REPORT NO. 252
MARCH 23, 1962

COMMUNICABLE DISEASE CENTER

POLIOMYELITIS

SURVEILLANCE

TABLE OF CONTENTS

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

PREFACE

Summarized in this report is information received from State Health Departments, university investigators, virology laboratories and other pertinent sources, domestic and foreign. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

Contributions to the Surveillance Report are most welcome. Please address to: Chief, Poliomyelitis Surveillance Unit, Communicable Disease Center, Atlanta 22, Georgia.

Communicable Disease Center	Clarence A. Smith, M.D., Chief
Epidemiology Branch	Alexander D. Langmuir, M.D., Chief
Statistics Section	Robert E. Serfling, Ph.D., Chief
Surveillance Section	Donald A. Henderson, M.D., Chief
Poliomyelitis Surveillance Unit	Michael Regan, M.D., Chief James A. Bryan, II, M.D. Leo Morris, Statistician

SUMMARY

The incidence of poliomyelitis has remained at expected low winter levels with only 14 cases, 10 paralytic, reported during the four week period ending March 17.

Reports from Arizona and Ohio are presented as well as a further report from Japan.

The 1961 cases reported to the Poliomyelitis Surveillance Unit on individual case forms are presented in Section 3. Also included is routine poliomyelitis and enterovirus surveillance for the initial months of 1962.

1. CURRENT MORBIDITY TRENDS

The number of cases of poliomyelitis reported during the four-week period ending March 17 remained at an expected seasonal low. The greatest number reported during any one week in this period was the six cases reported for the week ending March 3. This number, however, included two delayed case reports from New York State.

Comparative incidence in recent years is shown in Figure 1. The cumulative total of 70 cases, 43 paralytic, remains substantially below the totals reported for previous years as shown below. Twenty-one States have reported cases thus far in 1962.

Polio (Cumulated Weekly) Through 11th Week for Past Five Years

	1962	1961	1960	1959	1958
Paralytic	43	52	135	175	108
Total	70	91	188	247	187

2. REPORTS

A. Arizona

Two cases of paralytic poliomyelitis have been reported this year from Arizona according to Dr. Philip Hotchkiss, Epidemiologist, Arizona State Department of Health; both are from Maricopa County (Phoenix).

The patients were 3 and 4 year old siblings with onset of disease on February 17. Additional details supplied by Dr. S.F. Farnsworth, Director, Maricopa County Health Department, indicate that neither patient had been in the area during the type I community oral polio vaccine program (January 14 and 21). The family was traveling through Arizona at the time of disease onsets. A detailed listing of the cases is presented below:

Age	Race	Sex	Onset Date	Vaccination History		Paralytic Involvement
				Inactivated	Oral	
3	W	M	2-17	None	None	Spinal (leg)
4	W	F	2-17	?1	None	Spinal (arm)

The children were hospitalized on February 22. Their hospital courses were marked by decreasing physical findings, and both were discharged after 10 days with minimal muscle weakness.

Stool specimens from both patients have yielded type I poliovirus.

B. Ohio

The case of paralytic poliomyelitis reported this week is from Mahoning County (Youngstown). According to Dr. Winslow Bashe, Epidemiologist, Ohio State Department of Health, the patient is a $2\frac{1}{2}$ year old girl with disease onset on February 23. She had received two doses of inactivated polio vaccine during 1960, type I oral polio vaccine in October 1961, and type II on February 15, 1962, eight days before disease onset.

Laboratory study has yielded type III poliovirus.

3. 1961 POLIOMYELITIS REPORTED TO PSU

A preliminary total of 1,356 cases of poliomyelitis with onset in 1961 has been submitted to the Poliomyelitis Surveillance Unit on individual case forms. Of these cases, 985 are paralytic, 341 nonparalytic, and only 30 unspecified as to paralytic status. This case total, which is based on preliminary diagnosis, is slightly greater than the provisional total of 1,327 cases reported to the CDC Morbidity and Mortality Unit by telegram at the close of the year. As shown below, a great percentage of the unspecified cases reported to the CDC Morbidity and Mortality Unit

had paralytic poliomyelitis listed as the preliminary diagnosis on the PSU forms.

	Reported to CDC - MMU, 1961 (Preliminary Figures)	1961 PSU Forms Received (Preliminary Diagnosis)
Paralytic	864	985
Nonparalytic	314	341
Unspecified	149	30
TOTAL	1327	1356

Of the 1,356 PSU forms submitted by State Epidemiologists, 60-day final classifications have been received on 1,284 or 96.8 percent. This percentage of 60-day follow-ups approaches the record 97 percent received last year. A summary of the individual case reports submitted to PSU since 1955 is shown below:

SUMMARY OF INDIVIDUAL CASE REPORTS
SUBMITTED TO PSU BY STATES, 1955-1961

YEAR	TOTAL TELEGRAPHIC REPORTS	STATES* PARTICIPATING	PSU REPORTING PRELIMINARY	PSU REPORTING 60 DAY FOLLOW-UP	PERCENT RECEIVED PRELIMINARY	PERCENT RECEIVED 60 DAY FOLLOW-UP
1955	28,985	34	19,213**	-	66.3	-
1956	15,140	47	13,976	-	92.3	-
1957	5,485	48	5,037	-	91.8	-
1958	5,787	49	6,125	4,919	100+	85.0
1959	8,425	50	8,635	7,523	100+	89.3
1960	3,190	51	3,304	3,095	100+	97.0
1961	1,327***	51	1,356	1,284	100+	96.8

* District of Columbia included as a State.
** Cases with onsets from April 12 through October 31, 1955 only.
*** Preliminary figures.

The following table presents the 1961 cases by preliminary diagnosis. These cases will be corrected by verification of diagnosis in the 60-day follow-up reports and will appear in the next PSU Report.

Table 3

1961 POLIOMYELITIS CASES BY PARALYTIC STATUS, AGE GROUP AND VACCINATION HISTORY REPORTED ON PSU FORMS
(Preliminary Diagnosis)

Age Group	Paralytic Doses of Vaccine 0	1	2	3	4+	Unk	TOTAL	Percent
0-4	221	37	32	41	27	6	364	37.0
5-9	75	15	24	54	41	5	214	21.7
10-14	31	6	11	26	32	5	111	11.3
15-19	18	1	7	21	10	0	57	5.8
20-29	80	6	10	16	8	2	122	12.4
30-39	61	6	6	2	4	4	83	8.4
40+	28	1	1	1	1	2	34	3.5
TOTAL	514	72	91	161	123	24	985	100.0
PERCENT DOSES	53.5	7.5	9.5	16.8	12.8	-	100.0	

Age Group	Nonparalytic Doses of Vaccine 0	1	2	3	4+	Unk	TOTAL	Percent
0-4	21	5	10	10	9	3	58	17.0
5-9	21	2	9	24	37	8	101	29.6
10-14	8	5	10	18	21	6	68	19.9
15-19	5	2	3	9	11	1	31	9.1
20-29	18	0	8	17	11	3	57	16.7
30-39	11	0	0	5	2	3	21	6.2
40+	2	0	0	1	2	0	5	1.5
TOTAL	86	14	40	84	93	24	341	100.0
PERCENT DOSES	27.1	4.4	12.6	26.5	29.3	-	100.0	

4. ROUTINE POLIOMYELITIS SURVEILLANCE 1962

A. Cases with Onset Within 30 Days of Vaccination

There have been no under-30-day cases with onset in 1962 reported to the Poliomyelitis Surveillance Unit.

A summary of the 1961 cases with onset within 30 days of receiving poliomyelitis vaccine, either inactivated or oral, will

be presented in a forthcoming PSU Report.

B. Vaccine Distribution

A summary of current and cumulative shipments of poliomyelitis and multiple antigen vaccine through January, 1962, is presented in Table II at the end of this report.

A total of 2.9 million doses of vaccine were released during the month of January. During this month, 1.8 million doses were shipped for domestic use and another 0.2 million doses for export. There were 5.4 million doses (5.0 million cc's) unshipped at the end of the month.

5. ENTEROVIRUS SURVEILLANCE

A. Epidemiologic Report -- Connecticut

Coxsackie B4 was the predominant enterovirus isolated during 1961 at the Yale New-Haven Medical Center. According to Dr. G.D. Hsiung, Research Associate and Director, Virus Diagnostic Laboratory, 46 enterovirus strains were isolated including 30 Coxsackie B4, 12 Coxsackie B5, one Coxsackie B3, and one ECHO 8. Only two polioviruses were isolated, one type I and the other type III. Both patients involved were infants who had received oral poliovaccine within the preceding two months. In neither case was there an indication that illness was related to poliovirus infection.

B. Nationwide Laboratory Reporting

A total of 34 enterovirus isolates from 1962 specimens has been reported to the Poliomyelitis Surveillance Unit. These include only written notifications from State laboratories, epidemiologists, and other sources. Of the 10 poliovirus isolates reported thus far, 8 are type I. Seven Coxsackie group A subtypes have been encountered in Hawaii, and four Coxsackie B5 in New Jersey. No clusters or concentrations have been reported. The isolates are presented in the following table.

ENTEROVIRUS ISOLATES REPORTED DURING 1962

State	Poliovirus I	Poliovirus II	Poliovirus III	ECHO*	Coxsackie	TOTAL	Reported by
California	-	-	-	3	1	4	E. Lennette
Florida	2	-	1	2	2	7	J. Bond
Hawaii	-	-	-	-	7	7	K. Wilcox
Louisiana	1	-	-	-	-	1	G. Hauser
Maryland	-	-	1	-	-	1	C. Perry & C. Silverman
Massachusetts	-	-	-	1	-	1	R. MacCready and J. Daniels
Michigan	1	-	-	2	-	3	G. Agate
New Jersey	-	-	-	1	5	6	W. Dougherty
New York	2	-	-	-	-	2	R. Albrecht
Ohio	1	-	-	-	-	1	C. Croft
Utah	1	-	-	-	-	1	R. Fraser & A. Jenkins
Total	8	-	2	9	15	34	

* Specific types include two ECHO 4 from Florida and one from Massachusetts, two ECHO 14 from Michigan. Other scattered types include ECHO 9, 10, 11 and 20.

** Specific types include seven Coxsackie A (various subtypes) from Hawaii, four Coxsackie B5 from New Jersey. Other scattered types are B2, B3 and B4.

6. FOREIGN REPORTS - JAPAN

Further information on the 1961 poliomyelitis experience in Japan has been received from Dr. Shinichi Matsuda, Chief, Department of Epidemiology, Institute of Public Health, Tokyo.

The Poliomyelitis Surveillance Report No. 251 (February 23, 1962) presented the geographic incidence within Japan by district for 1960 and 1961, the unprecedented sharp decline in incidence of the disease after the 34th week of 1961, and the graph showing the overall incidence for 1961 as compared to previous years.

The vaccination experience during the first 35 weeks included: (1) 1,100,000 children from 6-18 months of age given two doses of inactivated vaccine during the period January to March; (2) 2,300,000

children less than 3 years of age given two doses of inactivated vaccine during the period April to July (compulsory); (3) 13,000,000 children less than 10 years of age given trivalent oral polio vaccine (not compulsory).

More than 2.5 million of the 3.4 million children inoculated with the inactivated vaccine received the oral vaccine as well. This combination of factors affected the experience as shown in the following two graphs which depict the poliomyelitis incidence by age for 1960 and 1961. Both years have been divided into two periods: January through August, the period of vaccination in 1961, and September through December, or the post vaccination period.

POLIOMYELITIS CASES BY AGE, TOKYO, JAPAN: 1960-61

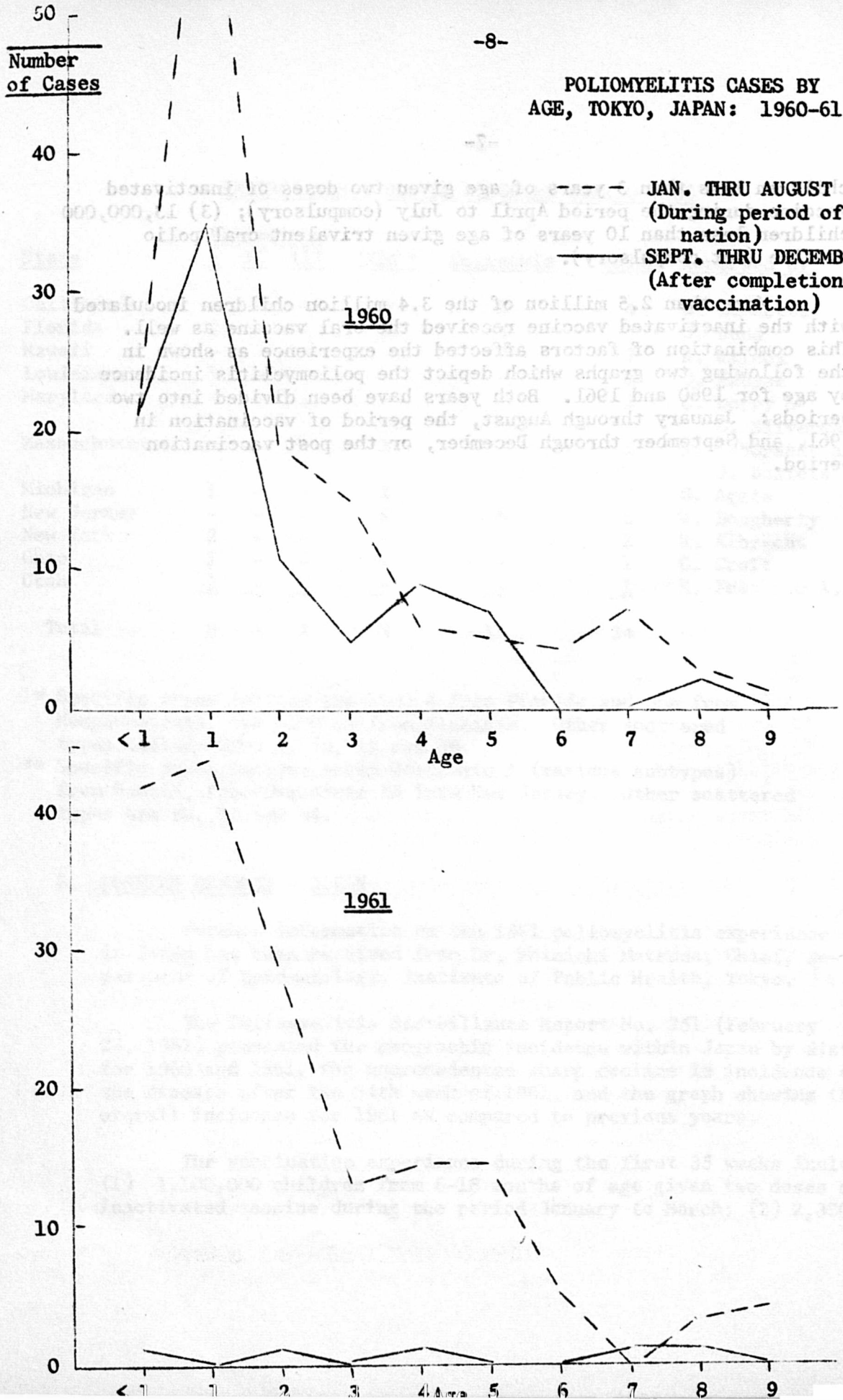

Figure 1 CURRENT U.S. POLIO INCIDENCE
COMPARED WITH YEARS 1957, 1959, and 1961

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS
AND COMMUNICABLE DISEASE CENTER

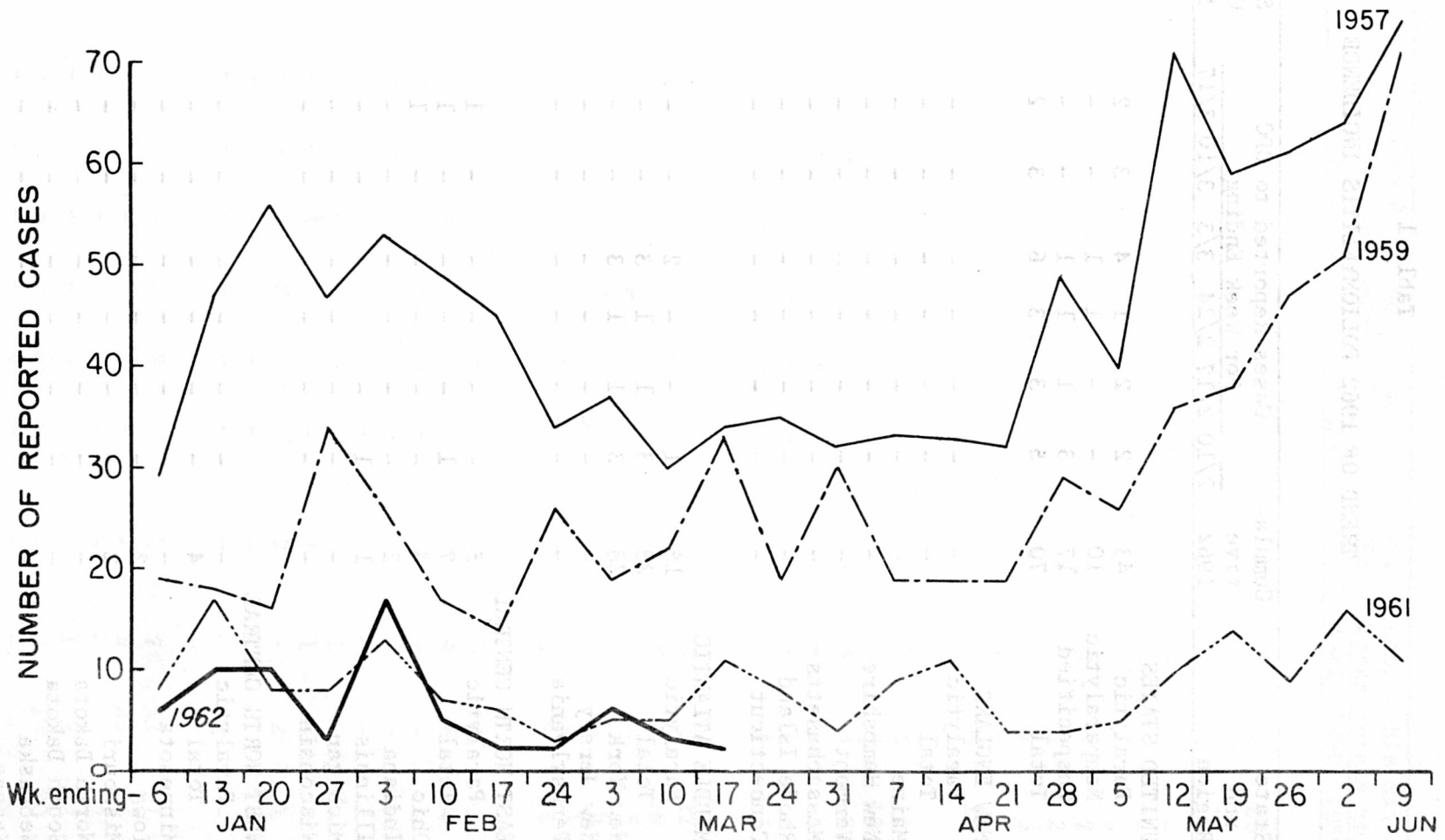

Table 1

TREND OF 1962 POLIOMYELITIS INCIDENCE

State and Region	Cumulative 1962	Cases Reported to CDC For Week Ending 2/10	2/17	2/24	3/3	3/10	3/17	Six Week Total	Comparable Six Weeks Totals in 1961	1960	1959
UNITED STATES											
Paralytic	43	2	2	1	4	3	2	14	23	54	91
Nonparalytic	10	-	-	1	1	-	-	2	10	12	27
Unspecified	17	3	1	1	1	-	-	6	4	6	13
Total	70	5	3	3	6	3	2	22	37	72	131
NEW ENGLAND											
Paralytic	-	-	-	-	-	-	-	-	2	1	-
Total	-	-	-	-	-	-	-	-	2	1	-
Maine	-	-	-	-	-	-	-	-	-	1	-
New Hampshire	-	-	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	-	-	-	-	-
Massachusetts	-	-	-	-	-	-	-	-	1	-	-
Rhode Island	-	-	-	-	-	-	-	-	-	-	-
Connecticut	-	-	-	-	-	-	-	-	1	-	-
MIDDLE ATLANTIC											
Paralytic	15	1	-	-	2	-	-	3	3	7	4
Total	28	3	1	1	3	-	-	8	3	8	8
New York	28	3	1	1	3	-	-	8	1	6	8
New Jersey	-	-	-	-	-	-	-	-	2	2	-
Pennsylvania	-	-	-	-	-	-	-	-	-	-	-
EAST NORTH CENTRAL											
Paralytic	5	-	-	-	-	-	1	1	2	2	5
Total	7	1	-	-	-	-	1	2	4	12	9
Ohio	4	-	-	-	-	-	1	1	1	3	5
Indiana	2	-	-	-	-	-	-	-	1	-	-
Illinois	1	1	-	-	-	-	-	1	-	3	1
Michigan	-	-	-	-	-	-	-	-	1	5	2
Wisconsin	-	-	-	-	-	-	-	-	1	1	1
WEST NORTH CENTRAL											
Paralytic	-	-	-	-	-	-	-	-	1	4	6
Total	4	-	-	-	-	-	-	-	1	6	15
Minnesota	-	-	-	-	-	-	-	-	-	3	-
Iowa	2	-	-	-	-	-	-	-	-	1	-
Missouri	2	-	-	-	-	-	-	-	-	1	11
North Dakota	-	-	-	-	-	-	-	-	-	-	1
South Dakota	-	-	-	-	-	-	-	-	-	1	-
Nebraska	-	-	-	-	-	-	-	-	1	-	2
Kansas	-	-	-	-	-	-	-	-	-	-	1

Table 1 (Continued)

State and Region	Cumulative 1962	Cases Reported to CDC For Week Ending 2/10	2/17	2/24	3/3	3/10	3/17	Six Week Total	Comparable Six Weeks Totals in 1961	1960	1959
SOUTH ATLANTIC											
Paralytic	5	-	-	-	-	1	-	1	2	6	25
Total	5	-	-	-	-	1	-	1	4	7	32
Delaware	-	-	-	-	-	-	-	-	-	-	1
Maryland	-	-	-	-	-	-	-	-	-	1	-
D. C.	-	-	-	-	-	-	-	-	-	-	-
Virginia	1	-	-	-	-	-	-	-	-	-	-
West Virginia	-	-	-	-	-	-	-	-	2	-	7
North Carolina	1	-	-	-	-	-	-	-	1	1	2
South Carolina	1	-	-	-	-	-	-	-	-	1	3
Georgia	1	-	-	-	-	1	-	1	1	-	1
Florida	1	-	-	-	-	-	-	-	-	4	18
EAST SOUTH CENTRAL											
Paralytic	2	-	-	-	-	-	-	-	1	5	7
Total	3	-	-	-	-	-	-	-	5	5	10
Kentucky	-	-	-	-	-	-	-	-	5	3	2
Tennessee	1	-	-	-	-	-	-	-	-	-	3
Alabama	-	-	-	-	-	-	-	-	-	1	-
Mississippi	2	-	-	-	-	-	-	-	-	1	5
WEST SOUTH CENTRAL											
Paralytic	9	1	2	1	-	-	1	5	2	2	22
Total	11	1	2	1	1	-	1	6	5	2	28
Arkansas	-	-	-	-	-	-	-	-	-	-	5
Louisiana	4	1	-	1	-	-	1	3	-	1	6
Oklahoma	-	-	-	-	-	-	-	-	-	1	1
Texas	7	-	2	-	1	-	-	3	5	-	16
MOUNTAIN											
Paralytic	3	-	-	-	2	-	-	2	3	4	1
Total	6	-	-	1	2	-	-	3	4	6	4
Montana	2	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-	-	1	3	-
Wyoming	-	-	-	-	-	-	-	-	-	-	1
Colorado	-	-	-	-	-	-	-	-	1	-	-
New Mexico	1	-	-	1	-	-	-	1	1	-	2
Arizona	2	-	-	-	2	-	-	2	-	2	1
Utah	1	-	-	-	-	-	-	-	1	1	-
Nevada	-	-	-	-	-	-	-	-	-	-	-
PACIFIC											
Paralytic	4	-	-	-	-	2	-	2	7	23	21
Total	6	-	-	-	-	2	-	2	9	25	25
Washington	-	-	-	-	-	-	-	-	-	3	3
Oregon	-	-	-	-	-	-	-	-	1	3	2
California	5	-	-	-	-	1	-	1	7	19	20
Alaska	-	-	-	-	-	-	-	-	-	-	-
Hawaii	1	-	-	-	-	1	-	1	1	-	-
TERRITORY											
Puerto Rico	-	-	-	-	-	-	-	-	-	14	2

Table II

THE NATIONAL FOUNDATION

MONTHLY REPORT OF POLIOMYELITIS VACCINE RELEASED AND SHIPPED*
(1,000 cc's)

January 1962

	SINGLE ANTIGEN		MULTIPLE ANTIGEN		TOTAL	
	This Month	To Date	This Month	To Date	This Month	To Date
CC. Released	2,871	513,436	0	15,586	2,871	529,022
CC. Shipped						
National Foundation	0	14,261	0	0	0	14,261
Public Agencies	635	184,706	0	1,416	635	186,122
Commercial Channels	1,125	187,213	0	13,387	1,125	200,600
Domestic Total	1,760	386,180	0	14,803	1,760	400,983
Export	205	110,776	0	634	205	111,410

CC. UNSHIPPED END OF MONTH**
(1,000 cc's)

	1960	1961	1962
January	19,459	14,755	4,963
February	20,965	15,737	
March	27,062	13,414	
April	27,216	10,887	
May	24,846	6,448	
June	24,620	6,558	
July	23,830	4,233	
August	24,525	4,599	
September	23,091	6,181	
October	19,565	5,543	
November	16,319	5,139	
December	15,669	4,038	

* Includes manufacturers' adjustments of previously reported figures.
** Excludes outdated vaccine removed from inventory.