

CDC POLIOMYELITIS SURVEILLANCE REPORT

NO. 130

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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.

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## SUMMARY

1. National poliomyelitis incidence has remained stable for the past three weeks. The 103 cases listed as paralytic represent the largest proportion reported paralytic for any week this season. The unusually low prevalence of poliovirus and the remarkably low total polio incidence in 1957 should not be attributed to vaccination alone.

2. Review of 45 paralytic cases reported in 1957 with onset within 30 days of vaccination reveals no suggestion of similarity to Cutter cases of inoculation polio.

3. In the cities of Cincinnati and Columbus, Ohio, moderate prevalence of ECHO and Coxsackie viruses has been documented, with little evidence this year of poliovirus infection. A probable aseptic meningitis outbreak occurred in August in Roanoke, Virginia.

4. In Milwaukee ECHO-9 virus was recovered from a high percentage of hospitalized aseptic meningitis syndrome cases. A high city-wide attack rate prevailed. In the community, the majority of families surveyed who gave a history of minor illness were excreting ECHO-9 virus compared with a small proportion infected of those families without illness.

## I. POLIOMYELITIS

### A. Current Poliomyelitis Morbidity Trends

National incidence of poliomyelitis has remained stable during the past three weeks, with 211 cases reported to NOVS for the week ending October 5, following 231 the week of September 28 and 213 the week of September 21. Figure 1 presents national incidence by weeks for 1947 and 1952 through 1957.

Totals reported to NOVS last week, by states and regions, with six-week totals for the comparable periods of the past four years are presented in Table 1. Total incidence in each of the regions remained relatively stable except for the Southeast Region which experienced a drop to 43 cases from 73 the preceding week.

The reported paralytic polio total remained at 103 cases, following 105 for the preceding week. Small increases in paralytic disease over the previous week were recorded in the South Central, North Central, and Northeast Regions, compensating for the decrease from 45 to 25 paralytic cases in the Southeast Region.

Cumulative total incidence reported this year remains the lowest since 1942, with remarkably low totals of both paralytic and nonparalytic disease. One important factor which must be considered in evaluating these changes in

overall incidence is the increased awareness of nonpolio aseptic meningitides. In some areas, groups of such cases have provisionally been reported as nonparalytic polio until sufficient epidemiologic data from outbreaks, including the lack of significant paralysis, indicates that associated nonpolio viruses will probably be isolated in the laboratory. In other areas, cases clinically nonparalytic are no longer reported as poliomyelitis, a factor contributing to the overall decrease in nonparalytic polio reports. However, the preliminary experience in several laboratories suggests that the number of poliovirus strains recovered even from endemic nonparalytic disease is also particularly low this year. These trends must be considered in light of data indicating that the individual immunized with polio vaccine is not protected from subsequent natural alimentary infection with poliovirus (1,2,3) and that polio vaccine has been shown to give but little protection against laboratory-confirmed nonparalytic polio (4). Thus, vaccination results in the prevention of paralytic manifestations of the disease, but should not be expected to result in elimination of polioviruses from vaccinated areas. Therefore, the presently observed low level of overall prevalence of poliovirus and the current low total incidence of polio cases cannot be interpreted as being entirely caused by the widespread use of poliomyelitis vaccine.

#### REFERENCES

- (1) Gelfand, H.M.; John P. Fox; and Dorothy R. LeBlanc; Observations on Natural Poliovirus Infections in Immunized Children, Am. J. Public Health 47: 421, April 1957.
- (2) Lipson, M.J.; Robbins, F.C.; and Woods, W.A., The Influence of Vaccination Upon Intestinal Infection of Family Contacts of Poliomyelitis Patients, J. Clin. Investigation 35: 722, June 1956.
- (3) Sabin, A.B., Present Status of Attenuated Live Virus Poliomyelitis Vaccine, JAMA 160: 954, December 1956.
- (4) Evaluation of the 1954 Field Trial of Poliomyelitis Vaccine, Final Report, University of Michigan, Ann Arbor, Michigan, April 1957.

#### B. Summary of 1957 Under-30-Day Poliomyelitis Cases

As a part of the continuing surveillance of poliomyelitis incidence, and to review any potential evidence of "inoculation" polio, PSU receives reports of cases occurring within 30 days of a polio vaccine inoculation. The Cutter cases of inoculation poliomyelitis had the following characteristics:

1. Concentration of onsets of symptoms within the 4-11 day interval following vaccination.
2. Correlation of site of first paralysis with site of inoculation.
3. Concentration of cases in association with certain lots of vaccine.

The first 29 paralytic under-30-day cases reported to PSU in 1957 were summarized in Report No. 121. Review of these data are again summarized to date as follows:

During the period January through September, 1957, PSU received reports of 45 paralytic and 69 nonparalytic poliomyelitis cases occurring within 30 days of a polio vaccine inoculation. These cases are shown below by interval in days from inoculation to onset of symptoms.

	INTERVAL FROM INOCULATION TO ONSET					Total
	0-3	4-11	12-15	16-30	Unknown	
Paralytic	14	12	4	14	1	45
Nonparalytic	7	20	5	36	1	69
Total	21	32	9	50	2	114

Of the 1957 paralytic cases, a total of 12 had onsets 4-11 days following vaccination (an 8 day period), compared with 18 cases in the 0-3 day plus 12-15 day periods (also 8 days). Therefore, these 1957 paralytic cases show no concentration in the 4-11 day period as did Cutter cases of "inoculation" polio.

Of the 45 paralytic cases, 21 followed inoculation with Lilly vaccine, one with Pitman Moore, three with Parke, Davis, and five with Sharpe and Dohme. One paralytic case had been vaccinated with either Parke, Davis or Pitman Moore and 14 cases had been vaccinated with a vaccine for which the manufacturer and lot number are unknown (Table 2). The 23 paralytic cases for which specific lot number data are available do not show concentration with any particular lots of vaccine.

The 45 paralytic under-30-day cases are shown in the table below by type of paralysis and site of first paralysis.

Paralytic Cases 45

First Paralysis Bulbar	6
First Paralysis Unknown	11
First Paralysis Spinal	28

First Paralysis inoculated limb (and other sites)	4
First Paralysis opposite uninoculated limb (and other sites)	3
First Paralysis both inoculated and opposite limbs (and other sites)	2
First Paralysis neither inoculated nor opposite uninoculated limb	12
Site of Inoculation Unknown	7

There were four cases with involvement of inoculated limb and three with involvement of uninoculated limb. This difference is not significant, and the fact that a similar slight excess of correlated over uncorrelated cases has been found previously for cases with intervals over 30 days as well as less than 30 days from inoculation to onset of symptoms, (1, 2, 3) precludes definite conclusion. The spinal paralytic cases with paralysis in inoculated and/or opposite limb show no grouping within the 4-11 day period following vaccination and each was associated with a different lot of vaccine (Table 3).

#### REFERENCES

- (1) A Study of the Correlation between Sites of Inoculation and First Paralysis in Vaccinated Poliomyelitis Cases: Supplement to Poliomyelitis Surveillance Report, No. 102 (December) 1956.
- (2) Langmuir, A.D., Nathanson, N., and Hall, W.J. The Surveillance of Poliomyelitis in the United States in 1955. Am. J. of Pub. Health 46: 75-88 (January) 1956.
- (3) Poliomyelitis Surveillance Unit: Surveillance of Poliomyelitis in the United States in 1956, Public Health Reports 72: 381-392 (May) 1957.

#### C. Routine Poliomyelitis Surveillance

1. Under-30-day vaccinated cases - Two paralytic poliomyelitis cases and one nonparalytic case with onset of symptoms within 30 days of a polio vaccine inoculation were reported to PSU during the week ending October 9. The paralytic cases are reviewed briefly below.

- a. Alabama - a case developed symptoms eight days following a single left arm inoculation with Lilly vaccine, lot number 697783 (100,000 cc's distributed in 38 states). Site of first paralysis was not reported.
- b. Louisiana - a case with neck paralysis developed symptoms the day of single left arm inoculation with an unknown lot of Lilly vaccine.

2. Triply-vaccinated cases - Reports concerning four paralytic triply-vaccinated poliomyelitis cases and 15 nonparalytic cases with onset in 1957 were received by PSU during the week ending October 9. A line listing of the paralytic cases is presented in Table 4. Previously listed were 63 paralytic triply-vaccinated cases, bringing the 1957 total to 67. A cumulative 1957 total of 374 nonparalytic cases has been reported in triply-vaccinated individuals.

3. Vaccine distribution - Current and cumulative vaccine releases, shipments and inventory estimates are presented in Table 5.



## II. ASEPTIC MENINGITIS

### A. New Reports

#### 1. Ohio

Dr. Albert Sabin reports that the diagnosis of nonparalytic poliomyelitis has been discouraged at the Cincinnati Children's Hospital, and the diagnosis of aseptic meningitis syndrome, etiology to be determined, has been substituted. Twenty-five such patients admitted to the hospital between August 1 and September 19 of this year were studied. Viruses cytopathogenic for monkey kidney cultures were recovered from 21 of the 25 (84%). ECHO type 9 has been identified from 16 of these viruses and since September 1 only ECHO 9 has been isolated. Of the other five viruses one was Coxsackie A-9 and the others of the Coxsackie B group. It is noteworthy that not a single strain of poliomyelitis virus has been recovered from these patients.

In addition, practicing physicians in the Cincinnati area have reported during the months of July and August almost 90% of their practice was made up of children with febrile illness and that many of them exhibited rash. Attempts were made in Dr. Sabin's laboratories to isolate viruses from 22 such patients with rash, but only seven yielded cytopathogenic agents and only three of these proved to be ECHO 9. This is quite unlike the Milwaukee experience, and further points out the difficulties in delineating these entities clinically and in establishing the recovered viruses as etiologic agents of the illness.

Dr. Fred Wentworth, Ohio State Health Department, indicates that in Cleveland and Columbus, as well as in Cincinnati, the practice at the present time is also to report only paralytic cases as poliomyelitis and indicate nonparalytic cases as aseptic meningitis or meningoencephalitis, etiology undetermined, pending results of laboratory viral studies. Dr. Wentworth further notes that no paralytic polio cases have been reported in Columbus this year and that no polioviruses but several strains of ECHO and Coxsackie viruses were recovered from the first group of some 50 "aseptic meningitis" cases from Columbus studied this year by the Ohio State Health Department Laboratories.

#### 2. Roanoke, Virginia

Dr. Mason Romaine, Director, Communicable Disease Control, Virginia State Department of Health, and Dr. Margaret Glendy, Acting Director, Roanoke Health Department report that during August, three to four cases per week were hospitalized in Roanoke with an aseptic meningitis. Patients generally experienced malaise with mild headache for several days and became better only to again develop malaise, severe headache, and nuchal rigidity. Temperatures reached as high as 104°F. Some developed nausea and vomiting

and some left-sided chest pain. The duration of illness averaged four days and no residual symptoms were observed. Weakness and prostration were not marked. Lumbar punctures revealed slightly elevated pressures with a pleocytosis ranging from 30 - 2000 cells. Lymphocytes usually predominated.

These cases were originally reported as nonparalytic polio. After Health Department consultation with the staff of Jefferson Hospital, Roanoke, these were changed to viral meningitis. Further observations on such cases will be reported.

B. Progress Report - Milwaukee (see PSU Report Nos. 122, 123, 127)

Dr. Albert Sabin, Cincinnati, reports that virus has been recovered from a very high percentage of patients admitted to Milwaukee hospitals during the recent outbreak of aseptic meningitis. Ninety-two per cent of the recovered viruses were ECHO 9. There was not a single strain of poliomyelitis virus found among the viruses recovered from 101 patients. Table 6 shows a breakdown of viruses recovered from hospitalized patients. In several instances ECHO 9 was isolated from patients initially diagnosed as having spinal paralytic or bulbar paralytic disease. Furthermore, poliovirus could not be isolated despite the use of ECHO antiserum. The preliminary clinical diagnosis of paralysis does not appear justified in all cases. However one twenty-year-old female still receives physiotherapy and still requires crutches after two months. There was another patient with coma and other severe signs of encephalitis from whom ECHO 9 was recovered and who exhibited a rising antibody titer to this virus in convalescent blood specimen. This group of cases is undergoing further study by Dr. Sabin's group.

During the week of August 12, Dr. E. R. Krumbiegel, Commissioner of Health, Milwaukee, conducted a survey of approximately 2440 families for the presence of illness compatible with infection by ECHO 9 virus. It was found that during this one week approximately one out of every 40 families had on the average of 2 to 3 illnesses per family. Stools were obtained from such families and from a similar number of families residing in the same areas but with no history of current illness. The results that were obtained are summarized in Table 7. It can be seen that ECHO 9 virus was recovered from 85% of the 26 families with illness as compared with only 4% of the 25 families without illness. The incidence of multiple infections in the family was very high, and the incidence of clinically apparent infection would appear to be in the range of 90%. Dr. Krumbiegel estimated that approximately 10,000 cases occurred during the one week of the survey and that 100,000 cases occurred from the middle of June to the middle of September.

Dr. Sabin also reports that the ECHO 9 strains recovered are antigenically only partly related to the prototype ECHO 9 virus originally derived by his group from healthy children in Cincinnati

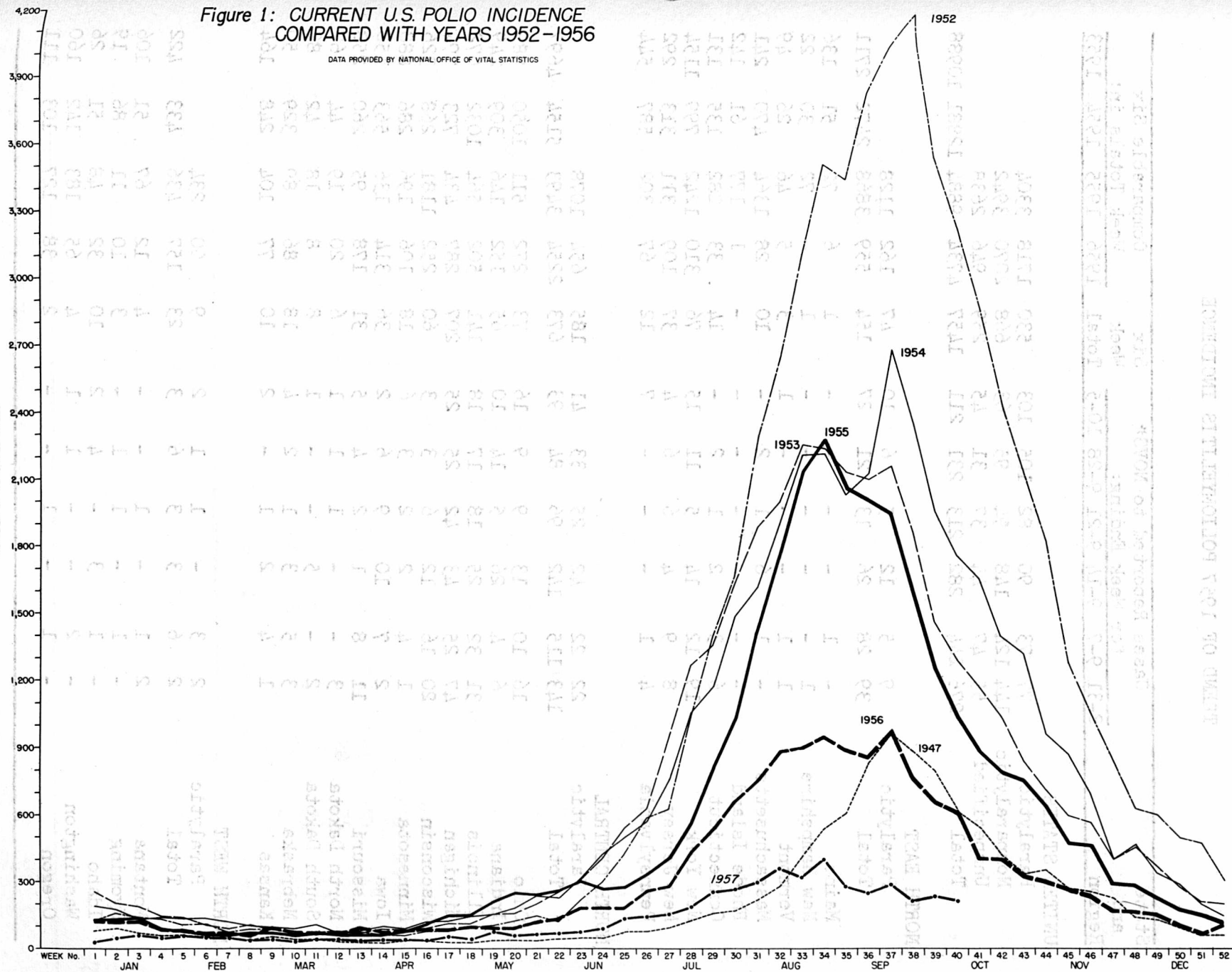
These extensive studies by Dr. Sabin and the Milwaukee Health Department should add greatly to our knowledge of the epidemiology of nonpolio viruses.



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

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS

NUMBER OF REPORTED CASES



WEEKLY POLIO INCIDENCE

1957

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:			
	8-31	9-7	9-14	9-21	9-28	10-5		1956	1955	1954	1953
UNITED STATES											
Paralytic	77	73	90	82	105	103	530	1718	3304		
Nonparalytic	144	124	148	94	95	63	668	2070	3942		
Unspecified	55	47	44	37	31	45	259	946	2638		
Total	276	244	282	213	231	211	1457	4734	9884	12881	10988
NORTH EAST											
Paralytic	9	5	12	5	6	10	47	162	1128		
Total	39	28	26	13	21	27	154	559	3868	2472	2711
Maine	-	1	-	-	-	-	1	6	72	51	136
New Hampshire	1	-	-	-	-	-	1	-	72	30	22
Vermont	1	1	-	-	-	1	3	5	46	26	49
Massachusetts	-	1	6	1	2	-	10	28	1364	470	241
Rhode Island	-	-	-	-	-	-	-	1	177	61	142
Connecticut	6	3	2	1	2	-	14	33	282	135	131
New York	19	12	14	5	11	15	76	310	1242	799	1154
New Jersey	8	9	4	6	6	4	37	109	311	313	292
Pennsylvania	4	1	-	-	-	7	12	67	302	587	544
NORTH CENTRAL											
Paralytic	22	22	42	25	33	41	185	654	1078		
Total	143	115	142	96	84	93	673	2254	3493	5154	4697
Ohio	16	10	13	9	9	16	73	272	511	1050	989
Indiana	6	4	26	5	14	10	65	152	146	309	249
Illinois	31	32	25	18	17	18	141	502	564	1032	672
Michigan	47	25	43	42	25	25	207	287	434	723	794
Wisconsin	20	16	12	6	3	3	60	252	1181	268	326
Minnesota	1	4	2	2	3	6	18	106	196	286	888
Iowa	2	7	10	9	6	2	36	314	136	563	158
Missouri	11	8	1	2	4	5	31	178	95	260	258
North Dakota	3	-	-	1	1	1	6	20	19	44	67
South Dakota	2	-	5	-	-	1	8	8	18	42	82
Nebraska	3	5	3	1	2	4	18	86	89	329	50
Kansas	1	4	2	1	-	2	10	77	104	248	164
NORTH WEST											
Paralytic	2	3	-	1	1	2	9	60	234		
Total	2	6	3	3	6	3	23	157	436	433	422
Montana	2	1	-	1	-	-	4	12	67	51	106
Wyoming	-	1	-	1	1	-	3	10	11	86	19
Idaho	-	1	3	-	4	2	10	32	48	51	26
Washington	-	2	-	-	1	1	4	65	183	142	160
Oregon	-	1	-	1	-	-	2	38	127	103	111

\* National Office of Vital Statistics.

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Table 1 (Continued)

State and Region	Cases Reported to NOVS* for Week Ending:						Six Week Total	Comparable Six Week Totals in:			
	8-31	9-7	9-14	9-21	9-28	10-5		1956	1955	1954	1953
SOUTH EAST											
Paralytic	19	21	16	26	45	25	152	263	346		
Total	36	36	42	47	73	43	277	578	856	2131	1275
Delaware	-	-	-	-	-	-	-	16	9	24	10
Maryland	-	-	1	1	3	-	5	43	90	109	201
D. C.	6	7	6	6	7	2	34	6	18	26	18
Virginia	3	5	4	5	10	8	35	99	81	221	184
West Virginia	2	1	4	1	12	4	24	38	75	183	148
North Carolina	6	5	5	4	9	5	34	97	108	227	143
South Carolina	1	3	5	5	8	3	25	34	83	74	34
Georgia	2	2	2	2	3	1	12	69	88	213	90
Florida	1	7	6	4	3	4	25	73	75	446	202
Kentucky	7	3	4	6	9	5	34	50	103	321	77
Tennessee	8	3	4	6	9	11	41	32	87	202	97
Alabama	-	-	1	7	-	-	8	21	39	85	71
SOUTH CENTRAL											
Paralytic	15	16	8	9	11	17	76	263	226		
Total	32	36	27	19	22	26	162	536	608	1008	589
Mississippi	1	2	1	-	-	1	5	80	20	79	44
Arkansas	1	1	1	2	2	4	11	69	31	80	79
Louisiana	12	3	6	4	6	4	35	128	84	108	89
Oklahoma	2	8	2	5	6	4	27	41	78	119	101
Texas	16	22	17	8	8	13	84	218	395	622	276
SOUTH WEST											
Paralytic	10	6	12	16	9	8	61	316	292		
Total	24	23	42	35	25	19	168	650	661	1683	1294
Colorado	1	2	7	1	3	2	16	61	71	147	49
New Mexico	1	2	1	2	-	-	6	28	35	97	30
Arizona	1	-	-	2	6	-	9	21	44	57	88
Utah	1	3	-	-	2	-	6	68	17	105	50
Nevada	-	-	-	-	-	-	-	10	14	30	11
California	20	16	34	30	14	17	131	462	480	1247	1066
TERRITORIES											
	-	6	-	3	1	3	13	16	37		
Alaska	-	1	-	-	-	-	1	3	23	84	5
Hawaii	-	2	-	1	-	3	6	5	28	14	3
Puerto Rico	-	4	-	2	1	1	8	10	6	-	7

\* National Office of Vital Statistics.

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PARALYTIC POLIOMYELITIS CASES BY VACCINE MANUFACTURER,  
LOT NUMBER AND LOT SIZE

<u>Manufacturer</u>	<u>Lot No.</u>	<u>Number of Cases</u>	<u>Lot Size</u>
Lilly	679904	3	700,000
	683454	3	1,000,000
	697785	2	1,000,000
	683458	2	900,000
	683469	1	500,000
	697783	1	1,000,000
	683453	1	1,000,000
	683462	1	1,000,000
	679907	1	700,000
	Unknown	6	
Parke, Davis	029865	1	500,000
	029888	1	200,000
	029892	1	600,000
Pitman Moore	175074	1	700,000
Parke, Davis	029890 or	1	300,000
Pitman Moore	175099	1	1,500,000
Sharpe & Dohme	39177	1	150,000
	39176	1	150,000
	39178	1	
	35356	1	67,000
	Unknown	1	
UNKNOWN	Unknown	14	

Table 3

(Continued from page 1)

Paralytic Poliomyelitis Cases Occurring  
Within 30 Days of a Polio Vaccine Inoculation  
And With First Paralysis in the Inoculated  
Both Limbs or Opposite Limb

PSU Case No.	County	Ini- tials	Age	Sex	Date Inoc.	Date 1st Symp.	Date 1st Para.	Site of Inoc.	Site of Para.	Mfr.	Lot No.	Remarks
La-83	Caddo	SRM	5 mos.	F	3-18-57	4-10-57	4-13-57	LL	LL	L	683458	
Cal-289	San Diego	MC	19 mos.	F	4-6-57	4-9-57	?	LA	LA,LL	L	683453	
Conn-61	New Haven	JLaB	6	F	7-18-56 8-15-56 4-1-57	4-8-57	4-27-57	? ? RA	RA	? ? L	? ? 683454	No spinal done.
Conn-62	Hartford	RTW	33	M	3-2-57	3-5-57	3-18-57	LA	LA	L	683462	CSF: 2 WBC, 30 mg. pro- tein. Stool neg. Anti- body titer stable.
NY-260	Ontario	RB	5	M	5-10-57 6-7-57	6-9-57	6-9-57	LA LA	Arms, Legs	L L	697785 697785	
Tex-153	Hidalgo	JB	6/12	M	5-15-57	5-18-57	5-24-57	?	LA,RA, LL,RL	SD	?	
Cal-305	Los Angeles City	EFH	1	F	8-22-56 9-19-56 6-26-57	6-28-57	6-30-57	? ? RA	LA	L L PD	663618 663618 029888	

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Page 3 (Continued)



Table 3 (Continued)

(COMPLETED REG. LVGE)

PSU Case No.	County	Ini- tials	Age	Sex	Date Inoc.	Date 1st Symp.	Date 1st Para.	Site of Inoc.	Site of Para.	Mfr.	Lot No.	Remarks
Ohio-58	Summit	GM	37	M	2-19-57	2-24-57	2-24-57	IA	RA	SD	35356	
Cal-308	Santa Barbara	JNW	12	M	4-10-56 5-10-56 1-8-57	2-4-57	?	LA RA LA	RA	L PM PD	663612 175B068 029865	
MA-500	Concord	EB	2	M	2-10-57	2-10-57	2-10-57	IV	IV		021192	

Table 4

1957 PARALYTIC POLIOMYELITIS CASES FOLLOWING THREE INOCULATIONS OF VACCINE  
(Reports October 3 through October 9, 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.
106	Virginia	Buckingham	CC	6	M	9-20-57	IV	IV RA	10-16-56 11-29-56 6-27-57	L L ?	676310 676309 ?
(Preliminary Report)											
107	Nebraska	Holt	MAK	2½	F	8-30-57	76	LL	1-24-56 2-25-56 9-21-56	? ? ?	? ? ?
108	Louisiana	Caddo	PG	3½	M	7-2-57		Legs	9-?-55 11-?-55 7-?-56	L W L	? ? ?
109	Indiana	Allen	KP		F	7-1-57			? ? ?	? ? ?	? ? ?
(Preliminary Report)											

Table 5

## POLIOMYELITIS VACCINE REPORT through 10-4-57

(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 &amp; 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 1-4	2,081	1,330	-	-	540	-
Cumulative to date	129,915	32,736	32,191	9,623	10,405	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 1-27	585	2,744	3,487	924	7,156	
Cumulative Totals	13,886	101,675	67,204	15,213	197,978	

VACCINE INVENTORY				
<u>Week Ending</u>	<u>Unshipped by Manufacturers</u>	<u>In State and Local Health Departments</u>	<u>In Commercial Channel and Physicians Office</u>	<u>Total</u>
9-13-57	6,942	6,248	4,712	17,902
9-20-57	11,780	5,895	5,964	23,639
9-27-57	13,342	5,559	3,941	22,842

Table 6

Summary of Milwaukee Studies - 1957

Patients in Hospitals - more than 200 admitted between end of June and end of September.

No. of patients with diagnosis of nonparalytic or paralytic poliomyelitis (end of June to middle of September) tested for virus (Stools, CSF, or both)	142	
No. of patients yielded virus in monkey kidney tissue cultures	101	(71%)
Incidence of ECHO 9 strains	88 of 95 strains typed thus far	(92%)
Other cytopathogenic agents encountered:		
Coxsackie A 9	-1 (CSF)	
"    B (in group of 3,4 or 5)	-2 (1 in CSF)	
ECHO (in group of 14, 18 or 19)	-2	
ECHO (in group of 2, 3, 5, 6 or 12)	-1	
Untypable	-2	
Poliomyelitis	-None	

Table 7

Study in Homes During Week of August 12

Group	No. of families	No. of families yielded virus	No. of families yielded ECHO 9	No. of individuals tested*	No. of viruses recovered	No. of ECHO 9	No. of Coxsackie A 9	Other
Families with illness possibly compatible with ECHO 9	26	24 (92%)	22 (85%)	104	66	58	5	3
Families with no current illness	25	7 (28%)	1 (4%)	107	10	1**	0	9

\* A single stool specimen was tested in monkey kidney cultures.

\*\*The single isolation of ECHO 9 in the control group was from a 21 month old baby in whom signs of illness might have been missed.

