

I. Current Poliomyelitis Morbidity Trends

Poliomyelitis incidence by weeks for the current year, with similar data for the three preceding years, is presented in Figure 1, drawn from data published by the National Office of Vital Statistics. Incidence fell again this week and is below that for the past three years.

Poliomyelitis incidence by states for the weeks ending November 5 through December 10 is presented in Table 1, together with a six-week total for this and the three previous years. The decrease in incidence shown in Figure 1 is reflected in slight decreases in most states.

II. Special Studies

The following data on vaccine evaluation have been taken with slight modification from Poliomyelitis Release #24, issued by the California State Department of Public Health for the week ending December 3, 1955:

"It should be emphasized that the information summarized here is based upon morbidity data submitted to the State Health Department and does not represent a controlled study of poliomyelitis vaccine. All data are provisional and should be so evaluated.

Table I summarizes the reported occurrence of poliomyelitis in children aged 5-9 since June 15 by vaccination status and vaccine manufacturer. Observations prior to June 15 are omitted from this table to avoid the confusion of including the early Cutter associated cases.

Table I
California, 1955
Comparative Incidence of Poliomyelitis in Children Ages 5-9 by
Vaccination Status
Cases with Onsets June 15 through October 31, 1955
(Table adapted from California Poliomyelitis Release # 24)

Vaccination Status	Estimated Population	Cases			Rates per 100,000		
		P	NP	T	P	NP	T
Not Vaccinated	886,000	103	91	194	11.6	10.3	21.9
Total Vaccinated	382,000*	13	51	64	3.4	13.4	16.8
One Inoculation	187,000	9	27	36	4.8	14.4	19.3
Two Inoculations	195,000	4	24	28	2.1	12.3	14.4

* All inoculations were completed by June 15 with the exception of 38,000 second inoculations given between June 15 and September 30. Totals do not include 32,000 commercial inoculations.

The overall rate of paralytic poliomyelitis in the vaccinated group since June 15 has been 3.1 per 100,000 as compared with 11.6 per 100,000 in the non-vaccinated - a reduction of 73%. The paralytic incidence rate was 4.8 for those receiving only one inoculation as compared with 1.5 for two inoculations. On the basis of these rates, there was approximately 60 percent less paralytic polio after one inoculation and 85 percent less after two inoculations than in the non-vaccinated children.

Table 2
California, 1955
Comparative Incidence of Poliomyelitis in Children Ages 5-9
by Vaccination Status and Vaccine Manufacturer
Cases with Onsets June 15 through October 31, 1955
(Table adapted from California Poliomyelitis Release #24)

First Inoculation	Second Inoculation	Estimated Population	Cases			Rates per 100,000		
			P	NP	T	P	NP	T
LILLY AREA								
Not Vaccinated		174,000	22	12	34	12.6	6.9	19.5
Vaccinated								
Lilly	None	39,000	0	5	5	-	12.8	12.8
Lilly	Lilly	30,000	0	5*	5	-	16.7	16.7
Total Lilly		69,000	0	10	10	-	14.5	14.5
CUTTER - PARKE, DAVIS AREA								
Not Vaccinated		712,000	81	79	160	11.4	11.1	22.5
Vaccinated								
Cutter	None	64,000	2	7	9	3.1	10.9	14.1
Cutter	Parke, Davis**	103,000	1	11	12	1.0	10.7	11.7
Total Cutter		167,000	3	18	21	1.8	10.8	12.6
Parke, Davis	None	84,000	7	15	22	8.3	17.9	26.2
Parke, Davis	P, D	62,000	2	6*	8	3.2	9.7	12.9
Cutter	P, D**	103,000	1	11	12	1.0	10.7	11.7
Total Parke, Davis		339,000	10	32	42	2.9	9.4	12.4

*Four non-paralytic cases (3 Lilly and 1 Parke, Davis) had onsets less than 14 days after second inoculation.

**The populations and cases receiving both Cutter and Parke, Davis vaccines are tabulated twice and appear in both the Cutter and Parke, Davis totals.

These average rates do not apply uniformly, however, to all areas of the State and all vaccinated groups. Comparative rates indicating apparent differences among vaccines in the effectiveness of one versus two inoculations are shown for each vaccine in Table 2 but because of the small number of cases observed, these differences are not statistically significant and are considered to be inconclusive. When first and second inoculations are combined, however, as shown in this table, the trend toward differences in vaccine effectiveness is strengthened. For example, in the Northern area (from San Francisco and Contra Costa Counties northward) in which Lilly vaccine was primarily used, no paralytic cases have been reported among the 69,000 children vaccinated in the school program. In the Southern half of

the State, in which Cutter and Parke-Davis vaccines had closely similar distribution, there appears to have been significantly less paralytic polio, after June 15, among the Cutter vaccinated than among the Parke-Davis vaccinated children. In view of the demonstrated presence of live virus in some lots of Cutter vaccine this difference might be expected.

"After two inoculations a sharp reduction in paralytic illness as compared with the non-vaccinated is observed with each of the vaccines. No reduction in non-paralytic illness has been observed in any of the vaccinated groups."

III. Routine Polio Surveillance

The tabular summary lists in detail the polio cases among vaccinated children accepted December 8 through December 14 with revisions of previously listed cases. Table 2 presents these cases and total cases to date. Of the 36 new cases, 8 are paralytic and 28 are non-paralytic. None of the paralytic and seven of the non-paralytic cases had onsets 30 days or less after vaccination.

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

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Figure 1: CURRENT U.S. POLIO INCIDENCE
 COMPARED WITH YEARS 1952-1954

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS

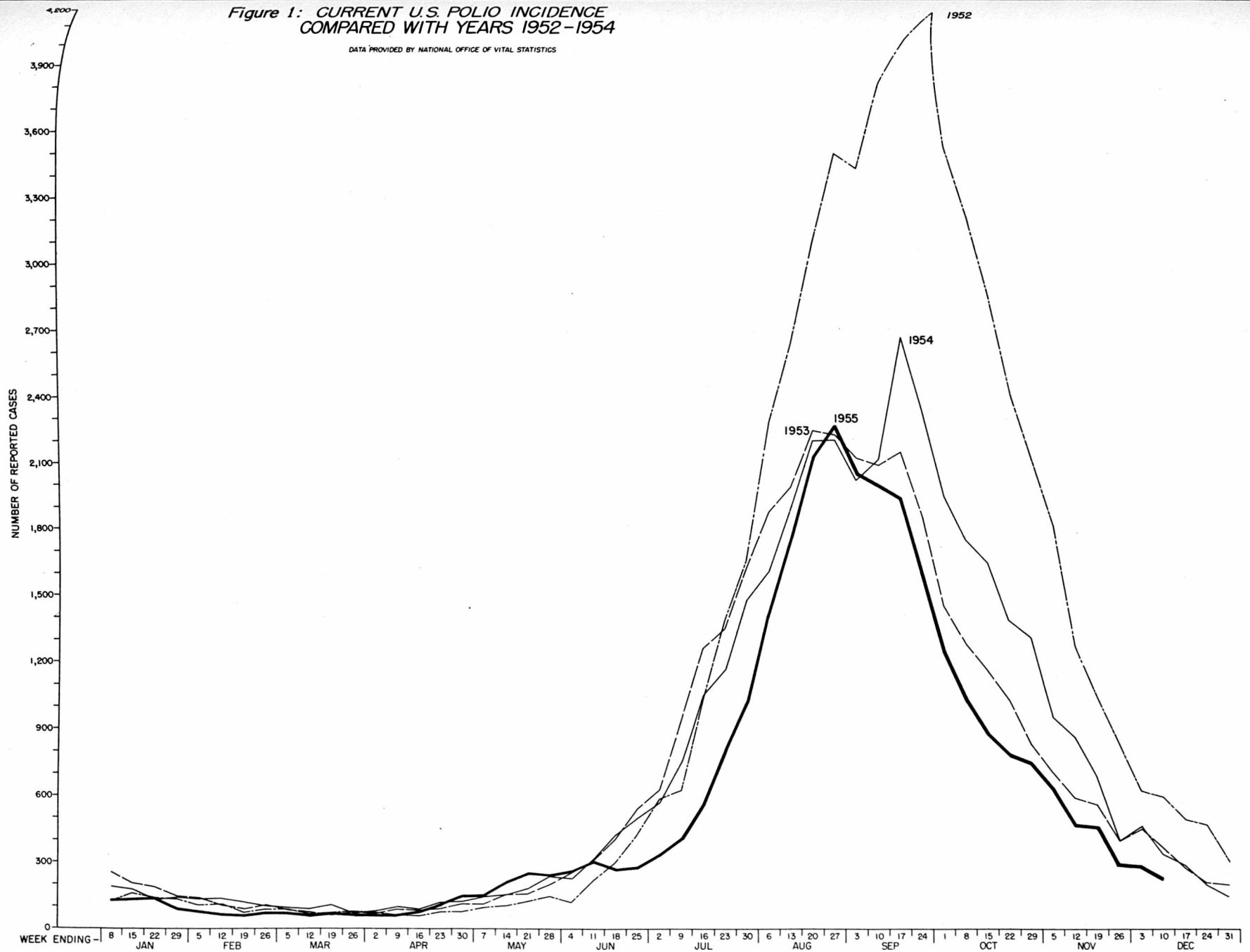


Table 1

TREND OF 1955 POLIOMYELITIS INCIDENCE

State	Cases Reported to NOV5*						6 Week Total	Comparable Totals in:		
	11/5	11/12	11/19	11/26	12/3	12/10		1954	1953	1952
United States	628	469	459	290	283	223	2352	3700	3069	4195
North East										
Maine	7	1	9	3	2	1	23	16	15	24
New Hampshire	1	-	1	-	1	1	4	11	16	7
Vermont	-	2	4	-	3	-	9	6	21	13
Massachusetts	67	43	52	37	17	20	236	113	96	42
Rhode Island	17	12	15	4	8	-	56	7	27	16
Connecticut	14	5	11	6	5	4	45	90	29	28
New York	98	40	38	22	23	12	233	447	348	307
New Jersey	10	5	11	3	8	3	40	156	42	83
Pennsylvania	9	8	15	2	8	5	47	189	110	158
North Central										
Ohio	33	26	7	15	4	3	88	220	205	305
Indiana	4	5	11	12	12	6	50	125	31	127
Illinois	33	15	14	14	10	5	91	173	112	377
Michigan	16	10	7	4	6	3	46	226	180	395
Wisconsin	45	40	25	18	23	10	161	102	68	201
Minnesota	9	6	5	5	3	4	32	32	137	487
Iowa	10	5	8	3	4	1	31	94	45	291
Missouri	6	11	7	1	5	8	38	47	59	141
North Dakota	1	-	-	1	1	-	3	7	15	51
South Dakota	-	-	-	-	-	1	1	26	24	156
Nebraska	6	2	-	2	3	-	13	36	13	182
Kansas	1	5	2	1	1	3	13	49	39	147
South										
Delaware	1	-	1	-	-	-	2	20	3	7
Maryland	11	3	3	3	5	3	28	28	39	322
District of Col.	3	1	-	-	1	1	6	9	5	6
Virginia	3	-	5	3	1	3	15	55	49	52
West Virginia	1	1	4	2	2	2	12	19	29	59
North Carolina	12	16	5	7	6	5	51	41	43	69
South Carolina	9	3	5	-	3	1	21	20	17	16
Georgia	9	2	6	1	5	2	25	41	14	53
Florida	5	2	4	10	2	-	23	172	75	102
Kentucky	7	18	5	2	1	4	37	70	39	127
Tennessee	6	4	2	1	2	1	16	48	34	57
Alabama	2	-	4	-	1	7	14	20	13	26
Mississippi	2	-	4	3	3	1	13	29	15	29
Arkansas	3	-	4	-	1	-	8	34	29	24
Louisiana	3	5	5	2	2	6	23	43	27	41
Oklahoma	8	4	10	1	2	2	27	17	30	68
Texas	33	18	32	20	7	22	132	162	126	106

Table 1 (Continued)

State	Cases Reported to NOVS*						6 Week Total	Comparable Totals in:		
	11/5	11/12	11/19	11/26	12/3	12/10		1954	1953	1952
West										
Montana	8	2	1	2	2	NR	15	27	38	44
Idaho	1	8	4	6	2	2	23	13	24	52
Wyoming	-	1	1	-	-	-	2	29	10	32
Colorado	6	3	4	3	1	1	18	25	8	85
New Mexico	3	3	2	1	3	1	13	17	6	44
Arizona	4	2	3	-	-	2	11	16	19	67
Utah	1	1	2	-	2	1	7	45	33	135
Nevada	4	1	3	-	-	-	8	2	1	36
Washington	26	23	18	19	14	16	116	64	46	172
Oregon	22	20	15	10	15	11	93	72	70	81
California	48	87	65	41	53	39	333	390	595	1035

*National Office of Vital Statistics.

Table 2

Poliomyelitis Cases in Vaccinated Individuals
(F&U Accepted Cases through December 14, 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 12-14	59	18****	17	29	4	5	3	5	9	4
	77		46		9		8		13	
CASES VACCINATED 5-7 OR BEFORE WITH ONSETS 31 DAYS OR MORE AFTER VACCINATION***										
Totals through 12-7 (Revised)	12	17	31	139	15	83	12	17	18	52
New Cases 12-8 through 12-14	1	2	0	3	4	8	0	0	0	0
Totals through 12-14	13	19	31	142	19	91	12	17	18	52
	32		173		110		29		70	
CASES VACCINATED 5-8 OR LATER WITH ONSETS 30 DAYS OR LESS AFTER VACCINATION***										
Totals through 12-7			28	74	24	39*	4	9	4	10
New Cases 12-8 through 12-14			0	5	0	0	0	0	0	1
Totals through 12-14			28	79	24	39*	4	9	4	11
			107		63		13		15	
CASES VACCINATED 5-8 OR LATER WITH ONSETS 31 DAYS OR MORE AFTER VACCINATION***										
Totals through 12-7			20	64	69	245	0	1	1	4
New Cases 12-8 through 12-14			0	3	3	6	0	0	0	1
Totals through 12-14			20	67	72	251	0	1	1	5
			87		323		1		6	

*Including one case that received either Parke-Davis or Lilly vaccine.

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

***Cases in individuals who had two inoculations are listed according to the second inoculation. No inoculations with Cutter vaccine given after May 7.

****Including one new case since 12-7.

PSU CASE NO.	County	Ini- tials	Age	Sex	Date Inoc.	Date 1st Symp.	Date 1st Para.	Site Inoc.	Site 1st Para.	Mfr.	Lot No.	Remarks
NEW (Continued)												
Ill-75	McHenry	WMcC	7	M	April	6-3	None	?	None	PD	028846B? 028863B?	
Ill-76	Tazewell	JAR	7	M	4-21	?	None	?	None	PD	028846? 028850? 028861? 028863?	Spinal fluid, 296 cells.
Ill-77	Jefferson	PWH	6	M	4-15	9-30	None	?	None	PD	"	
Ill-78	Tazewell	JG	7	M	April	9-7	None	?	None	PD	"	Spinal fluid, 53 cells.
Ill-79	Cook	JSH	8	M	April	9-28	?	?	RA, LA	PD	"	
Ill-80	Cook	SS	6	M	5-1	6-23	?	?	RA	PD	"	
Ill-81	Cook	JM	8	F	May	8-1	None	?	None	PD	"	Spinal fluid, 30 cells.
Ill-82	DuPage	MS	7	F	April	8-25	?	?	Legs	PD	"	
Ill-83	Tazewell	JRB	6	M	5-21	8-18	?	?	LL	PD	"	
Ill-84	Williamson	JW	8	M	May	10-2	?	?	Legs	PD	"	
Ill-85	Madison	RK	7	M	4-19	7-18	None	?	None	PD	"	
Ill-86	St. Clair	BT	8	M	April	8-17	None	?	None	PD	"	Spinal fluid, 48 cells.
Ill-87	Winnebago	BW	7	M	May	9-5	?	?	?	PD	"	
Ill-88	Cook	KB	7	F	6-15	7-8	None	?	None	PD	"	Spinal fluid, 163 cells.
Ill-89	Cook	TD	7	M	April	10-13	None	?	None	PD	"	Spinal fluid, 466 cells.
Tex-97	San Patricio	MGB	8	F	April	8-22	None	?	None	L	7078-649343	Spinal fluid, 524 cells.
Tex-98	Gray	JPB	8	M	April	8-27	None	Arm	None	L	7078-649343	Spinal fluid, 153 cells.
Tex-99	Nueces	JC	7	M	May	4-20	11-21	None	RA	L	7078-649343	Spinal fluid, 33 cells.
						7-18			RA	L	7078-649343	
Tex-100	McLennan	JLK	10	M	4-21	9-27	None	Arm	None	L	7078-649343	Spinal fluid, 14 cells.
Wisc-67	Milwaukee	KSC	5	M	11-1	11-28	None	LA	None	L	8098-649344	
REVISIONS												
(Revised Items Underlined)												
Cal-134	Kern	CT	7	M	4-25	10-10	None	LA	None	C	E5721	
					5-25			LA		PD	028847A	
Tex-96	<u>DROPPED--NOT POLIO--Rheumatic Fever--</u>											