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POLIOMYELITIS SURVEILLANCE REPORT
NO. 119 JULY 26, 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

The information in this report represents a factual summary of preliminary data reported to the Poliomyelitis Surveillance Unit from State Health Departments, Epidemic Intelligence Service Officers, participating laboratories and other pertinent sources. It is understood that the contents of these reports will not be released to the press, except by the Office of the Surgeon General, Public Health Service, U.S. Department of Health, Education and Welfare. State Health Officers, of course, are free to release any information they may wish concerning data from their state.

I. Summary

1. The number of poliomyelitis cases reported as paralytic has remained essentially unchanged during the past five weeks, while reported non-paralytic and unspecified polio has increased. In 1955 and 1956 the late July seasonal rise in total reported incidence included paralytic cases.

2. The 16 paralytic cases reported from the North Central states represents the largest group of paralytic cases in any of the regions.

3. Outbreaks of non-paralytic aseptic meningitis in Virginia, and North Carolina may be due to non-polio agents.

4. A total of 25 preliminary reports of 1957 triply vaccinated paralytic cases has been received by PSU.

5. Vaccine shipments during June and early July have been smaller than during the first five months of the year.

II. Current Poliomyelitis Morbidity Trends

Total poliomyelitis incidence in the U.S. showed a definite increase during the past week, from 186 cases for the week ending July 13 to 252 cases reported to NOVS for the week ending July 20. This total is the lowest reported for the corresponding week in any year since 1947; however, the 1957 weekly incidence totals continue to be greater than those observed during the low incidence year of 1947 when the corresponding 29th week total was only 159, and when peak incidence was not reached until late in the season. Figure 1 shows the U.S. incidence curve by weeks for the years 1947 and 1952 through 1957.

The most interesting feature of the current national poliomyelitis morbidity data is that last week only 50 cases were reported as paralytic. Thus, as shown in the first part of Table 1, the number of paralytic cases reported each week has remained remarkably stable, with 51, 42, 50, 56, and 50 paralytic cases reported for the past five weeks, during which time the non-paralytic plus unspecified totals increased from 83 to 202. Only in the North Central region was any significant increase in paralytic disease reported, with a rise from 6 to 16 cases (See Table 1, showing distribution of total cases by state and region, and of paralytic cases by region); eleven of these 16 paralytic cases were reported from Illinois and Michigan. During the years 1955 and 1956 the rising incidence observed in late July (Figure 1) included paralytic as well as non-paralytic and unspecified cases.

A portion of the recent increase in reported non-paralytic cases probably represents non-polio aseptic meningitides provisionally reported as non-paralytic polio (See Section IV of this Report). However, the aseptic meningitis cases in Virginia and part of the cases in Tennessee (See PSU Reports #117 and 118) were not included in the poliomyelitis reports.

III. Reports from States

a. Louisiana - Dr. J.D. Martin, Chief, Section of Epidemiology, Louisiana State Department of Health, and Dr. W.J. Sandidge of the Caddo County Health Department, have reported an unusual concentration of cases reported as nonparalytic poliomyelitis in Caddo County (Shreveport). Through July 17, 1957, a total of 36 cases of polio had been reported in the County, of which only six, or 17 percent, were paralytic. In comparison, the proportion of cases paralytic for the years 1951 through 1956, indicated in the table below, has ranged between 46 and 77 percent. Drs. Sandidge and Martin note that the high proportion of nonparalytic cases in 1957 suggests the presence of both non-polio aseptic meningitis and polio cases.

Poliomyelitis Cases in Caddo County, Louisiana

<u>Year</u>	<u>Paral</u>	<u>Non-paral</u>	<u>Total</u>	<u>Percent Paralytic</u>
1951	65	30	95	68
1952	23	7	30	77
1953	13	9	22	59
1954	24	28	52	46
1955	26	11	37	70
1956	9	6	15	60
1957 (thru 6 July 17)	6	30	36	17

One of the six paralytic cases and 12 of the 30 nonparalytic cases had received poliomyelitis vaccine.

Dr. George H. Hauser of the Louisiana State Department Laboratories reports that Type I poliovirus has been isolated from 3 of the 6 paralytic cases from Shreveport, and that Type I poliovirus has been isolated from only 2 of 18 nonparalytic cases studied. No other virus has been isolated in Hela cell tissue culture from specimens submitted from the Shreveport cases.

The above total of cases reported from the Shreveport area does not include three cases of acute encephalitis that have been brought to Dr. Martin's attention; all occurred within a two-day period, and all completely recovered after approximately four days.

b. Illinois - Dr. Norman J. Rose, Assistant Deputy Director, Division of Preventive Medicine, Illinois State Department of Public Health, reports that a cumulative total of 52 polio cases has been reported in Illinois during 1957, including two cases reported from Chicago, and 50 cases from downstate Illinois. Of these 52 cases, 16 were reported during the first six months of the year, and 36 (including two encephalitic cases) during the period July 1 through July 25. The geographic distribution of these 36 cases reported during July shows five cases occurring in Champaign County (4 non-paralytic and 1 unspecified), four in Winnebago County (the four all being members of one Rockford, Ill., family, ages 4, 9, 11, and 13), and three from Whiteside County. The remaining 24 of the 36 cases are geographically scattered, with one or two cases per county.

Of the 13 cases reported to NOVS last week, 6 are paralytic, 5 nonparalytic, and two unspecified. Included in this group of 13 are the 4 cases in the Rockford family.

c. Oklahoma - Dr. J.O. Wails, Director, Division of Preventive Medicine, Oklahoma State Department of Public Health, reports that the total of 25 cases reported in Oklahoma during the period July 1 through July 25 includes some 15 cases in the population centers of Tulsa and Oklahoma City, 5 cases in Lawton and Duncan ("neighboring" towns about 40 miles apart), and the remaining 5 cases in five widely separated counties. Several late reports contributed to the total of 14 Oklahoma cases reported to NOVS during the past week, compared with 5, 5, 6, and 5 cases reported for each of the four preceding weeks. A cumulative total of 46 cases has been reported this year, compared with a total of 66 during the comparable period of 1956.

d. Wisconsin - Dr. Milton Feig, Director, Section on Preventable Diseases, State of Wisconsin Board of Health, and Dr. Kenneth Wilcox, Epidemic Intelligence Service Officer, report that of the total of 15 cases reported to NOVS last week, six occurred in Milwaukee County, four in Dane County (Madison), and the remaining five other counties. Of the 15 cases, 12 were non-paralytic and three unspecified.

IV. Aseptic Meningitis Outbreaks

a. Report from Virginia: Dr. Mason Romaine, Director, Communicable Disease Control, Virginia State Department of Health, Dr. Ella T. Robeson, Director of the Warwick and Hampton Health Departments, and Dr. R.B. Blackwell, Director of the Newport News Health Department, have submitted a preliminary report concerning an outbreak of aseptic meningitis in the peninsular area of the State. The outbreak began in late May and is subsiding at the present time. The following information is from Dr. Romaine's report:

CLINICAL COURSE: The patients experience sudden onset of an illness that usually follows the same pattern, with headache, nausea, and vomiting, stiff neck, and temperature elevation from 101 to 102 degrees in most cases (but rising to 104 degrees in some instances). Prompt relief of headache, nausea and vomiting follows lumbar puncture. The disease is of short duration, usually 3 to 6 days, although some may be ill for a few days longer. There is no prostration either during or following the illness, and the disease is self-limited, with complete recovery and no residua. Many mild illnesses not reported by physicians, of similar character and about three-day duration, have been occurring in the communities.

CEREBROSPINAL FLUID FINDINGS: CSF pressure is somewhat elevated. The cell count, when the LP is done early in the course of illness, is usually 200 to 300 per ml³, practically all lymphocytes. Later in the course, the cells are greatly increased in number, reaching 1,500 to 2,000 or more per ml³, with a tendency for appearance of some polymorphonuclears.

GEOGRAPHIC DISTRIBUTION: The 65 cases reported since late May are geographically distributed in Virginia's Peninsula area as follows:

Hampton	- 29 cases
Warwick	- 9 cases
Newport News	- 7 cases
York County	- 19 cases
James City County	- 1 case
<hr/>	
Total	65 cases

AGE AND SEX DISTRIBUTION: The distribution between males and females is about equal, although males slightly outnumber females. The age range of the 56 cases for which age has been reported is from under one to 44 years. The distribution by age group is as follows:

<u>Age group</u>	<u>Number of Cases</u>
0-4	6
5-9	24
10-14	13
15-19	1
20-29	7
30-39	3
40+	2
Unknown	<u>9</u>
All Ages	65

HOUSEHOLD INFECTIONS: In a number of instances, multiple cases have occurred in the same household. From these, an incubation period of 4 to 6 days is suggested, usually 4 days but possibly extending to 10 days.

SUMMARY: "The conclusion . . . is that the disease is a viral infection, spread by personal contact, of short incubation and of short duration, rather mild, causing widespread morbidity but no mortality. The fact that the disease is scattered in the area leads to the conclusion that there is no common vector and that it must be a person-to-person spread."

b. Report from North Carolina: Dr. Jacob Koomen, Assistant Director, Division of Epidemiology, North Carolina State Health Department, reports that a total of 28 nonparalytic cases of an aseptic meningitis syndrome have been reported from the City of Durham through July 24. (See PSU Report #118).

Of the first 21 cases, 15 were male and 6 female; 19 appeared in whites and 2 in Negroes. The age distribution for these first 21 cases is as follows:

Under age 10	11 cases
10-19	4 cases
20-29	4 cases
30 and over	2 cases

Vaccination history is known for 20 of the patients, of which 13 had previously received poliomyelitis vaccine. Cerebro-spinal fluid pleocytosis is present, ranging from 100 to 1000 cells per ml³, predominately mononuclears.

Stool specimens and sera are being examined by Dr. Edward Curnen, Professor of Pediatrics at the University of North Carolina Medical School, Chapel Hill.

V. Triply-Vaccinated Cases

Preliminary reports concerning six triply-vaccinated paralytic cases with onset in 1957 were received by PSU during the week July 18-24. A line listing of these cases is presented in Table 3. Previously listed were 19 triply-vaccinated paralytic cases, bringing the 1957 total to 25, including one fatality. Also through July 24, a cumulative 1957 total of 82 non-paralytic cases has been reported in triply-vaccinated individuals.

VI. Routine Poliomyelitis Surveillance

During the week ending July 25, the Polio Surveillance Unit received reports of two paralytic polio cases and one nonparalytic case occurring within 30 days of a polio vaccine inoculation.

New York reported a case which developed quadriplegia two days after left arm inoculation with Lilly vaccine (lot #697785, one million cc's distributed in April). No other cases have been reported to PSU in association with this lot. California reported a triply-vaccinated case with onset of paralysis in both legs 18 days following left arm inoculation (vaccine manufacturer and lot number unknown).

VII. Vaccine Distribution

Table 2 presents a summary of current and cumulative shipments of vaccine (in 1000's of cc's of net bottled vaccine). Excluding export, 3.2 million cc's were shipped July 1-12. Vaccine shipments for each month, January through July 12, 1957, are presented in the table below. It may be noted that there was a decided drop in shipments during June and early July.

	<u>Monthly Shipments in 1000's of cc's</u>	<u>1957 Cumulative Total</u>
January	11,061	11,061
February	16,581	27,642
March	9,896	37,538
April	15,161	52,699
May	9,740	62,439
June	4,531	66,970
July 1-12	3,196	70,166

The Vaccine Inventory on July 12, 1957, totaled 7 million cc's including vaccine not shipped by manufacturers and vaccine on hand in State and Local Health Departments, Physicians' Offices and in Commercial Channels.

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

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

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS

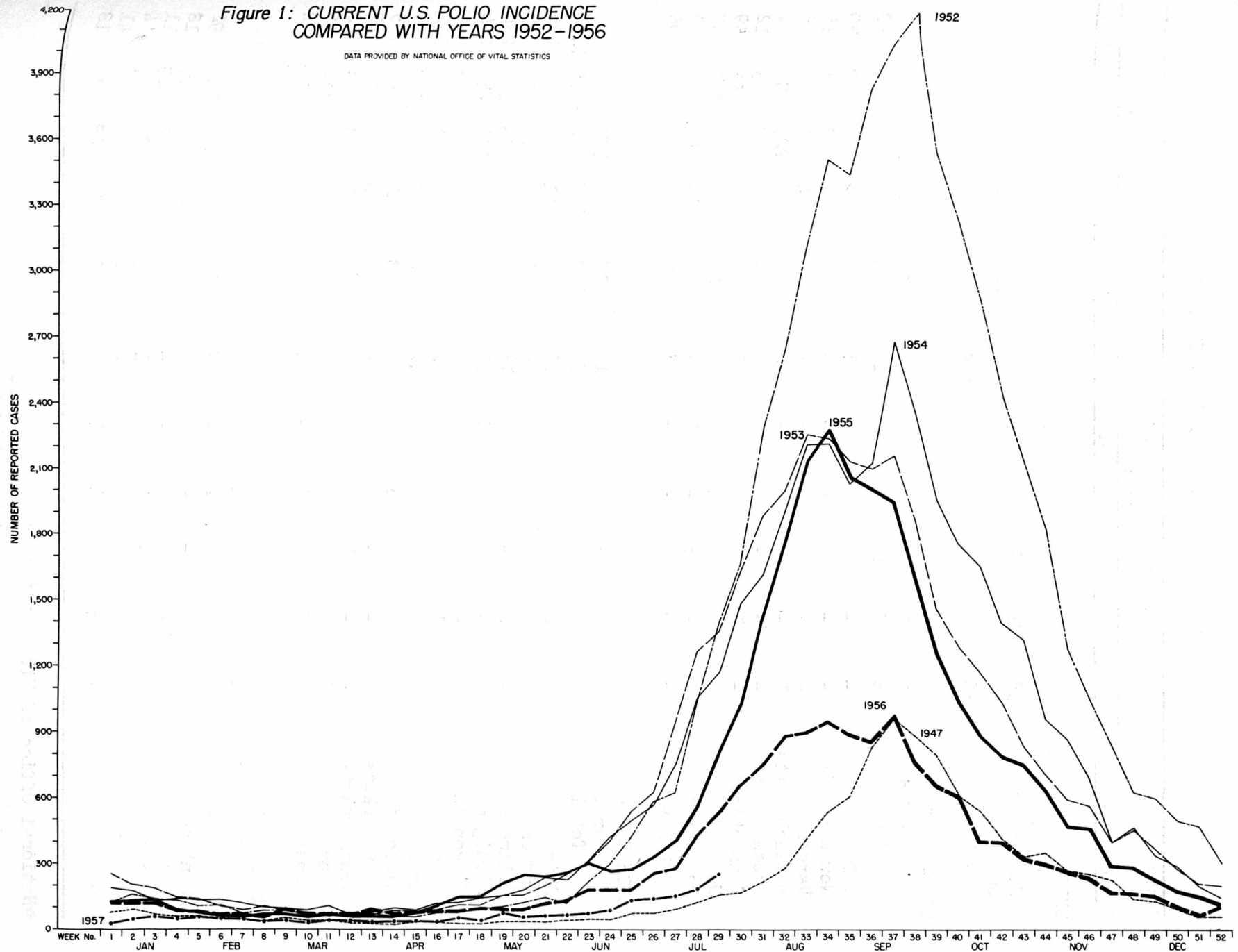


Table 1

TREND OF 1957 POLIOMYELITIS INCIDENCE

State and Region	Cases Reported to NOVS* for Week Ending:						Six Week Total	Comparable Six Week Totals in:			
	6-15	6-22	6-29	7-6	7-13	7-20		1956	1955	1954	1953
UNITED STATES											
Paralytic	38	51	42	50	56	50	287	941	975		
Nonparalytic	38	71	81	88	103	167	548	633	1102		
Unspecified	13	12	19	16	27	35	122	287	576		
Total	89	134	142	154	186	252	957	1861	2653	4470	5129
NORTH EAST											
Paralytic	1	3	3	-	2	4	13	49	212		
Total	3	5	12	5	7	16	48	117	566	364	688
Maine	-	-	-	-	-	1	1	2	9	7	30
New Hampshire	-	-	-	-	-	-	-	-	9	6	15
Vermont	-	-	-	-	-	-	-	4	5	4	5
Massachusetts	1	-	-	1	-	2	4	8	229	37	54
Rhode Island	-	-	-	-	-	-	-	-	10	3	12
Connecticut	-	1	2	-	2	3	8	6	35	55	59
New York	2	4	6	4	4	7	27	68	170	142	337
New Jersey	-	-	3	-	1	-	4	14	42	58	80
Pennsylvania	-	-	1	-	-	3	4	15	57	52	96
NORTH CENTRAL											
Paralytic	4	6	3	2	6	16	37	250	179		
Total	14	17	12	25	30	70	168	547	642	1115	1491
Ohio	2	4	-	2	8	10	26	51	108	157	276
Indiana	1	1	2	2	-	4	10	32	40	54	79
Illinois	-	2	2	3	7	13	27	259	85	147	254
Michigan	3	-	3	6	3	10	25	41	112	212	224
Wisconsin	-	-	1	4	7	15	27	32	76	23	46
Minnesota	-	1	-	-	-	2	3	8	41	50	212
Iowa	2	2	2	2	2	2	12	38	66	160	69
Missouri	2	4	1	3	2	6	18	47	31	63	155
North Dakota	-	-	-	-	-	-	-	4	13	12	7
South Dakota	-	-	1	-	-	-	1	1	7	13	22
Nebraska	3	1	-	2	1	4	11	9	31	111	55
Kansas	1	2	-	1	-	4	8	25	32	113	92
NORTH WEST											
Paralytic	-	-	-	-	1	2	3	31	63		
Total	1	-	2	2	2	7	14	56	100	136	92
Montana	-	-	-	-	-	1	1	7	5	10	18
Wyoming	-	-	2	-	-	-	2	4	5	49	11
Idaho	-	-	-	1	1	1	3	18	38	7	4
Washington	-	-	-	-	-	-	-	11	24	34	41
Oregon	1	-	-	1	1	5	8	16	28	36	18

*National Office of Vital Statistics

(CONTINUED ON NEXT PAGE)

Table 1 (Continued)

State and Region	Cases Reported to NOVS* for Week Ending:						Six Week Total	Comparable Six Week Totals in:			
	6-15	6-22	6-29	7-6	7-13	7-20		1956	1955	1954	1953
SOUTH EAST											
Paralytic	6	13	10	12	15	7	63	89	140		
Total	17	34	36	37	54	48	226	237	421	898	1365
Delaware	-	-	-	1	-	-	1	2	6	5	6
Maryland	-	4	-	-	-	-	4	11	23	11	69
D. C.	-	-	-	-	-	-	-	1	10	5	12
Virginia	-	3	-	2	7	2	14	27	51	53	169
West Virginia	1	-	1	-	1	2	5	13	11	21	74
North Carolina	2	4	1	6	7	17	37	27	51	71	332
South Carolina	5	10	7	5	9	6	42	19	56	74	39
Georgia	3	2	3	3	4	2	17	24	28	132	136
Florida	2	1	5	-	14	2	24	64	73	287	95
Kentucky	3	1	-	-	5	8	17	29	36	76	86
Tennessee	1	9	16	19	7	7	59	13	36	81	185
Alabama	-	-	3	1	-	2	6	7	40	82	162
SOUTH CENTRAL											
Paralytic	21	23	25	30	20	15	134	291	244		
Total	39	55	64	67	52	68	345	546	601	1206	994
Mississippi	1	12	3	2	4	8	30	39	43	141	119
Arkansas	-	6	4	3	3	4	20	21	35	81	79
Louisiana	6	4	12	12	2	9	45	162	74	143	158
Oklahoma	2	5	6	5	5	14	37	43	51	145	168
Texas	30	28	39	45	38	33	213	281	398	696	470
SOUTH WEST											
Paralytic	6	6	1	6	12	6	37	231	137		
Total	15	23	16	18	41	43	156	358	329	751	499
Colorado	-	-	-	1	-	-	1	14	25	45	31
New Mexico	1	4	-	1	3	4	13	10	32	19	24
Arizona	-	-	1	-	2	2	5	17	12	54	46
Utah	1	-	1	2	-	-	4	13	6	15	24
Nevada	-	-	-	1	1	-	2	1	24	23	10
California	13	19	14	13	35	37	131	303	230	595	364
TERRITORIES											
	-	-	-	1	-	2	3	7	42		
Alaska	-	-	-	-	-	-	-	2	1	36	22
Hawaii	-	-	-	-	-	-	-	3	11	46	6
Puerto Rico	-	-	-	1	-	2	3	9	30	-	6

* National Office of Vital Statistics.

Table 2

Poliomyelitis Vaccine Shipment Summary

(Reports from Polio Vaccine Activity, BSS, USPHS, through 7-19-57)

Vaccine Shipments (in 1000's of cc's)

Period	NFIP*** Sponsored Clinics	Public Agencies	Commercial Channels	Export ****	Total*
1955	13,541	7,893	6,233**	-	27,667
1956	194	45,588	24,784	6,477	77,043
1957					
January - March	8	19,306	13,483	4,111	37,538
April	-	8,639	5,161	1,360	15,161
May	73	5,365	3,767	536	9,740
June	70	2,734	1,349	378	4,531
July 1 - 12	-	1,452	1,677	68	3,196
Cumulative Totals	13,886	91,607	56,453	12,931	174,877

Vaccine Inventory (in 1000's of cc's)

Week Ending 7/12/57

Vaccine Cleared for distribution by the National Institutes of Health but not shipped	2,224
Vaccine in State and Local Health Departments	3,016
Vaccine in Commercial Channels and Physicians Offices	1,720

* Totals do not add because figures are rounded to nearest 1000 cc's.

** Includes 562,740 cc's shipped through commercial channels prior to inauguration of the Interstate Distribution Program in August, 1955.

*** Vaccine purchased by the National Foundation for Infantile Paralysis and distributed for inoculation of first and second grade children in locally organized school clinics.

**** Regulated under Department of Commerce Export Policy.

Table 3

1957 Paralytic Poliomyelitis Following Three Inoculations of Vaccine
(Reports through July 24, 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.
59	Tex.	Tarrant	RM	15	M	6-?-57		?	?	?	?
		(Preliminary Report)							?	?	?
60	Tex.	Harris	GS	3	M	6-5-57		?	?	?	?
		(Preliminary Report)							?	?	?
61	Tex.	Harris	FM	28	F	5-6-57		?	?	?	?
		(Preliminary Report)							?	?	?
62	Tex.	Harris	JP	27	M	5-25-57		?	?	?	?
		(Preliminary Report)							?	?	?
63	Cal.	Los Angeles	EFH	1	F	6-28-57		L.A.	8-22-56	L	663618
		(Preliminary Report-Also listed as under-30-day case in Report #118)							9-19-56	L	663618
									6-26-57	PD	029888
64	Cal.	San Diego	RH	5	M	5-26-57		Legs	July 1955	?	?
		(Preliminary Report-Also listed as under-30-day case in Report #119)							Aug. 1955	?	?
									5-8-57	?	?

