



POLIOMYELITIS

SURVEILLANCE REPORT

FOR ADMINISTRATIVE USE

Report No. 135

December 6, 1957

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SPECIAL NOTE

This report is intended for the information and administrative use of those involved in the investigation and control of poliomyelitis and polio-like diseases. It presents a summary of provisional information reported to CDC from State Health Departments, the National Office of Vital Statistics, Virology Laboratories, Epidemic Intelligence Service Officers, and other pertinent sources. Since much of the information is preliminary in nature, confirmation and final interpretation should be determined in consultation with the original investigators prior to any further use of the material.

A. CURRENT POLIOMYELITIS MORBIDITY TRENDS

National poliomyelitis incidence has remained low during the past three weeks. A total of 57 cases was reported to MOVS for the week ending November 30, following 72, 46 and 59 cases reported respectively for the weeks ending November 9, 16 and 23. Figure 1 presents the national poliomyelitis incidence curves by weeks for the years 1947, 1952 through 1956, and to date in 1957. Incidence for the 48th week, cumulative totals through the 48th week and yearly totals are presented below for the years 1942, 1947, 1955, 1956 and 1957.

	<u>1942</u>	<u>1947</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
48th Week	79	141	283	169	57
Cumulative through 48th Week	3838	10387	28642	15036	5805
Total for the Year	4190	10789	29324	15463	-

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 57 cases reported last week 31 were paralytic, 19 non-paralytic and 7 unspecified. The proportion of cases reported as paralytic has gradually increased during the past weeks, but the proportion paralytic for the entire year remains low. The numbers of cases by paralytic status reported for the 48th week and the cumulative total to date in 1957 may be compared with similar data for 1955 and 1956.

	<u>48th Week</u>			<u>Cumulative Through the 48th Week</u>		
	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>
Paralytic	135	90	31	20277	6484	2093
Nonparalytic	76	48	19	10921	5794	2777
Unspecified	<u>72</u>	<u>31</u>	<u>7</u>	<u>7361</u>	<u>2755</u>	<u>935</u>
Total	283	169	57	38559	15033	5805
Percent Paralytic (Of cases with paralytic status specified)	64	65	62	65	53	43

B. SUMMARY OF TRIPLY-VACCINATED CASES

During the period January through November 13, 1957, reports of 110 paralytic and 446 nonparalytic poliomyelitis cases occurring in triply-vaccinated individuals have been included in State Health Departments' poliomyelitis morbidity records, according to data submitted to PSU. Reporting of such cases may be incomplete, and majority of those tabulated are preliminary reports; however, in some cases special follow-up information or laboratory studies have resulted in revisions of the data. Therefore, the absolute number of such cases listed is not directly comparable with other gross polio incidence figures. Brief summary tabulations of these cases are presented below. More detailed analysis of this interesting group of cases will be presented when further follow-up and laboratory data have been accumulated.

The triply-vaccinated cases are presented by paralytic status and age group in the table below. In both paralytic and nonparalytic distributions the concentration of cases was in the 5-9 year age group. The frequency of paralysis was highest in the 25-29 year age group (41 percent) and next highest in the 0-4 year age group (26 percent). The proportion paralytic among all triply-vaccinated cases was 20 percent. Of the total U. S. cases reported to date in 1957 with paralytic status specified, 43 percent were paralytic.

AGE DISTRIBUTION OF TRIPLY-VACCINATED POLIOMYELITIS CASES

<u>Age</u>	<u>Paralytic</u>	<u>NP</u>	<u>Total*</u>	<u>Percent Paralytic</u>
0-4	23	66	89	26
5-9	53	213	266	20
10-14	16	115	131	12
15-19	6	25	31	19
20-24	2	6	8	25
25-29	9	13	22	41
30+	1	7	8	13
Unknown	—	1	1	—
TOTAL	110	446	556	20

*Omitting one case with paralytic status unknown.

Of the 110 paralytic triply-vaccinated cases, reports for 52 included some data as to sites of involvement:

Preliminary Reports	58
More Complete Reports	52
Bulbar	3
Bulbo-Spinal	3
Spinal	38
Site Unknown	8

Analysis of triply-vaccinated cases by paralytic status and by interval from last inoculation to onset of symptoms, below, shows that 42 percent of the cases which occurred within 30 days of last inoculation were paralytic. For those with intervals over 30 days, 23 percent were paralytic. Since the exact interval remains unknown for a large proportion of the cases, interpretation of these comparisons must be limited until more detailed data are available.

<u>Interval from last Inoculation to Onset of Illness</u>	<u>Paralytic</u>	<u>Nonparalytic</u>	<u>Total</u>	<u>% Paralytic</u>
< 30 Days	11	15	26	42
> 30 Days	39	128	167	23
Unknown	<u>60</u>	<u>303</u>	<u>363</u>	<u>17</u>
TOTAL	110	446	556	20

It may be noted that of the eleven paralytic cases with onset within 30 days of a polio vaccine inoculation, one had initial paralysis in the inoculated limb and three had initial paralysis in the opposite uninoculated limb. The "correlated" case had onset seven days following inoculation. Only two of the ten remaining cases had onset in the 4-11 day interval following vaccination.

C. ROUTINE POLIOMYELITIS SURVEILLANCE

1. Under-30-Day Vaccinated Cases - During the three-week period ending December 4, PSU received reports of two paralytic poliomyelitis cases and one nonparalytic case with onset of symptoms within 30 days of a polio vaccine inoculation.

One of the paralytic cases, reported from Los Angeles, California, was in a 20 year old female whose onset of illness was 12 days following first inoculation of polio vaccine (Lilly vaccine, lot number unknown). Spinal paralyzes developed, with paresis of right leg, neck and abdomen muscles. The patient was 4-6 weeks post-partum at onset of symptoms.

A triply-vaccinated paralytic case reported from California had onset of illness two days following third left arm inoculation. Site of first paralysis was left arm. The vaccine used was Lilly, lot number 700211, one million cc's distributed to 22 states and territories in August; no other cases have been reported to PSU in association with this lot of vaccine.

2. Triply-Vaccinated Cases - Tabulations covering the preliminary and partially complete 3V-case data received by PSU during the period January through November 13, 1957, are presented in Section B of this report.

Reports of 15 paralytic and 15 nonparalytic triply-vaccinated poliomyelitis cases were received during the three-week period ending December 4. The paralytic triply-vaccinated cases are listed in Table 2. Also included in Table 2 are additional clinical details for case 3V-76 (listed previously in preliminary form in PSU Report No. 123) and cases 3V-156 and 3V-157 (both previously listed in PSU Report No. 134).

PSU has now received reports of 125 paralytic and 461 nonparalytic poliomyelitis cases in triply-vaccinated individuals with onset of symptoms in 1957. One report of a triply-vaccinated polio case did not have paralytic status specified.

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. During the first two weeks of November less than 800,000 cc's were shipped, and over a fourth of this was exported. Vaccine inventory totaled over 21 million cc's the week ending November 15.

4. Erratum - In PSU Report No. 134, page 4, Routine Poliomyelitis Surveillance, Triply-Vaccinated Cases, line 4, the case discussed is erroneously listed as No. 3V-148 instead of the correct number, 3V-158.

(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

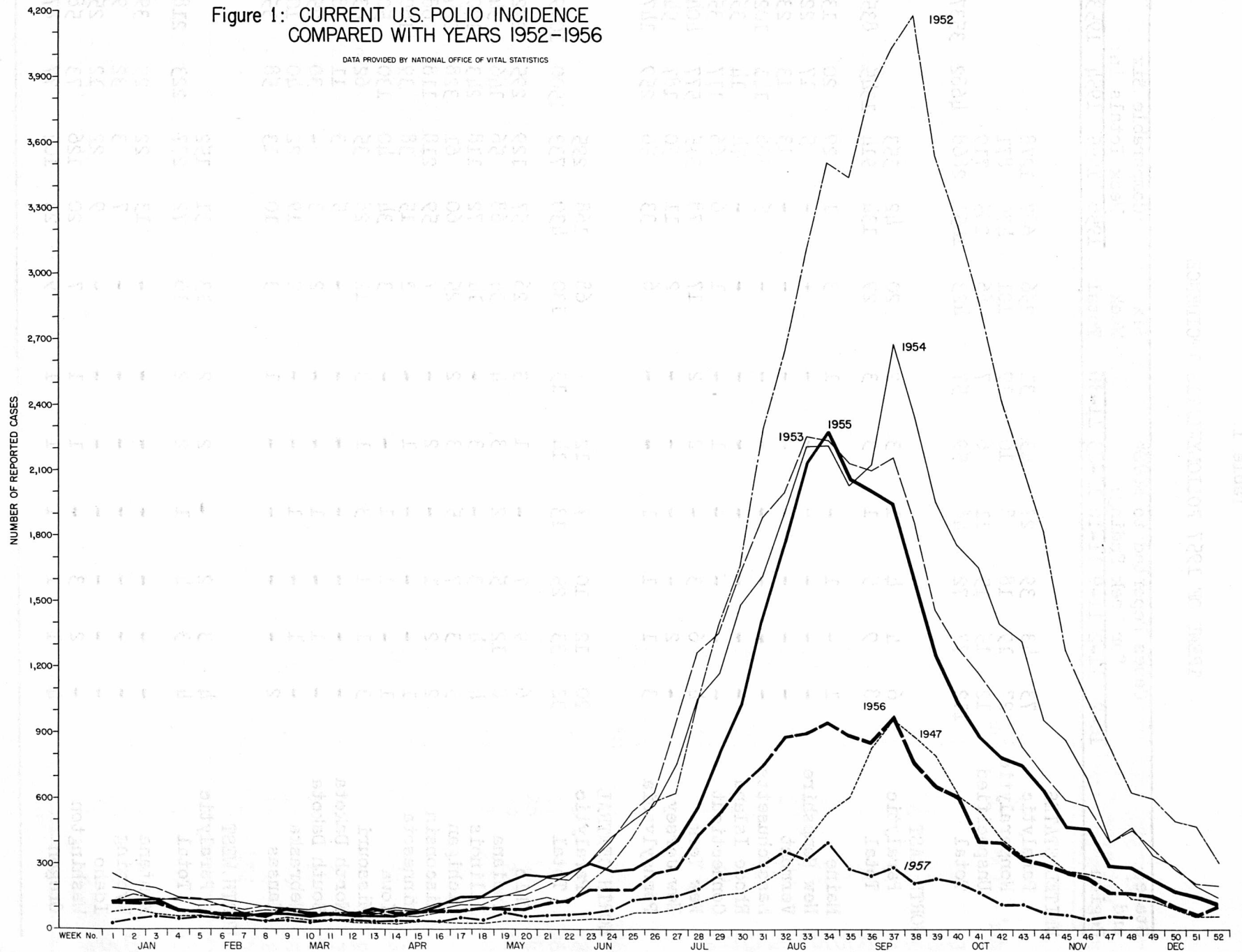


Table 1

TREND OF 1957 POLIOMYELITIS INCIDENCE

State and Region	Cases Reported to NOVS* for Week Ending:						Six Week Total	Comparable Six Week Totals in:			
	10-26	11-2	11-9	11-16	11-23	11-30		1956	1955	1954	1953
UNITED STATES											
Paralytic	73	43	39	27	43	31	256	687	1278		
Nonparalytic	27	19	18	8	10	19	101	479	871		
Unspecified	12	15	15	11	6	7	66	285	719		
Total	112	77	72	46	59	57	423	1451	2868	4682	3537
NORTH EAST											
Paralytic	6	4	4	1	3	2	20	42	353		
Total	8	9	5	1	3	3	29	134	914	1345	835
Maine	1	-	1	-	-	1	3	1	29	20	13
New Hampshire	-	-	-	-	-	-	-	-	5	17	22
Vermont	-	-	-	-	-	-	-	-	13	13	23
Massachusetts	-	-	-	-	-	-	-	5	306	141	102
Rhode Island	-	-	-	-	-	-	-	-	74	14	35
Connecticut	-	-	-	-	1	-	1	6	66	117	35
New York	4	6	3	-	2	2	17	78	315	577	404
New Jersey	-	2	-	-	-	-	2	11	50	187	54
Pennsylvania	3	1	1	1	-	-	6	33	56	259	147
NORTH CENTRAL											
Paralytic	20	12	10	7	12	7	68	168	295		
Total	32	33	25	13	14	13	130	430	733	1500	1099
Ohio	6	9	7	-	1	3	26	57	129	295	272
Indiana	8	12	5	2	3	4	34	68	56	146	34
Illinois	4	4	3	-	3	-	14	72	118	243	120
Michigan	5	3	7	5	3	2	25	60	61	328	224
Wisconsin	2	2	1	-	2	-	7	59	218	118	88
Minnesota	1	-	-	-	1	-	2	15	38	39	160
Iowa	1	-	1	1	-	-	3	34	40	130	50
Missouri	3	1	1	3	1	3	12	28	35	62	63
North Dakota	-	-	-	-	-	-	-	5	3	11	18
South Dakota	-	1	-	1	-	-	2	3	-	30	25
Nebraska	-	1	-	1	-	-	2	19	22	40	10
Kansas	2	-	-	-	-	1	3	10	13	58	35
NORTH WEST											
Paralytic	4	3	2	-	2	2	13	31	152		
Total	4	3	4	1	2	2	16	72	277	223	218
Montana	-	-	-	-	-	-	-	13	22	29	39
Wyoming	-	-	-	-	-	-	-	7	3	32	9
Idaho	-	-	-	-	-	-	-	9	22	12	25
Washington	-	2	3	-	1	1	7	20	126	73	58
Oregon	4	1	1	1	1	1	9	23	104	77	87

* National Office of Vital Statistics

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Table 1 (Continued)

State and Region	Cases Reported to NOV5* for Week Ending:						Six Week Total	Comparable Six Week Totals in:			
	10-26	11-2	11-9	11-16	11-23	11-30		1956	1955	1954	1953
SOUTH EAST											
Paralytic	26	6	5	7	11	6	61	120	133		
Total	36	10	14	14	19	14	107	248	287	681	414
Delaware	-	-	-	-	-	-	-	1	2	22	3
Maryland	4	2	-	-	4	5	15	19	35	51	48
Dist. of Col.	5	-	-	1	1	1	8	2	6	13	6
Virginia	2	2	-	-	3	-	7	22	18	65	53
West Virginia	2	1	-	2	1	-	6	9	14	39	32
North Carolina	5	-	1	1	1	4	12	46	59	51	55
South Carolina	2	1	1	-	1	1	6	6	33	23	15
Georgia	4	2	2	2	-	-	10	13	26	43	19
Florida	4	1	1	3	2	-	11	43	27	209	84
Kentucky	3	1	4	3	1	-	12	37	40	88	43
Tennessee	5	-	2	-	1	3	11	32	16	54	37
Alabama	-	-	3	2	4	-	9	18	11	23	19
SOUTH CENTRAL											
Paralytic	5	5	9	6	10	5	40	183	113		
Total	10	9	11	9	14	14	67	280	243	358	238
Mississippi	1	-	-	2	2	3	8	39	16	40	18
Arkansas	-	-	-	-	-	-	-	39	11	42	26
Louisiana	1	-	5	2	1	1	10	36	26	49	24
Oklahoma	1	-	1	1	1	1	5	27	29	21	30
Texas	7	9	5	4	10	9	44	139	161	206	140
SOUTH WEST											
Paralytic	12	13	9	6	5	9	54	143	232		
Total	22	13	13	8	7	11	74	288	424	575	733
Colorado	-	1	1	2	1	1	6	26	19	33	9
New Mexico	-	-	-	1	-	-	1	11	14	17	7
Arizona	2	1	1	-	-	-	4	13	13	19	26
Utah	-	-	1	-	-	-	1	41	13	50	35
Nevada	-	-	-	-	-	-	-	1	11	4	2
California	20	11	10	5	6	10	62	196	354	452	654
TERRITORIES											
	-	-	2	-	1	-	3	6	71	89	17
Alaska	-	-	-	-	-	-	-	-	3	53	10
Hawaii	-	-	-	-	1	-	1	2	67	8	5
Puerto Rico	-	-	2	-	-	-	2	4	1	28	2

* National Office of Vital Statistics

Table 2

1957 PARALYTIC POLIOMYELITIS CASES FOLLOWING THREE INOCULATIONS OF VACCINE
(Reports November 14 through December 4, 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.
159	Illinois	Cook (Preliminary Report)	RC	6	M	9-21-57		?	? ? ?	? ? ?	? ? ?
160	Illinois	Du Page (Preliminary Report)	MP	5½	F	9-11-57		?	? ? ?	? ? ?	? ? ?
161	Illinois	Kane (Preliminary Report)	LH	28	F	9-6-57		?	? ? ?	? ? ?	? ? ?
162	Illinois	Madison (Preliminary Report)	JID	13	F	9-27-57		?	? ? ?	? ? ?	? ? ?
163	Illinois	Morgan (Preliminary Report)	RJ	4	M	9-13-57		?	? ? ?	? ? ?	? ? ?
164	Illinois	Steph. (Preliminary Report)	RD	9	M	8-30-57		?	? ? ?	? ? ?	? ? ?
165	Missouri	Greene (Preliminary Report)	KP	11	F	10-20-57		?	? ? ?	? ? ?	? ? ?

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Table 2 (Continued)

3 V' Case No.	State	County	Ini- tials	Age	Sex	Date lst Symp.	Cerebro- Spinal Fluid	Site of Para.	Dates of Vacc. Incc.	Mfr.	Lot No.
166	Alabama	St. Clair (Preliminary Report)	BP	13	M	8-25-57		?	? ? ?	? ? ?	? ? ?
167	Pennsylvania	Chester (Preliminary Report)	WS	4	M	7-19-57		?	? ? ?	? ? ?	? ? ?
168	Colorado	Adams (Preliminary Report)	JM	1	F	10-12-57		?	? ? ?	? ? ?	? ? ?
169	Colorado	Adams (Preliminary Report)	DN	7	M	9-21-57		?	? ? ?	? ? ?	? ? ?
170	Washington	Ckanogan (Preliminary Report)	RM	9	M	9-7-57		?	? ? ?	? ? ?	? ? ?
171	D. C.	Washington (Preliminary Report)	CM	3	F	10-1-57		?	? ? ?	? ? ?	? ? ?
172	Mississippi	Warren	JRW	7	M	8-3-57	39 cells	RL	5-11-56 6-11-56 1-11-57	PD PD PM	029848B 029845B 175B084
173	California	San Bernardino	AS	6	F	10-19-57		LA	6-22-56 9-21-56 10-19-57	? ? L	? ? 700211

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Table 2 (Continued)

REVISIONS

Revised Items Underlined

3 V Case No.	State	County	Ini- tials	Age	Sex	Dates 1st Symp.	Cerebro- Spinal Fluid	Site of Para.	Date of Vacc. Inoc.	Mfr.	Lot No.
76	Mississippi	Copiah	HHJ	8	M	8-8-57	<u>55 cells</u>	<u>Neck, back, arms, & legs</u>	<u>11-29-55</u> <u>1-26-56</u> <u>9-18-56</u>	<u>PM</u> <u>W</u> <u>L</u>	<u>175C023</u> <u>?</u> <u>676316</u>
Comment: (Case previously listed in PGU Report No. 123.)											
156	Louisiana	Caddo	VC	8	M	10-2-57		<u>RA</u>	<u>10-26-55</u> <u>11-25-55</u> <u>6-19-56</u> <u>7-24-57</u>	<u>?</u> <u>?</u> <u>?</u> <u>?</u>	<u>?</u> <u>?</u> <u>?</u> <u>?</u>
Comment: <u>3 stool specimens negative.</u> (Case previously listed in PSU Report No. 134.)											
157	Louisiana	East Baton Rouge	VMP	3	F	9-24-57		<u>RA</u> <u>RL</u>	<u>11-19-56</u> <u>12-20-56</u> <u>7-16-57</u>	<u>L</u> <u>L</u> <u>L</u>	<u>679903</u> <u>679903</u> <u>697776</u>
Comment: <u>2 stool specimens negative.</u> (Case previously listed in PSU Report No. 134.)											

Table 3

POLIOMYELITIS VACCINE REPORT through 11-29-57

(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	-	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
November 1-22	1	493	362	617	1,474
Cumulative Totals	13,888	102,963	68,091	17,991	202,933

VACCINE INVENTORY			
<u>Week Ending</u>	<u>11/8/57</u>	<u>11/15/57</u>	<u>11/22/57</u>
Vaccine Unshipped by Manufacturers	21,426	21,197	20,474

Table C

POLIOVACCINE VACCINE REPORT THROUGH 11-30-57

(Data provided by the Public Vaccine Activity, BSA, USPHS.
Listed in 1000's of sets of Net Bottled Vaccine)

Period	July	August	September	October	November	to date
Public	1,843	3,704	2,403	1,809	1,386	34,752
Commercial	1,437	1,332	3,461	1,317	1,356	34,483
Total	3,280	5,036	5,864	3,126	2,742	69,235

VACCINE SHIPPED

Period	Public	Commercial	Total
1955	13,241	6,233	19,474
1956	194	24,784	24,978
1957			
January - June	151	23,760	23,911
July	-	4,803	4,803
August	-	4,037	4,037
September	1	3,634	3,635
October	1	389	390
November 1-30	1	385	386
Cumulative Totals	13,888	68,091	81,979

VACCINE INVENTORY

Week Ending	11/18/57	11/11/57	11/4/57
Vaccine Unshipped by Manufacturers	21,456	21,137	20,474