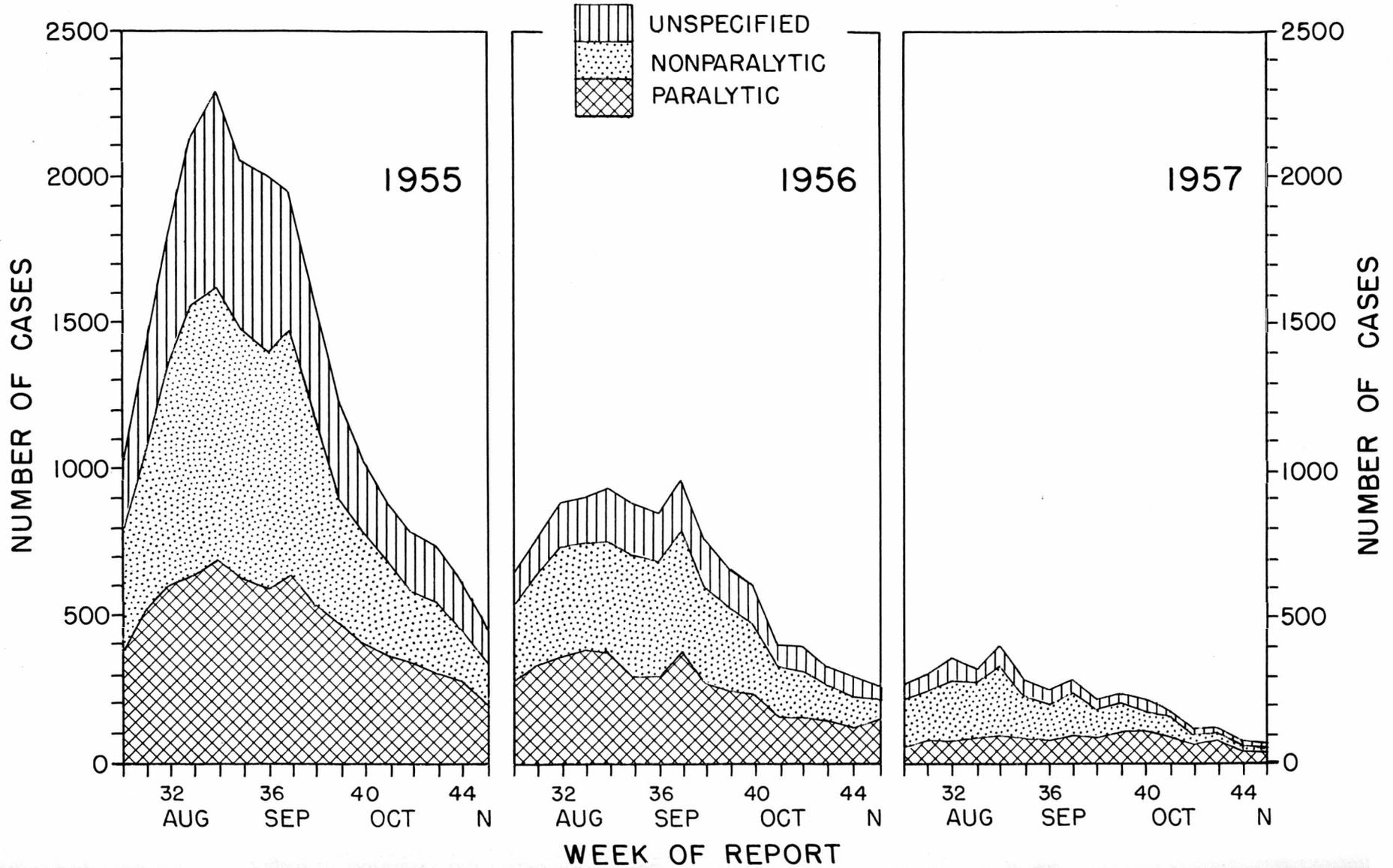


Table 1

TREND OF 1957 POLIOMYELITIS INCIDENCE

State and Region	Cases Reported to NOVS* for Week Ending						Six Week Total	Comparable Six Week Totals In:			
	10-5	10-12	10-19	10-26	11-2	11-9		1956	1955	1954	1953
UNITED STATES											
Paralytic	103	88	61	73	43	35	403	949	1916		
Nonparalytic	63	64	33	27	19	17	223	875	1512		
Unspecified	45	17	18	12	15	15	122	458	1116		
Total	211	169	112	112	77	67	748	2282	4544	7941	5619
NORTH EAST											
Paralytic	10	7	6	6	4	4	37	78	571		
Total	27	18	13	8	9	5	80	260	1561	2068	1458
Maine	-	-	-	1	-	1	2	2	50	41	44
New Hampshire	-	-	-	-	-	-	-	-	13	31	15
Vermont	1	-	-	-	-	-	1	2	13	26	38
Massachusetts	-	1	1	-	-	-	2	9	580	282	141
Rhode Island	-	-	-	-	-	-	-	-	112	39	69
Connecticut	-	3	1	-	-	-	4	11	93	140	64
New York	15	12	6	4	6	3	46	154	502	768	632
New Jersey	4	1	3	-	2	-	10	28	117	286	146
Pennsylvania	7	1	2	3	1	1	15	54	81	455	309
NORTH CENTRAL											
Paralytic	41	28	16	20	12	10	127	283	497		
Total	93	61	41	32	33	25	285	806	1299	2692	1976
Ohio	16	6	9	6	9	7	53	111	206	568	475
Indiana	10	3	5	8	12	5	43	77	81	250	62
Illinois	18	22	7	4	4	3	58	136	200	497	253
Michigan	25	23	15	5	3	7	78	125	144	452	404
Wisconsin	3	2	-	2	2	1	10	117	409	177	152
Minnesota	6	1	1	1	-	-	9	23	71	100	281
Iowa	2	1	-	1	-	1	5	75	53	249	77
Missouri	5	2	1	3	1	1	13	55	50	152	118
North Dakota	1	-	-	-	-	-	-	6	7	21	34
South Dakota	1	-	-	-	1	-	2	7	11	31	38
Nebraska	4	1	-	-	1	-	6	51	38	90	18
Kansas	2	-	3	2	-	-	7	23	29	105	64
NORTH WEST											
Paralytic	2	2	-	4	3	2	13	41	192		
Total	3	3	-	4	3	4	17	107	346	321	251
Montana	-	2	-	-	-	-	2	13	36	41	34
Wyoming	-	-	-	-	-	-	-	8	3	47	13
Idaho	2	-	-	-	-	-	2	10	29	20	18
Washington	1	1	-	-	2	3	7	37	162	111	91
Oregon	-	-	-	4	1	1	6	39	116	102	95

* National Office of Vital Statistics

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Table 1 (Continued)

State and Region	Cases Reported to NOV5*						Six Week Total	Comparable Six Week Totals In:			
	10-5	10-12	10-19	10-26	11-2	11-9		1956	1955	1954	1953
SOUTH EAST											
Paralytic	25	22	15	26	6	5	99	160	209		
Total	43	39	25	36	10	14	167	348	461	1389	729
Delaware	-	1	-	-	-	-	1	7	4	35	5
Maryland	-	2	3	4	2	-	11	28	65	83	91
Dist. of Col.	2	1	2	5	-	-	10	2	7	20	8
Virginia	8	5	5	2	2	-	22	40	42	121	95
West Virginia	4	1	2	2	1	-	10	15	25	89	77
North Carolina	5	8	3	5	-	1	22	67	74	106	78
South Carolina	3	5	-	2	1	1	12	7	55	43	18
Georgia	1	1	2	4	2	2	12	22	36	107	49
Florida	4	3	-	4	1	1	13	66	40	483	173
Kentucky	5	4	3	3	1	4	20	28	59	172	47
Tennessee	11	4	5	5	-	2	27	37	30	90	56
Alabama	-	4	-	-	-	3	7	29	24	40	32
SOUTH CENTRAL											
Paralytic	17	14	10	5	5	5	56	174	192		
Total	26	23	12	10	9	6	86	310	412	605	278
Mississippi	1	1	2	1	-	-	5	49	12	61	19
Arkansas	4	1	1	-	-	-	6	34	21	55	31
Louisiana	4	5	4	1	-	5	19	68	61	68	39
Oklahoma	4	2	1	1	-	1	9	25	39	60	38
Texas	13	14	4	7	9	NR	47	134	279	361	151
SOUTH WEST											
Paralytic	8	15	14	12	13	9	71	213	255		
Total	19	25	21	22	13	13	113	452	480	866	927
Colorado	2	1	2	-	1	1	7	31	27	67	16
New Mexico	-	2	1	-	-	-	3	12	14	45	11
Arizona	-	3	1	2	1	1	8	14	27	25	34
Utah	-	-	-	-	-	1	1	45	15	67	31
Nevada	-	-	-	-	-	-	-	3	10	9	4
California	17	19	17	20	11	10	94	347	387	653	831
TERRITORIES											
(Paralytic)	3	2	-	-	-	1	6	12	49		
Alaska	-	-	-	-	-	-	-	1	13	68	8
Hawaii	3	1	-	-	-	NR	4	5	62	7	2
Puerto Rico	1	1	-	-	-	2	4	8	3	5	3

* National Office of Vital Statistics

Table 2

Poliomyelitis Cases in Louisiana, January 1 through October 31, 1957
By Virus Isolation, Paralytic and Vaccination Status (1)

	<u>Virus Study Completed</u>			<u>Virus Status Incomplete</u>	<u>Total</u>
	<u>Type I Isolated</u>	<u>No Virus Isolated</u>	<u>Total</u>		
PARALYTIC CASES					
Vaccinated	2	6	8	7*	15
Not Vaccinated	<u>24</u>	<u>13</u>	<u>37</u>	<u>16</u>	<u>53</u>
All Paral. Cases	26	19	45	24*	69*
NONPARALYTIC CASES					
Vaccinated	1**	31***	32	16	48
Not Vaccinated	<u>4</u>	<u>29</u>	<u>33</u>	<u>10</u>	<u>43</u>
All Nonparal. Cases	5	60	65	26	91
ALL CASES					
Vaccinated	3	37	40	23	63
Not Vaccinated	<u>28</u>	<u>42</u>	<u>70</u>	<u>26</u>	<u>96</u>
GRAND TOTAL	31	79	110	50 ^x	160 ^x

(1) From data prepared by the Section of Epidemiology, Louisiana State Department of Health

^x Totals include one case with Vaccination Status unknown.

* Includes two cases with 3 doses and one with 4 doses.

** Had 3 doses of vaccine.

*** Includes 14 cases with 3 doses and two cases with 4 doses.

Table 3

Poliomyelitis Cases in Louisiana, January 1 through October 31, 1957
By Age Group and Paralytic and Vaccination Status*

<u>Age Group</u>	<u>PARALYTIC</u>			<u>NONPARALYTIC</u>			<u>ALL CASES</u>		
	<u>Vacc.</u>	<u>Not Vacc.</u>	<u>Total</u>	<u>Vacc.</u>	<u>Not Vacc.</u>	<u>Total</u>	<u>Vacc.</u>	<u>Not Vacc.</u>	<u>Total</u>
0-4	10 ⁽³⁾	37	47	6 ⁽⁴⁾	6	12	16	43	59
5-9	1 ^(x)	5	6	22 ⁽⁸⁾	12	34	23	17	40
10-14	2 ⁽¹⁾	4	6	10 ⁽⁷⁾	4	14	12	8	20
15-19	1	1	2	6 ⁽¹⁾	5	11	7	6	13
20 and over	1 ^(x)	7	8	4 ⁽¹⁾	16	20	5	23	28
TOTALS	15	54	69	48	43	91	63	97	160

* From data prepared by the Section of Epidemiology, Louisiana State Department of Health.

- (x) Received 3 or more doses of vaccine.
- (1) Including one case which received 3 or more doses.
- (3) Including three cases with 3 or more doses.
- (4) Including four cases with 3 or more doses.
- (7) Including seven cases with 3 or more doses.
- (8) Including eight cases with 3 or more doses.

Table 4

1957 PARALYTIC POLIOMYELITIS CASES FOLLOWING THREE INOCULATIONS OF VACCINE
(Reports October 31 through November 13, 1957)

3 V Case No.	State	County	Ini- tials	Age	Sex	Date 1st Symp.	Cerebro- Spinal Fluid	Site of Para.	Dates of Vacc. Inoc.	Mfr.	Lot No.
140	California	Kern	GA	27	F	9-3-57		RA	? ? 2-8-57	? ? L	? ? ?
141	California	San Mateo	JAB	5	F	9-23-57		RA	4-16-56 5-21-56 2-7-57	? ? ?	? ? ?
142	California	San Bernardino	PB	11	F	9-1-57	450 cells	LA,RL	1-10-56 1-25-56 7-2-57	PM PM PD?	175A083 175A083 0298731
143	California	Kern	JAF	10	F	7-13-57	9 cells	?	3-?-55 4-?-55 1-?-56	? ? ?	? ? ?
144	Kentucky	Jefferson (Preliminary Report)	HB	8	M	7-31-57		?	? ? 3-?-57	? ? ?	? ? ?
145	Kentucky	Jefferson (Preliminary Report)	DD	3½	F	8-5-57		?	? ? 6-?-57	? ? ?	? ? ?

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Table 4 (Continued)

3V Case No.	State	County	Ini- tials	Age	Sex	Date 1st Symp.	Cerebro- Spinal Fluid	Site of Para.	Dates of Vacc. Inoc.	Mfr.	Lot No.
146	Kentucky	Jefferson (Preliminary Report)	ICB	6 $\frac{1}{2}$	F	7-29-57		?	11-?-55 3-?-56 11-?-56	?	?
147	Kentucky	Washington (Preliminary Report)	CDS	9	M	8-26-57		?	?	?	?
148	South Carolina	Aiken (Preliminary Report)	VPA	2	M	10-7-57		?	?	?	?
149	South Carolina	Richland (Preliminary Report)	NH	7	F	8-12-57		?	?	?	?
150	New Jersey	Bergen (Preliminary Report)	HS	4	M	9-15-57		?	?	?	?
151	New Jersey	Bergen (Preliminary Report)	RD	12	M	8-23-57		?	?	?	?
152	New Jersey	Middlesex (Preliminary Report)	DJ	5	F	9-21-57		?	?	?	?
153	Iowa	Guthrie (Preliminary Report)	GL	5	F	9-23-57		?	?	?	?

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Table 4 (Continued)

3 V Case No.	State	County	Ini- tials	Age	Sex	Date lst Symp.	Cerebro- Spinal Fluid	Site of Para.	Dates of Vacc. Inoc.	Mfr.	Lot No.
154	Indiana	Marion (Preliminary Report)	LL	8	F	9-5-57		?	? ? ?	? ? ?	? ? ?
155	Louisiana	La Salle (Preliminary Report)	DKB	2	M	10-3-57		?	? ? ?	? ? ?	? ? ?
156	Louisiana	Caddo (Preliminary Report)	VC	8	M	10-2-57		?	? ? ? ?	? ? ? ?	? ? ? ?
157	Louisiana	E. Baton Rouge (Preliminary Report)	VMT	3	F	9-24-57		?	? ? ?	? ? ?	? ? ?
158	Texas	Knox	HCH	12	M	9-24-57 Expired: 10-12-57	33 WBC	Bulbo- spinal	? ? 9-?-56	? ? ?	? ? ?
		Comment: (See Text of this Report.)									
74	Georgia	Muscogee	JLD	1½	F	8-8-57	172 WBC	LL, RL	8-22-56 10-11-56 4-24-57	? ? ?	? ? ?

Comment: Additional data concerning this case, listed previously in PSU Report No. 123, has been received from the Georgia Department of Public Health. This patient was hospitalized on the third day of illness with symptoms-intermittent abdominal pain, low grade fever, some flaccid paralysis of the left leg. CSF showed 172 WBC (37% lymphs) protein 38 mg. Marked flaccidity of the right leg and absence of tendon reflexes developed, and considerable residual paralysis of the right leg remained after six weeks. Blood and stool specimens were obtained for laboratory investigation.

Table 5

POLIOMYELITIS VACCINE REPORT through 11-8-57

(Data provided by the Polio Vaccine Activity, BSS, USPHS.
Listed in 1000's of cc's of Net Bottled Vaccine)

VACCINE RELEASES						
<u>Period</u>	<u>Lilly</u>	<u>Parke, Davis</u>	<u>Pitman- Moore</u>	<u>Wyeth</u>	<u>Sharpe & Dohme</u>	<u>Cutter</u>
July	5,047	1,843	1,239	378	1,015	-
August	5,840	3,704	1,339	394	864	-
September	10,332	2,603	2,664	257	1,028	-
October	1,015	1,809	1,347	-	515	-
November 1-8	-	180	1,356	802	1,112	-
Cumulative to date	130,930	34,725	34,893	10,425	12,033	401

VACCINE SHIPPED					
<u>Period</u>	<u>NFIP</u>	<u>Public Agencies</u>	<u>Commercial Channels</u>	<u>Export</u>	<u>Total</u>
1955	13,541	7,893	6,233	-	27,667
1956	194	45,588	24,784	6,477	77,043
1957					
January - June	151	36,044	23,760	6,385	66,970
July	-	4,642	4,903	327	9,871
August	-	4,133	4,037	1,099	9,269
September	1	3,036	3,654	1,272	7,962
October	1	504	359	1,813	2,676
Cumulative Totals	13,887	102,470	67,729	17,374	201,459

VACCINE INVENTORY			
<u>Week Ending</u>	<u>10/18/57</u>	<u>10/25/57</u>	<u>11/1/57</u>
Vaccine Unshipped by Manufacturers	18,076	18,731	18,498