

FOR ADMINISTRATIVE USE

CDC POLIOMYELITIS SURVEILLANCE REPORT

NO. 127

SEPTEMBER 20, 1957

U.S. Department of Health, Education and Welfare
Public Health Service Bureau of State Services

COMMUNICABLE DISEASE CENTER
Poliomyelitis Surveillance Unit
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SPECIAL NOTE

Information presented in this report represents a factual 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 reports contain provisional data 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 incidence of poliomyelitis has remained low, with 282 cases reported for the week ending September 14, following 244 and 276 for the two preceding weeks. Although the proportion reported as paralytic has increased slightly, it remains low compared to 1955 and 1956.

2. Outbreaks of nonparalytic aseptic meningitis have been observed in 13 states. ECHO Type 9 has been isolated from seven outbreaks and Coxsackie virus from eight. The widespread outbreak involving an estimated 10,000 persons continues in Milwaukee. Preliminary observations have been reported on 68 cases of a minor febrile illness, 20 with exanthem, occurring in Waupaca, Wisconsin.

A. CURRENT POLIOMYELITIS MORBIDITY TRENDS

Reports of 282 poliomyelitis cases were received by NOVS for the week ending September 14, following 244 and 276 for the two previous weeks. Although this represents a slight increase in incidence over the past two weeks, this total is considerably below the 397 cases reported for the week ending August 24. For the comparable week of previous years, cases totaled 968 in 1956, 959 in 1947, and 229 in 1942. This year's cumulative total of 4,437 cases may be compared with 10,763 for 1956 and 5,569 for 1947. Figure 1 shows the U.S. incidence by weeks for 1947 and 1952-57.

Of the 282 cases listed last week, a total of 90 was reported as paralytic, compared with 73 and 77 during each of the two preceding weeks. Figure 2 shows the U.S. incidence by paralytic status for the 22nd through the 37th weeks of 1955, 1956 and 1957. The proportion reported as paralytic remains low compared with 1955 and 1956. However, this year over the past 3-4 weeks there has been a gradual increase in the percent reported as paralytic.

Table 1 presents 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 previous four years. The largest group of cases, 142, including 42 paralytic, occurred in the North Central region. In Michigan the 43 reports included only seven paralytic. Indiana, however, reported 26 cases, including 15 paralytic, compared with totals of 6 and 4 for the two preceding weeks. This rise in Indiana notifications is partially due to a group of 8 late reports from Fort Wayne; the remaining 16 cases occurred in several different counties.

B. ROUTINE POLIOMYELITIS SURVEILLANCE

1. Under-30-day vaccinated cases - During the week ending September 18, PSU received reports of one paralytic and seven nonparalytic poliomyelitis cases with onset within 30 days of a polio vaccine inoculation.

Louisiana reported the paralytic case, a seven months old male with onset of facial paralysis following leg inoculation with polio vaccine. There was a 13-day interval from inoculation to onset of symptoms; the vaccine manufacturer and lot number were not reported.

2. Triply-vaccinated cases - During the week ending September 18, a total of 13 paralytic and 60 nonparalytic triply-vaccinated cases was reported to PSU. The paralytic cases are listed in Table 2. Previously listed were 45 triply-vaccinated paralytic cases, bringing the 1957 total to 58. A cumulative 1957 total of 283 nonparalytic cases has been reported in triply-vaccinated individuals.

Paralytic case 3V-82, preliminary data listed in PSU Report No. 126, was dropped from the case listing after additional information indicated transient "paralysis" was due to an insect bite.

3. Vaccine distribution - During the first week in September over three million cc's of polio vaccine were shipped to public agencies and commercial channels. Vaccine inventory totaled almost 18 million cc's on September 6 (Table 3).

C. ASEPTIC MENINGITIS

To date twenty-three outbreaks of aseptic meningitis have come to the attention of the Polio Surveillance Unit. These are tabulated in Table 4, and located geographically in Figure 3. The largest to date is the Milwaukee, Wisconsin, outbreak of ECHO type 9 where it is estimated that approximately 10,000 persons have been involved. ECHO type 9 has been implicated in six other outbreaks and Coxsackie virus in eight. In four of these both ECHO and Coxsackie viruses have been recovered. Rash has been encountered in six outbreaks and always in connection with ECHO type 9. An interesting outbreak of minor febrile illness and exanthem in Waupaca, Wisconsin is described below; these illnesses simulate many of the milder ECHO-9 illnesses documented in Milwaukee and Minnesota.

Progress Reports - Wisconsin

(a) Milwaukee (see PSU #122)

The widespread outbreak of aseptic meningitis due to ECHO 9 virus continues in Milwaukee. Approximately six new cases are being hospitalized per week and thus far 138 individuals have been hospitalized. A conservative estimate of total cases made by Dr. E.R. Krumbiegel, Commissioner of Health, indicates that 10,000 people have been afflicted. ECHO viruses are being isolated from approximately 90% of the cases. Laboratory studies are being jointly undertaken by Dr. A. Sabin of Cincinnati Children's Hospital and

Dr. F. Robbins of Cleveland City Hospital. Dr. D. Carver, EIS Officer, has surveyed a suburban apartment development and collected stool and blood specimens both from affected and non-affected units.

(b) New Richmond (see PSU #120, 121)

Coxsackie B viruses have been identified from stools obtained from individuals involved in the New Richmond outbreak of aseptic meningitis. Further efforts at specific identification are underway at the Wisconsin State and the CDC Virus Diagnostic Laboratories.

(c) Waupaca

Dr. Kenneth Wilcox, EIS Officer, and Bernice Brynolson, RN, Wisconsin State Health Department, have reported preliminary observations on the outbreak of minor febrile illness and exanthem which occurred during late July and early August in Waupaca, Wisconsin.

The typical clinical picture was characterized by fever, headache, and periorbital pain. Sore throats which occurred were mild and consisted of a rough feeling upon swallowing. A few patients complained of tenderness of the throat upon pressure. Back and neck stiffness was recorded but was not severe enough to warrant lumbar puncture; the diagnosis of aseptic meningitis was therefore left in doubt. The average duration of illness was 4-5 days.

Rash occurred in 20 patients. It could easily be distinguished from the rash of rubella which was present in a few families of the community concurrently. The rash began as discrete bright red macules varying in size from 1 to 5 mm. Later the macules became larger, darker, and tended to coalesce to a minor degree. Frequently they became slightly raised. There were no complaints of itching or desquamation. The rash usually began on the face and spread to the arms and upper trunk, although it also was present to a lesser degree on the legs and lower trunk. The rash persisted longest on the face.

A total of 68 cases was investigated. The number of cases by date of onset and the age distribution of total cases and of cases with rash are listed below.

Number of Cases by Week of Onset
Waupaca, Wisconsin

Week Ending	7/21	7/28	8/4	8/11	8/18
Number of Cases	1	3	30	29	3

Age Distribution
Waupaca, Wisconsin

<u>Age Group</u>	<u>Total Cases</u>	<u>Cases with Rash</u>
0-4	10	7
5-9	20	9
10-14	15	3
15-29	3	1
30-44	16	0
45	4	0
	<hr/>	<hr/>
Total	68	20

It may be noted that most cases occurred in children under 15 years of age with a secondary increase in cases in the 30-45 age group. With only one exception all those with rash were less than 15 years of age.

Because of the mild clinical illness routine laboratory studies usually were not done on these cases, and no lumbar punctures were done. Seven stools have been submitted for viral studies, and blood specimens have been obtained from eleven cases.

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

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS

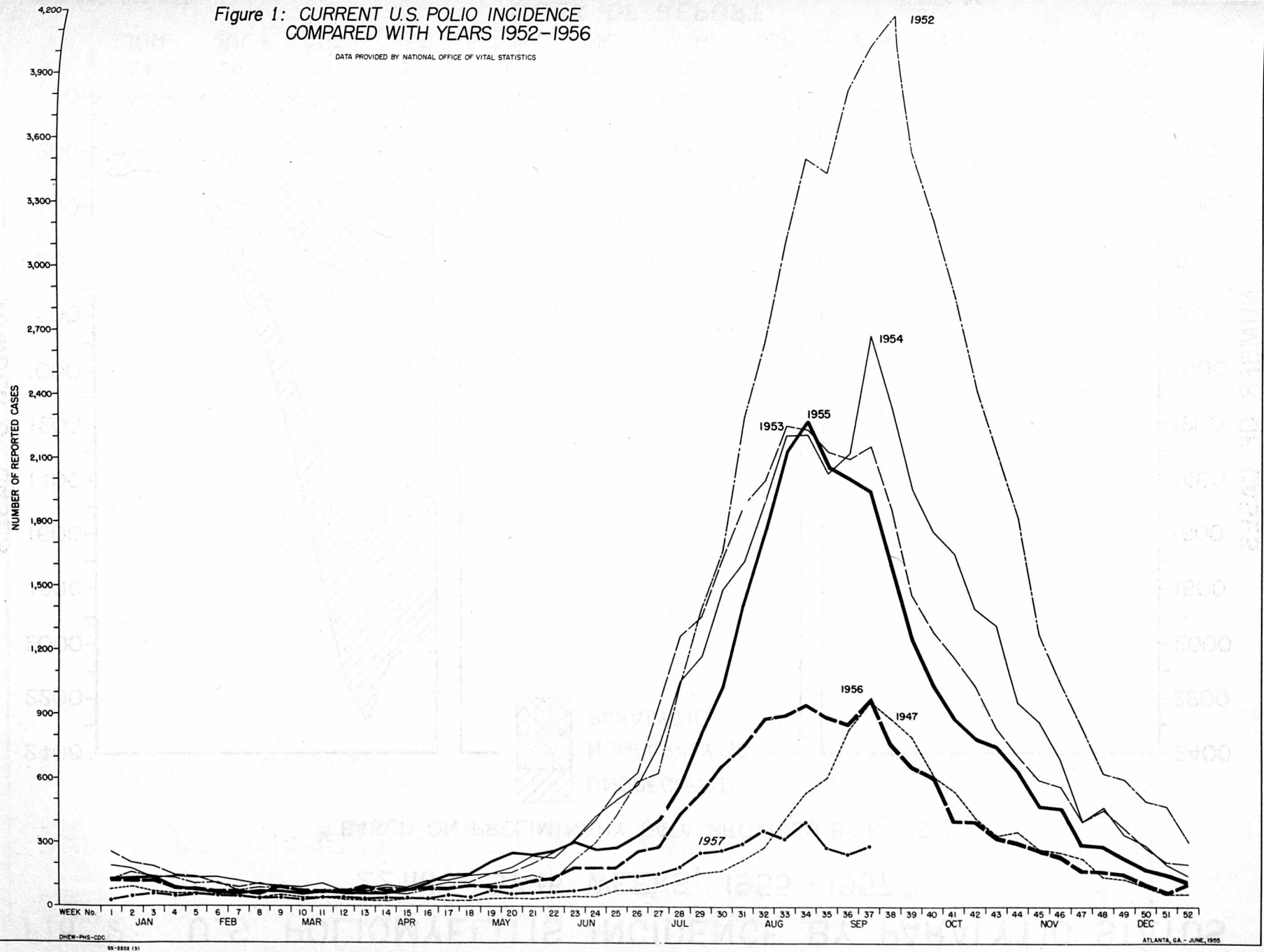


Fig. 2: U.S. POLIOMYELITIS INCIDENCE BY PARALYTIC STATUS
22nd - 37th WEEKS, 1955 - 1957*

* BASED ON PRELIMINARY DATA PROVIDED BY NOVS

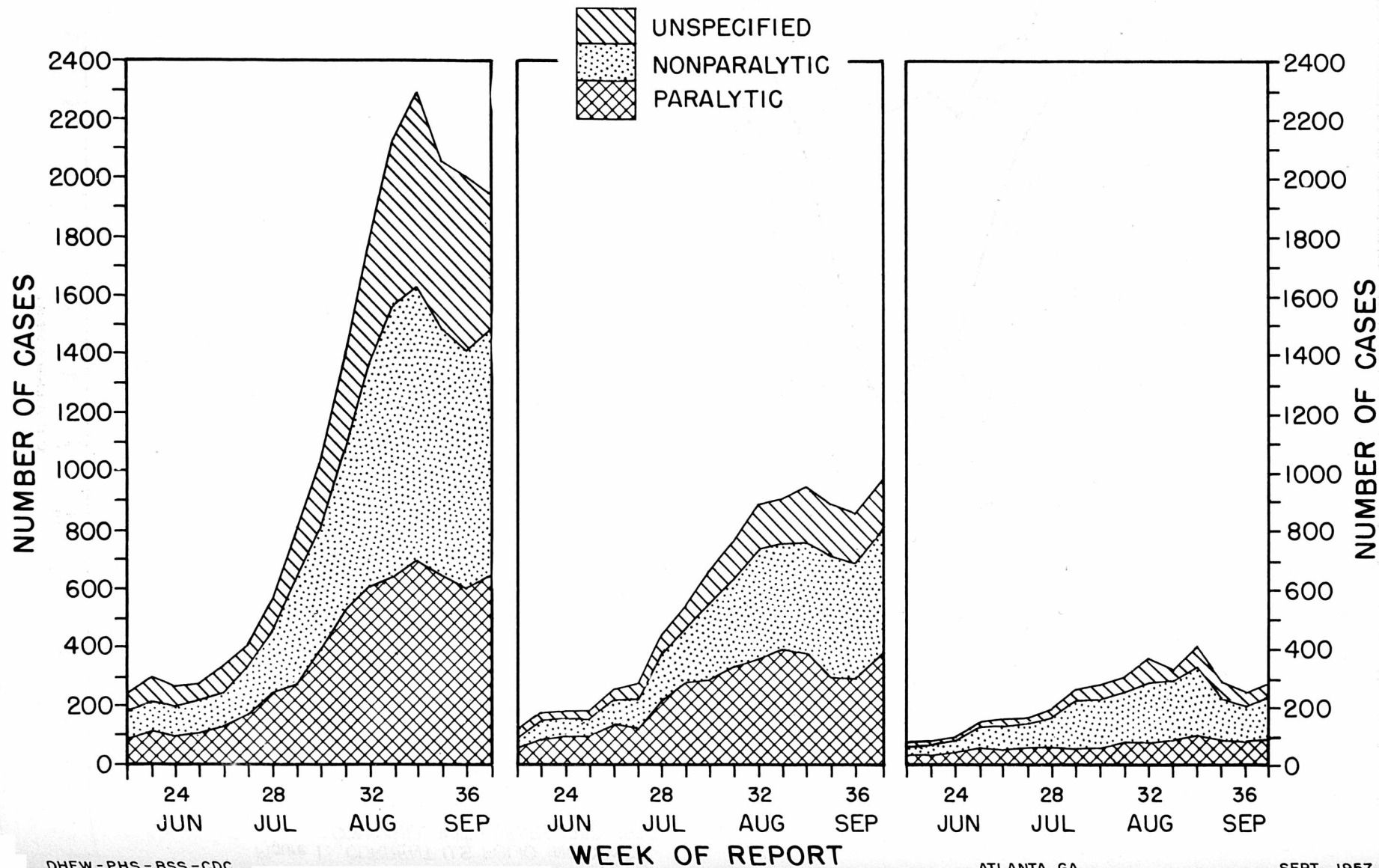


Table 1

TREND OF 1957 POLIO MYELITIS INCIDENCE

State and Region	Cases Reported to MOVS* for Week Ending:						Six Week Total	Comparable Six Week Totals in:			
	8-10	8-17	8-24	8-31	9-7	9-14		1956	1955	1954	1953
UNITED STATES											
Paralytic	70	81	95	77	73	90	486	2085	3819		
Nonparalytic	205	190	233	144	124	148	1044	2341	5097		
Unspecified	81	48	69	55	47	44	344	1012	3302		
Total	356	319	397	276	244	282	1874	5438	12218	13150	12874
NORTH EAST											
Paralytic	3	-	10	9	5	12	39	149	1444		
Total	16	14	41	39	28	26	164	540	4885	2249	2717
Maine	-	-	2	-	1	-	3	7	95	54	165
New Hampshire	1	-	-	1	-	-	2	1	140	37	29
Vermont	-	-	-	1	1	-	2	2	65	27	42
Massachusetts	1	-	1	-	1	6	9	43	2097	436	210
Rhode Island	-	-	-	-	-	-	-	3	186	54	136
Connecticut	-	1	3	6	3	2	15	42	347	125	133
New York	7	5	22	19	12	14	79	285	1292	722	1174
New Jersey	5	5	8	8	9	4	39	106	323	278	324
Pennsylvania	2	3	5	4	1	-	15	51	340	516	504
NORTH CENTRAL											
Paralytic	24	36	28	22	22	42	174	931	1235		
Total	182	167	192	143	115	142	941	2704	4402	4990	5812
Ohio	30	17	29	16	10	13	115	260	619	899	1112
Indiana	8	19	17	6	4	26	80	170	180	304	294
Illinois	25	20	42	31	32	25	175	395	686	907	944
Michigan	40	47	53	47	25	43	255	309	571	846	989
Wisconsin	28	32	25	20	16	12	133	243	1382	237	306
Minnesota	6	2	-	1	4	2	15	102	319	300	1109
Iowa	6	8	8	2	7	10	41	356	271	584	277
Missouri	10	10	5	11	8	1	45	192	114	259	325
North Dakota	2	-	-	3	-	-	5	8	24	49	90
South Dakota	18	4	2	2	-	5	31	12	22	42	85
Nebraska	3	3	3	3	5	3	20	68	103	318	76
Kansas	6	5	8	1	4	2	26	89	111	245	205
NORTH WEST											
Paralytic	2	1	6	2	3	-	14	62	194		
Total	5	3	8	2	6	3	27	187	380	398	381
Montana	1	-	1	2	1	-	5	10	57	41	99
Wyoming	-	1	1	-	1	-	3	13	15	96	19
Idaho	3	1	1	-	1	3	9	43	49	43	18
Washington	-	1	4	-	2	-	7	82	153	115	141
Oregon	1	-	1	-	1	-	3	39	106	103	104

* 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:			
	8-10	8-17	8-24	8-31	9-7	9-14		1956	1955	1954	1953
SOUTH EAST											
Paralytic	19	20	32	19	21	16	127	283	404		
Total	66	59	61	36	36	42	300	673	1131	2121	1703
Delaware	2	-	-	-	-	-	2	12	16	16	17
Maryland	1	-	2	-	-	1	4	18	108	83	228
Dist. of Col.	1	7	7	6	7	6	34	5	19	37	23
Virginia	4	2	11	3	5	4	29	102	121	223	294
West Virginia	1	2	1	2	1	4	11	44	78	150	193
North Carolina	25	22	12	6	5	5	75	131	188	297	244
South Carolina	6	4	1	1	3	5	20	43	110	90	53
Georgia	4	6	7	2	2	2	23	87	70	279	113
Florida	8	-	5	1	7	6	27	38	93	316	176
Kentucky	6	7	7	7	3	4	34	61	181	324	102
Tennessee	6	7	6	8	3	4	34	51	93	197	171
Alabama	2	2	2	-	-	1	7	31	54	109	89
SOUTH CENTRAL											
Paralytic	12	12	11	15	16	8	74	351	271		
Total	43	40	51	32	36	27	229	678	761	1432	828
Mississippi	3	5	4	1	2	1	16	98	39	141	83
Arkansas	4	3	2	1	1	1	12	75	64	92	101
Louisiana	9	6	6	12	3	6	42	177	79	125	90
Oklahoma	7	5	9	2	8	2	33	70	92	174	172
Texas	20	21	30	16	22	17	126	258	487	900	382
SOUTH WEST											
Paralytic	10	12	8	10	6	12	58	309	271		
Total	44	36	44	24	23	42	213	654	672	1960	1433
Colorado	3	-	2	1	2	7	15	65	87	166	72
New Mexico	5	6	-	1	2	1	15	32	45	96	31
Arizona	3	2	1	1	-	-	7	28	40	63	165
Utah	-	-	-	1	3	-	4	68	19	86	63
Nevada	-	-	-	-	-	-	-	9	12	47	11
California	33	28	41	20	16	34	172	452	469	1502	1091
TERRITORIES											
	3	4	1	-	6	-	14	15	34		
Alaska	-	-	-	-	1	-	1	3	28	104	6
Hawaii	-	-	-	-	2	-	2	7	24	17	2
Puerto Rico	3	4	1	-	4	-	12	6	3	-	3

* National Office of Vital Statistics.

Table 2

1957 PARALYTIC POLIOMYELITIS CASES FOLLOWING THREE INOCULATIONS OF VACCINE
(Reports September 12 thru September 18, 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.
79	Nebraska	Saunders	CF	19	M	7-7-57	137	Neck	6-20-56 7-26-56 5-5-57	PM PM L	175075B 175074A 679904
Comment: Poliovirus Type III was isolated from this patient's stool specimen. Convalescent serum titration revealed antibody titer to Type 3 and Type 2 poliovirus. Previously listed in PSU Report No. 124.											
87	Vermont	Windsor	MAM	27	F	7-6-57	44 Polys 143 Prot. 2510 RBC	RL	Nov '55 3-1-57 3-13-57	? L L	? ? ?
Comment: Very slight weakness in right hip extensors.											
88	Illinois	Cass (Preliminary Report)	FA	8	F	8-16-57		?	? ? ? 6-57	? ? ?	? ? ?
89	Illinois	Cook (Preliminary Report)	JT	17	F	7-21-57		?	? ? 2-23-57	? ? ?	? ? ?
90	Illinois	Cook (Preliminary Report)	WB	7	M	7-20-57		?	? ? 10-10-56	? ? ?	? ? ?
91	Illinois	Cook (Preliminary Report)	AZ	4½	F	8-10-57		?	?1956 ?1956 ?1956	? ? ?	? ? ?

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Table 2 (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.
92	Illinois	Du Page (Preliminary Report)	SS	14	F	7-29-57		?	? ? ?	? ? ?	? ? ?
93	Illinois	McHenry (Preliminary Report)	GA	15	M	8-17-57		?	? ? ?	? ? ?	? ? ?
94	Nebraska	Kimball	KH	4	M	6-23-57		?	? ? ?	? ? ?	? ? ?
Comment: Cocksackie B-5 has been isolated from a specimen taken from this patient.											
95	Nebraska	Kimball (Preliminary Report)	SB	5	M	7-11-57		?	? ? ? ?	? ? ? ?	? ? ? ?
96	Nebraska	Lancaster (Preliminary Report)	KM	28	F	8-3-57		?	? ? ?	? ? ?	? ? ?
97	Tennessee	Shelby (Preliminary Report)	TLM	2	M	8-9-57		?	? ? ?	? ? ?	? ? ?
98	N. J.	Bergen	NFB	5	M	6-23-57		Neck, trunk and hip muscles	6-2-56 7-7-56 3-2-57	L L L	? ? ?
99	N. J.	Hudson	EB	5	M	7-6-57		Left arm & abdominal weakness	6-18-56 8-6-56 2-11-57	? ? ?	? ? ?

Table 3

POLIOMYELITIS VACCINE REPORT through 9-13-57

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

VACCINE RELEASED						
<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 1-13	3,080	-	1,314	257	-	-
Cumulative to date	122,663	30,133	30,841	9,623	9,377	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 1-6	-	1,151	2,120	166	3,438
Cumulative Totals	13,886	100,081	65,836	14,456	194,259

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>
8-23-57	10,290	3,855	3,009	17,153
8-30-57	7,565	5,004	2,918	15,487
9-6-57	7,737	6,113	3,933	17,783

Table 4

Suspected Outbreaks - Aseptic Meningitis
United States 1957

PSU Report No.	State	City	No. of Cases	Clinical Picture*	CSF Findings	Virus Isolation	Laboratory
123	Colo.	La Junta	3	H, dizziness	Pleocytosis	(1) WEE	Univ. Colorado (Dr. Kempe)
126	Conn.	Essex	40	F-H-V-S	-	Coxsackie B-5	Conn.St.Health Dept.
126	Conn.	Bristol	15	F-H-V-S, Rash - Diarrhea	-	ECHO 9 Coxsackie A-9	Yale Univ.
122	Ga.	Atlanta	15	H-F-S	Pleocytosis		CDC Virus Lab, (Dr. Kalter)
122	Ga.	Columbus	3	H-F-S	Pleocytosis	(1) Mumps	CDC Virus Lab, (Dr. Kalter)
126	Kansas	Wichita	5 (2)			ECHO 9 (5) Coxsackie A-9 Coxsackie B-5	Kansas St. Board of Health (Dr. Hunter)
121	Mich.	Throughout State	Sporadic Cases 21			(2) ECHO 9 (8) Coxsackie B4	Univ. of Michigan (Dr. Brown)
122, 125	Minn.	Throughout State	380	S-H-V-F-E, morbilli- form rash.	20-1500 Lymphocytes Predominately	(5) Coxsackie B-5 (3) ECHO 9	Minn. Dept. of Health (Dr. Bauer)
119	N.C.	Durham	80	H-S-F-V, myalgia	100-1000 Predominately Lymphocytes	Coxsackie B-5 (13 Cases) Coxsackie A9 (1 Case)	Univ.N.C.(Dr. Curnen)

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Table 4 (Continued)

PSU Report No.	State	City	No. of Cases	Clinical Picture	CSF Findings	Virus Isolation	Laboratory
123	N.Dak.	Garrison	11	Slight disorientation	8-12 Cells		N.Dak. State Health Dept (Dr. M. Kooms) Rocky Mt. Lab USPHS (Dr. C. Ekland)
121	Ohio	Athens	7			Coxsackie	Ohio St. Health Dept. (Dr. Anderson)
121	Ohio	Norwood	5	H-F-S, Rash	Pleocytosis	ECHO Type 9 (CSF)	Dr. Sabin, Children's Hospital, Cincinnati Ohio
121	Ohio	Willard	100	H-F-V-S, / macular rash	Pleocytosis	ECHO 9	(Dr. Robbins Cleveland, Ohio)
116 117	Tenn.	Johnson City	54 Hospitalized, 51 Contacts 170 Community	H-F-S-E, varied from mild to severe toxic encephalitis symptoms	Pleocytosis 15-400		Tenn.St.Health Dept (Dr. J.H. Barrick) and CDC Virus Lab, (Dr. Kalter)
122	Tenn.	Camden	80	H-F-V-S-			Tenn.St.Health Dept Lab (Mr. Barrick)
123	Utah	Ogden	20	Aseptic meningitis			Utah State Health Dept. (Mr. R. S. Fraser)
119	Va.	Pennisular Area	65	H-F-V-S	200-300 Predominately Lymphocytes		

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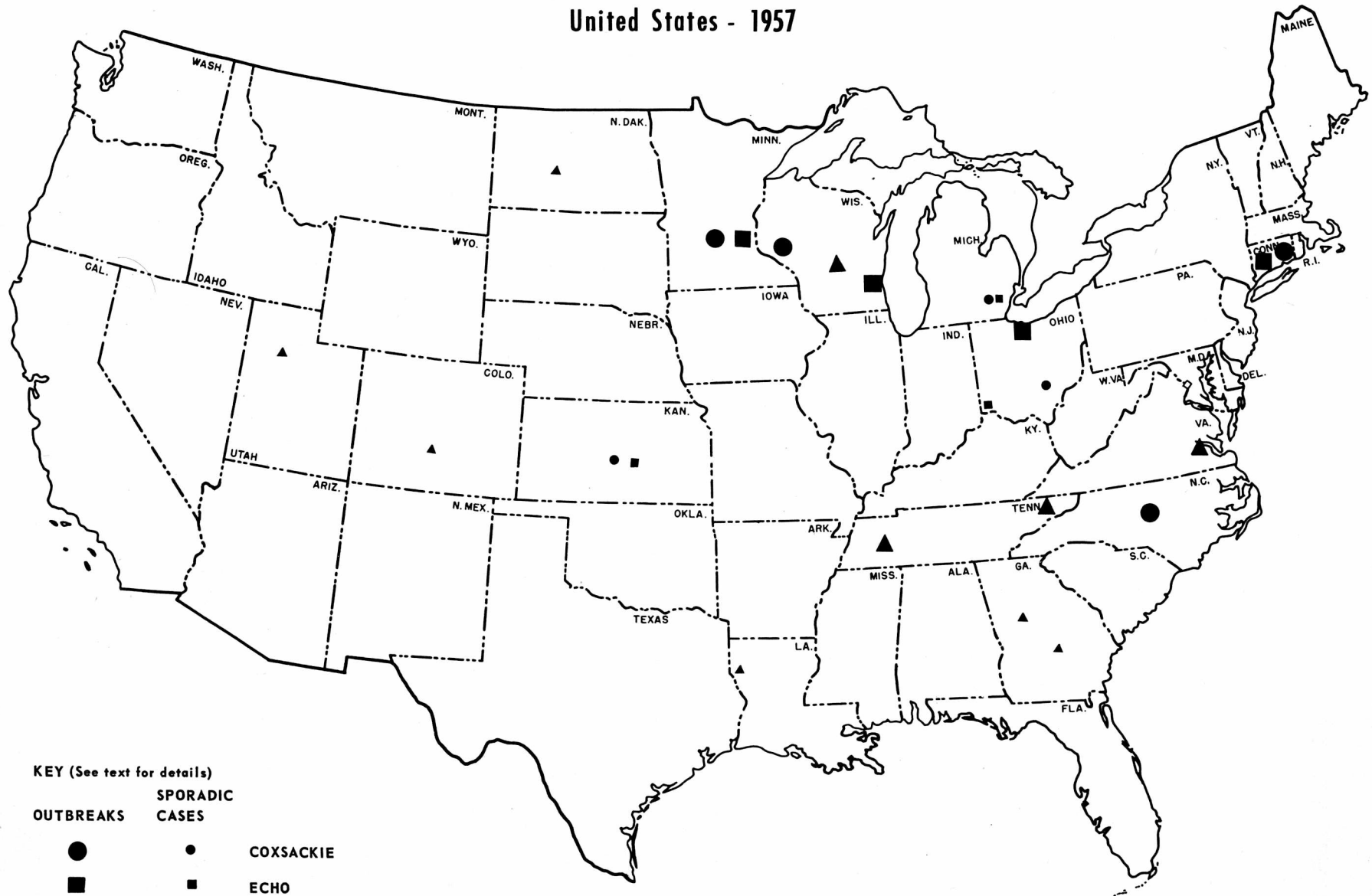
Table 4 (Continued)

PSU Report No.	State	City	No. of Cases	Clinical Picture*	CSF Findings	Virus Isolation	Laboratory
120, 121	Wisc.	New Richmond	97	H-F-V-S-E	250-1300 one - 16,000	Coxsackie B	Wisc. St. Health Dept. (Dr. Stoball) CDC Virus Lab (Dr. Kalter)
122	Wisc.	Milwaukee	138 Hospital- lized, esti- mated 10,000 Community	Sudden onset, H-V, rash over face and trunk	300-1000 Lymphocytes	ECHO 9 (CSF)	Dr. Sabin Children's Hospital, Cincinnati Ohio. Dr. F. Robbins Cleveland City Hosp.
121	Wisc.	Waupaca	68	F-H-E, Rash	-		Wisc. State Health Dept. (Dr. Stoball)

* H - headache, F - fever, V - vomiting, S - stiff neck, E - eye pain.

ASEPTIC MENINGITIS

United States - 1957



KEY (See text for details)

OUTBREAKS	SPORADIC CASES	
●	●	COXSACKIE
■	■	ECHO
▲	▲	UNDETERMINED

