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POLIOMYELITIS SURVEILLANCE
REPORT NO. 36 August 5, 1955

Department of Health, Education, and Welfare
Public Health Service Communicable Disease Center

Poliomyelitis Surveillance Unit
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Atlanta, Georgia

SPECIAL NOTE

The information in this report represents a factual summary of data reported to the Poliomyelitis Surveillance Unit from State Health Departments, Epidemic Intelligence Service Officers, participating laboratories, and other pertinent sources. Much of the material is preliminary in nature and is subject to change. The distribution of this report is strictly limited to federal and state officials, to directors of participating laboratories and to other official or non-official persons having responsibility for the control of poliomyelitis in the nation. It is understood that this report will not be quoted in public nor will its contents be released to the press or to unauthorized persons. Any release of this information will be made by the Office of the Surgeon General, U.S. Public Health Service. State Health Officers, of course, are free to reveal any information they may wish concerning data from their state.

All readers should be cautioned regarding the limitations of data presented herein. Current and cumulative data are given concerning reported cases of poliomyelitis in vaccinated persons and among their familial and community contacts. It should be recognized that these data do not constitute a controlled evaluation of poliomyelitis vaccine. For this reason, interpretations and conclusions based on material in these reports must be guarded.

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I. Current Poliomyelitis Morbidity Trends

Poliomyelitis incidence by week for the current year, with similar data for the three preceding years, is presented in the accompanying figure, drawn from data published by the National Office of Vital Statistics. Incidence rose again this week, but it remains somewhat lower than during the same period in 1952, 1953 and 1954.

Poliomyelitis incidence by states for the weeks ending June 25 through July 30 is presented in Table 1, together with a six week total for this and the previous three years. The rise in national incidence for the current week is due primarily to increases in cases reported from most of the northeastern states, particularly Massachusetts, as well as Illinois, Michigan, Wisconsin and Minnesota. Slight increases were reported from most of the southern states, whereas incidence in the West remained stable except for an increase in Oregon.

A total of 684 cases of poliomyelitis have been reported to the Massachusetts State Health Department through August 4, 1955. Of these, approximately 60% are paralytic. Poliomyelitis virus has been isolated from 32 individuals studied, including both isolations from poliomyelitis cases and from contacts who were not clinically ill. Type I virus was identified in 31 instances, and Type II in one instance.

II. Age Distribution Analysis

At the time of writing, PSU has received notification from the following states of plans to participate in the Age Distribution Analysis Study for the current poliomyelitis season: Florida, Kentucky, Nebraska, Missouri, New Mexico, New York and Texas.

This study is planned to cover the 1955 poliomyelitis season, from April 12 to October 31. Therefore, all participating states are being sent a listing on Age Distribution Analysis Forms of all cases they have submitted to PSU prior to July 1. This listing, when checked, corrected and brought up to date by the state and returned to PSU, will represent the first report of the participating state. Subsequent reports are to be made on a weekly basis.

A summary of data received by PSU will appear in the near future, as soon as participating states have returned their first reports to PSU.

III. Routine Poliomyelitis Surveillance

Table 2 summarizes poliomyelitis cases in vaccinated individuals accepted by PSU through August 3, 1955. The tabular summary lists in detail the cases accepted since July 29 and revisions of previously listed cases. As announced in the last report, cases in contacts of vaccinated individuals will no longer be reported on a routine basis.

Table 3 presents a comparison of "reported" and "expected" cases among children who received first inoculations in NFIP clinics through May 7. Totals are listed for the six week period April 17 to May 28, the four week period May 29 to June 25, and for single weeks ending July 2 through August 6. The "expected" numbers represent rough estimates of cases that would have occurred in the respective groups of first and second grade children if they had not been vaccinated and if this year's poliomyelitis incidence approximated the median of the last five years.

The isolation by Dr. John Fox of Type I and Type III poliomyelitis virus from PSU Case No. La.-3 was noted in a previous PSU Report. Another instance of a double isolation from a Cutter vaccinated child is reported by Y.W. Wong and Dr. C.A. Hunter, Public Health Laboratories, Kansas State Board of Health. It should be noted that the vaccinated individual in this instance did not develop clinical disease.

"A child, age 2, received polio vaccine on April 17th. Type II polio virus was isolated from a stool specimen #160 collected on May 17th. A second stool specimen #171 was collected on June 9th. Tissue culture tubes inoculated with extract of stool #171 showed cytopathogenic degeneration but the cytopathogenic effect was not neutralized by Types I, II and III antisera when tested singly. Since Type II polio virus was isolated from stool specimen #160 and since typical cytopathogenic degeneration was seen in the tissue culture tubes inoculated with extract #171, mixed culture of viruses was suspected. Neutralization test with mixtures of antisera gave the following results:

1. Virus 171 / Types I and II sera	neutralization
2. Virus 171 / Types I and III sera	no neutralization
3. Virus 171 / Types II and III sera	no neutralization
4. Virus 171 / Types I, II and III sera	neutralization

After growing virus #171 in two combinations of typing sera, namely, mixtures of Types II and III and another mixture of Type I and III, for three tissue culture passages, the two purified cultures were again typed by neutralization tests with single typing sera. The results indicated that the stool specimen #171 contained both Type I and Type II polio viruses.

In view of Dr. Fox's caution regarding the holding of tubes for longer period of time to allow the break-through phenomenon to take place, we are re-examining stool specimen #160 for the possible presence of Type I polio virus."

(This summary report was prepared by Dr. Neal Nathanson, Dr. Wm. Jackson Hall, and Dr. Alexander D. Langmuir, with assistance from the Statistics Section, CDC.)

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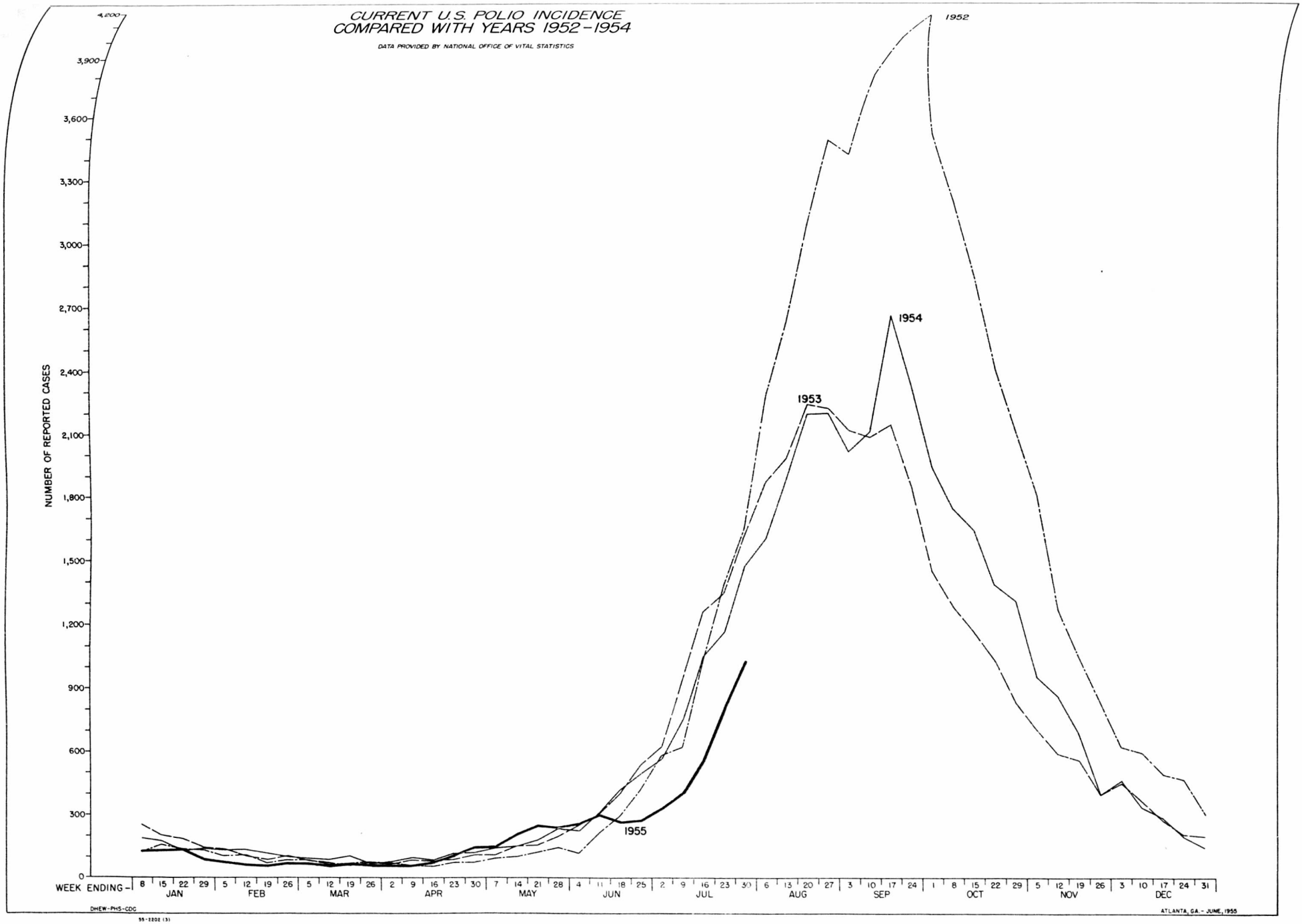
CURRENT U.S. POLIO INCIDENCE COMPARED WITH YEARS 1952-1954

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS



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55-1202 (3)

ATLANTA, GA. - JUNE, 1955

Table 1

TREND OF 1955 POLIOMYELITIS INCIDENCE

State	Cases Reported to NOVS* During Week Ending: 6/25	7/2	7/9	7/16	7/23	7/30	6 Week Total	Comparable Totals in: 1954	1953	1952
United States	277	333	406	565	812	1,033	3426	5533	6356	5730
North East										
Maine	1	-	1	1	5	2	10	7	44	12
New Hampshire	-	-	-	-	9	16	25	5	29	2
Vermont	1	-	3	-	1	4	9	5	6	6
Massachusetts	4	1	24	52	146	204	431	46	74	21
Rhode Island	1	-	-	5	4	8	18	5	17	-
Connecticut	-	5	5	5	20	29	64	61	63	27
New York	16	25	25	43	42	65	216	191	449	230
New Jersey	4	5	3	16	12	11	51	74	107	42
Pennsylvania	10	10	7	10	12	27	76	76	130	59
North Central										
Ohio	12	22	14	21	35	38	142	209	385	374
Indiana	4	4	6	7	16	22	59	83	107	75
Illinois	13	10	5	29	19	54	130	217	343	165
Michigan	9	9	18	31	36	50	153	276	317	184
Wisconsin	4	9	6	14	40	56	129	38	65	83
Minnesota	6	2	13	2	15	24	62	83	301	91
Iowa	3	10	11	14	24	27	89	228	87	333
Missouri	-	4	4	10	10	6	34	81	179	69
North Dakota	1	3	3	4	1	3	15	19	16	4
South Dakota	1	-	3	-	-	1	5	15	37	47
Nebraska	1	3	3	8	16	19	50	128	170	185
Kansas	8	2	3	8	6	12	39	146	114	119
South										
Delaware	-	1	3	-	1	2	7	9	6	7
Maryland	2	3	7	2	5	9	28	14	101	12
District of Col.	1	1	1	2	5	-	10	9	16	7
Virginia	6	8	7	8	18	21	68	73	205	60
West Virginia	1	3	2	1	4	4	15	21	111	87
North Carolina	3	8	9	20	10	22	72	122	408	66
South Carolina	8	6	12	15	14	8	63	91	50	3
Georgia	4	5	6	6	6	5	32	152	132	96
Florida	14	10	3	10	7	11	55	302	106	112
Kentucky	5	3	5	10	13	17	53	121	102	149
Tennessee	3	3	10	9	7	13	45	105	230	83
Alabama	3	8	9	3	8	8	39	90	155	78
Mississippi	7	9	-	15	7	8	46	173	120	216
Arkansas	1	5	5	11	6	11	39	95	83	62
Louisiana	12	17	8	3	20	9	69	164	162	254
Oklahoma	3	4	12	8	19	27	73	173	173	210
Texas	45	43	76	83	89	71	407	769	497	1336

Table 1 (Continued)

State	Cases Reported to NOVS* During Week Ending: 6/25	7/2	7/9	7/16	7/23	7/30	6 Week Total	Comparable Totals in: 1954	1953	1952
West										
Montana	2	2	1	-	-	1	6	11	26	32
Idaho	7	8	7	6	7	7	42	9	6	25
Wyoming	1	1	-	-	3	3	8	52	11	8
Colorado	3	6	2	2	9	9	31	55	34	64
New Mexico	3	10	8	4	7	No. Report	32	16	27	87
Arizona	1	6	-	3	1	2	13	58	66	37
Utah	2	2	-	1	-	-	5	19	34	11
Nevada	3	6	4	2	4	1	20	24	11	-
Washington	2	3	5	7	5	12	34	43	49	132
Oregon	3	3	4	5	9	17	41	45	24	53
California	33	25	43	49	59	57	266	725	471	315

*National Office of Vital Statistics.

Table 2

Poliomyelitis Cases in Vaccinated Individuals
(PSJ Accepted Cases Through August 3, 1955)

	Vaccine Manufacturer* and Paralytic Status**											
	C		L		PD		PM		W			
	P	NP	P	NP	P	NP	P	NP	P	NP		
CASES VACCINATED 5-7 OR BEFORE WITH ONSETS 30 DAYS OR LESS AFTER VACCINATION												
Totals through 8-3	62	12	17	23	2	2	3	2	9	3		
(No New Cases 7-30 through 8-3)	74		40		4		5		12			
CASES VACCINATED 5-7 OR BEFORE WITH ONSETS 31 DAYS OR MORE AFTER VACCINATION												
Totals through 7-29	1	1	15	36	2	5	3	1	3	0		
New Cases 7-30 through 8-3	2	0	1	4	15	3	0	0	0	0		
Totals through 8-3	3	1	16	40	17	8	3	1	3	0		
	4		56		25		4		3			
CASES VACCINATED 5-8 OR LATER WITH ONSETS 30 DAYS OR LESS AFTER VACCINATION												
Totals through 7-29 (Revised)			4	8	13	8	1	0				
New Cases 7-30 through 8-3			0	0	1	1	0	0				
Totals through 8-3	0	0	4	8	14	9	1	0	0	0		
	0		12		23		1		0			
CASES VACCINATED 5-8 OR LATER WITH ONSETS 31 DAYS OR MORE AFTER VACCINATION												
Totals through 7-29			0)	2	4	4						
New Cases 7-30 through 8-3			0	0	4	0						
Totals through 8-3	0	0	0	2	8	4	0	0	0	0		
	0		2		12		0		0			

*Vaccine Manufacturers: C - Cutter; L - Lilly; PD - Parke-Davis; PM - Pitman-Moore; W - Wyeth
**Paralytic Status: P - paralytic; NP - non-paralytic

Table 3

Comparison of Expected* and Reported** Cases of Poliomyelitis Among Children Inoculated in NFIP Clinics from April 15 to May 7, 1955

Vaccine Mfr.*** and Number Vaccinated	Cases		6 Weeks Apr. 17 to May 28	4 Weeks May 29 to June 25	July 2	July 9	July 16	July 23	July 30	Aug. 6
CUTTER 303,000	Reported	P	32	[illegible]			1			
		NP	8	2						
		Total	40	2	-	-	1	-	-	-
	Expected	Total	5	8	3	4	4	6	8	9
Lilly 2,514,000	Reported	P	18	9	2	2	1		1	
		NP	33	14	1	9	10		1	
		Total	51	23	3	11	11	-	2	-
	Expected	Total	28	69	29	39	37	43	47	48
Parke-Davis 860,000	Reported	P	2	2			[illegible]	2	1	
		NP	3	2		1	6	8	3	
		Total	5	4	-	1	6	10	4	-
	Expected	Total	3	8	3	10	15	19	22	26
Pitman-Moore 411,000	Reported	P	2	4						
		NP	2	1						
		Total	4	5	-	-	-	-	-	-
	Expected	Total	1	5	3	6	6	9	8	9
Wyeth 775,000	Reported	P	9	1		2				
		NP	3							
		Total	12	1	-	2	-	-	-	-
	Expected	Total	1	3	3	3	4	7	10	12

*Expected Cases estimated from weekly 5-year medians of cases of poliomyelitis (paralytic and non-paralytic) reported to National Office of Vital Statistics by the States.

**Reported Cases include only cases accepted by PSU through August 3 and vaccinated in NFIP Clinics April 16 through May 7, 1955.

***CUTTER vaccine was used in Idaho, Nevada, Arizona, New Mexico, and southern California. LILLY vaccine was used in Texas, Oklahoma, Louisiana, Arkansas, Mississippi, Alabama, Tennessee, Florida, Georgia, South Carolina, North Carolina, Virginia, West Virginia, Indiana, and parts of Ohio, California, and Colorado. PARKE-DAVIS vaccine was used in Michigan, Illinois Iowa, Wyoming, Utah, and part of Colorado. PITMAN-MOORE vaccine was used in Kentucky, Missouri, Kansas, and Nebraska. WYETH vaccine was used in Pennsylvania, Delaware, Maryland, District of Columbia, and part of Ohio.

POLIOMYELITIS AMONG VACCINATED INDIVIDUALS
(PSU Accepted Cases July 28 - August 3, 1955)

PSU CASE NO.	County	Initials	Age	Sex	Date Inoc.	Date 1st Symp	Date 1st Para	Site Inoc.	Site 1st Para.	Mfr.	Lot No.	Remarks
							NEW					
Va-10	Henrico	WK	8	M	4-27	7-16	None	LA	None	L	8122-649334	Spinal fluid 241 cells.
Va-11	Princess Ann	WM	8	M	5-2	7-13	None	LA	None	L	8123-649335	Spinal fluid 241 cells.
Va-12	Elizabeth City	BW	8	M	4-18	7-25	7-25	LA	Soft Palate	L	?	
Va-13	Roanoke	BFW	8	F	4-26	7-24	None	LA	None	L	7078-649343	CSF abnormal vaccinated sister has non-paralytic polio also.
Ida-21	Hailey	LL	7	M	4-17	7-15	7-18	?	RL,LL	C	?	
Mich-4	Wayne	MS	8	M	4-25	7-13	None	LA	None	PD	028860B	
Mich-5	Oakland	RW	7	M	4-20	7-21	None	LA	None	PD	028860B	
Mich-6	Muskegon	JH	7	M	4-28	7-23	None	LA	None	PD	028846B	
Mich-7	Holt	JG	7	M	4-28	7-15	None	LA	None	PD	028846B	
Mich-8	Marquette	LS	7	F	4-22	7-22	7-22	LA	Bulbar	PD	028846B	
Mich-9	Kent	DD	8	F	May	7-27	7-27	LA	?	PD	028846B	
Mich-10	Wayne	GS	8	M	4-21	7-25	None	LA	None	PD	028860B	
Mich-11	Wayne	TL	7	M	4-21	7-25	None	LA	None	PD	028860B	
Mich-12	Wayne	RG	6	M	4-24	7-22	None	LA	None	PD	028860B	
Mich-13	Wayne	JK	6	M	4-28	7-14	None	LA	None	PD	028860B	
Iowa-3	Appanoose	RM	7	M	May	7-12	None	RA	None	PD	?	
Iowa-4	Linn	CE	9	F	5-2	7-3	None	?	None	PD	?	
Iowa-5	Johnson	MV	7	M	5-2	7-15	None	?	None	PD	?	
Iowa-6	Washington	JA	6	M	4-28	7-17	None	?	None	PD	?	
Iowa-7	Story	JK	7	M	5-2	7-17	None	?	None	PD	?	
Iowa-8	Lee	RB	8	M	4-29	7-21	7-21	?	?	PD	028847A	
Iowa-9	Mahaska	FR	9	M	5-10	7-23	7-23	?	?	PD	?	

PSU CASE NO.	County	Initials	Age	Sex	Date Inoc.	Date 1st Symp.	Date 1st Para	Site Inoc.	Site 1st Para	Mfr.	Lot No.	Remarks
						NEW (Continued)						
Iowa-10	Jasper	CH	7	M	1st Week in May	7-23	None	?	None	PD	?	
					6-28					PD	?	
Iowa-11	Dubuque	BW	8	M	4-29	7-23	None	?	None	PD	?	
Iowa-12	Lee	DK	7	M	5-3	7-21	None	?	None	PD	028847A	
Ark-6	Pulaski	BA	5	M	4-21	7-26	7-27	?	Bulbar	C	?	
Wis-3	Neenah	BMN	1	M	5-25	7-30	7-31	RA	Bulbar	PD	029127A	
Wis-4	Kenosha	JMS	9	M	6-23	7-23	7-23	LA	Bulbar	PD	029127A	
Wis-5	Eau Claire	MAS	7	F	4-16	7-15	None	LA	None	L	?	Spinal fluid, 64 cells.
NY-24	Nassau	EA	9	F	5-55	7-19	7-19	?	LL	PD	028850B	
					6-55					PD	029129A	
NY-25	Nassau	NB	6	F	5-55	7-19	7-23	?	Bulbar	PD	028850B	
						REVISIONS						
						(Revised Items Underlined)						
NY-7	Monroe	JRP	8	M	5-25	6-12	?	LA	Ankles	PD	029128C	Paralysis first noted on muscle evaluation 6-18.
NY-3	Niagara	LLS -----dropped------same as NY-14.										