



POLIOMYELITIS SURVEILLANCE REPORT

FOR ADMINISTRATIVE USE

REPORT NO. 197

May 16, 1960

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SPECIAL NOTE

This report is intended for the information and administrative use of those involved in the investigation and control of poliomyelitis and polio-like diseases. It presents a summary of provisional information reported to CDC from State Health Departments, the National Office of Vital Statistics, Virology Laboratories, Epidemic Intelligence Service Officers, and other pertinent sources. Since much of the information is preliminary in nature, confirmation and final interpretation should be determined in consultation with the original investigators prior to any further use of the material.

SUMMARY

Poliomyelitis incidence, both total and paralytic cases, remains at low levels. Cases are being reported sporadically with no localized concentrations.

Outbreaks are described in the Caribbean, both in Puerto Rico and in Jamaica.

A list of live poliovirus vaccine programs is included along with two new programs and follow-up reports on two field trials previously described.

The final totals of cases reported to PSU in 1959, revised for data received on 60-day follow-up reports, are presented in section 3.

1. CURRENT POLIOMYELITIS MORBIDITY TRENDS

A total of 12 cases, 9 paralytic, was reported to the NOVS during the 18th week of 1960, ending May 7. This is a slight increase over the 8 cases, 6 paralytic, reported during the previous week. However, as seen in Figure I, the incidence of poliomyelitis remains at a seasonal low level.

The 1960 cumulative total has now reached 278 cases, including 198 paralytic. This paralytic total is lower than those for the comparable 18 weeks during the past four years with the exception of 1958.

TOTAL THROUGH 18th WEEK FOR FIVE YEARS

	1960	1959	1958	1957	1956
Paralytic	198	291	160	360	839
Total	278	409	297	719	1509

Furthermore, 6 week totals (13-18th weeks) thus far for 1960 are much lower than any recent year except 1958. The 6 week paralytic total is approximately equal to that year.

TOTAL FOR 13-18 WEEKS FOR PAST 5 YEARS

	1960	1959	1958	1957	1956
Paralytic	48	101	46	93	258
Total	66	143	96	220	490

During the past week cases were reported from only 8 states in 6 of the regions (Table I). Only Texas and California had more than one case. There have been no concentrations of cases within the continental United States. Puerto Rico continues as the only epidemic area thus far in 1960.

2. REPORTS

A. Puerto Rico

New cases of poliomyelitis continue to be reported from the Puerto Rico epidemic. However, there has been a notable shift in the geographic distribution of these cases. Through May 13, 1960, Dr. Manuel Feliberti, Epidemiologist, Bureau of Communicable Disease Control, Puerto Rico Department of Health, reports the occurrence of 102 cases, all but one paralytic, with onset in 1960.

During the last three weeks there have been 38 newly reported paralytic cases. Of these, two-thirds have occurred in the northern half of the island. In contrast to the earlier cases which were concentrated in the southern municipalities in and around Ponce, the new cases have been concentrated in the area in and around the capital city of San Juan. There have now been 15 cases reported from San Juan, primarily in slum areas, and 8 cases in nearby Rio Piedras.

The age distribution and vaccination status of paralytic cases has not changed. As seen in Table 2A there continues to be a predominance of cases among pre-school, unvaccinated children. Of the 101 paralytic cases, 88 per cent have been in the group under 5 years and 64 per cent in the group under 3 years of age. Only 4 cases, or 4.3 per cent have received three or more doses of vaccine, while 83 cases, or 87.4 per cent have received none.

Specimens have been submitted for virus isolation and identification to the Virus Diagnostic Unit, CDC, Chamblee, Georgia, directed by Dr. Andrew Fodor. Of 16 paired sera studied thus far, eleven had had a diagnostic titer rise to poliovirus type I by complement fixation test. Two sets of stool specimens have been received. In the first group, four of six specimens were positive for poliovirus Type I. Of seven specimens in the second group, five have yielded a virus as yet untyped.

Dr. Feliberti stated that vaccination programs are being conducted by all health clinics in the San Juan area with an estimated 2,000 persons vaccinated daily. All children through 10 years of age are being given the vaccine without cost. The histogram, Figure 2A, presents the first 76 cases by date of onset. Dates of onset are not available on the most recent 26 cases at this time. Thus, the week ending March 26 continues as the peak week.

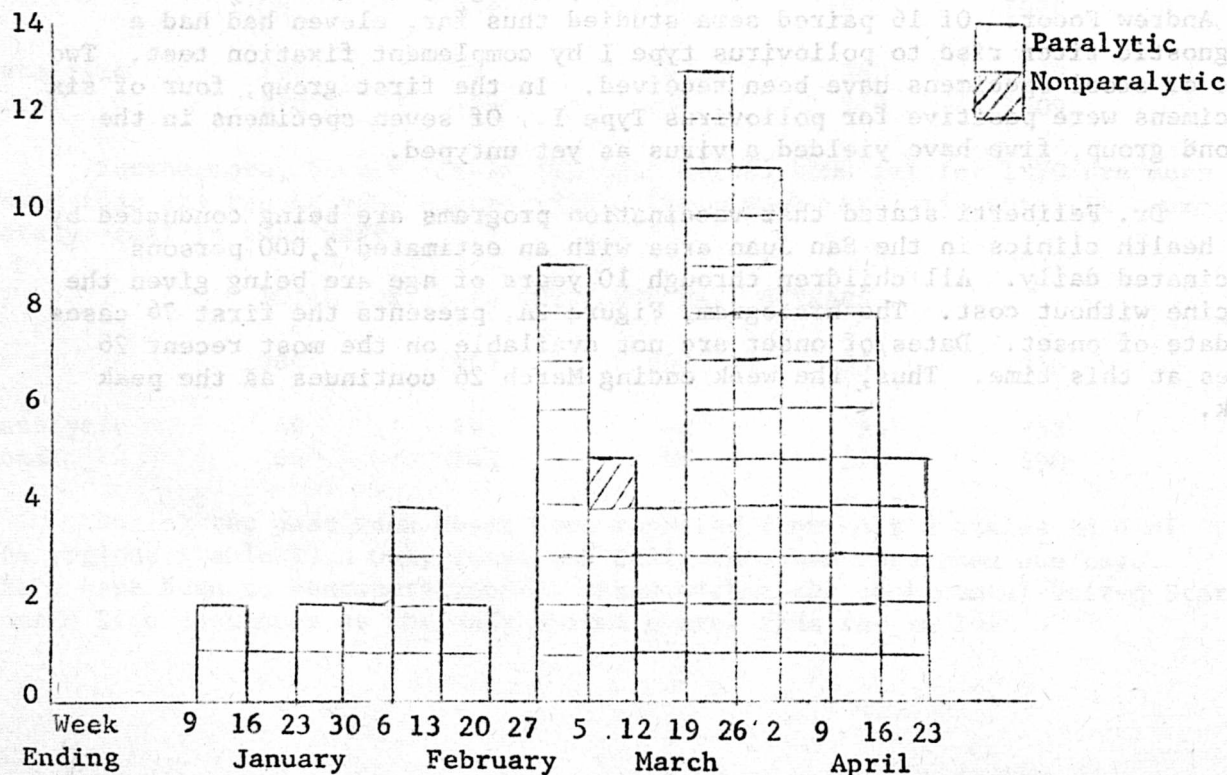
Table 2A

PARALYTIC POLIOMYELITIS BY AGE GROUP
AND VACCINATION STATUS, PUERTO RICO
(through May 13, 1960)

Age	Doses of Vaccine					Total
	0	1	2	3+	Unk	
<1	15				2	17
1	26		1	1	2	30
2	14		2		1	17
3	15	2	1		1	19
4	4			1		5
5-9	6	1	1	1		9
10-14	1			1		2
15-19						
20+	1					1
Unk.	1					1
Total	83	3	5	4	6	101

Figure 2A

Poliomyelitis Cases by Date of Onset
and Paralytic Status, Puerto Rico
(through May 2; case 76)



B. Jamaica, B. W. I.

Reports of an outbreak of poliomyelitis on the island of Jamaica in the British West Indies have been received from the Jamaica Ministry of Health, Dr. P. C. Murray, Principal Medical Officer and Dr. E.D.B. Charles, Epidemiologist. There were six new cases reported during the week ending April 30, 1960, for a cumulative total of 29 reported cases distributed as follows and including 7 fatalities:

<u>Age-</u>	<u>Cases</u>	<u>Deaths</u>
<1	1	0
1-4	17	3
5-9	3	0
10-19	0	0
20-29	3	1
30+	5	3
TOTAL	29	7

The first case was reported during the first week in January. Cases occurred sporadically thereafter, totalling 7 by early April when the incidence began to increase markedly. There were 22 cases during April including 6 during the week ending April 30. Of the cases reported, 25 have occurred within the Corporate Area of Kingston and St. Andrew which accounts for only about 22 per cent of the total island population of approximately 1.6 million.

This outbreak is the largest to occur on the semi-tropical island since the epidemic of 1954 when 759 cases and 94 deaths occurred. The attack rate in 1954 was 50 cases/100,000 with the pre-school population most heavily involved, having a rate of 194/100,000. Since 1954 the yearly incidence has been as follows:

	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>
Total Cases	71	14	395	92	16

3. 1959 POLIOMYELITIS CASES REPORTED TO PSU - FINAL REPORT

During 1959 the total number of preliminary case reports submitted by the State epidemiologists to the Poliomyelitis Surveillance Unit essentially equaled the number of cases reported to the National Office of Vital Statistics. The preliminary PSU report includes age, sex, race, the presence of paralysis, date of onset of symptoms, and vaccination status. In addition, this preliminary report was supplemented by a 60-day follow-up report which included a verification of diagnosis, an estimate of the severity of residual paralysis, and any laboratory findings available. A 60-day follow-up report was received on 87 per cent of the cases with preliminary report. Presented below are the final PSU totals for 1959 compared to the preliminary totals received from NOVS.

	<u>PSU (Final)</u>	<u>NOVS (Preliminary)</u>
Paralytic	5472	5709
Nonparalytic	2983	2165
Unspecified	71	693
Total	8526	8567

Reports of an outbreak of poliomyelitis on the island of Jamaica, the British West Indies have been received from the Jamaica Ministry of Health. The cases reported to the PSU have been corrected for the 60-day follow-up report. When such a follow-up was not submitted (13 per cent of the cases) the preliminary diagnosis of paralytic status has been used.

The 8,455 cases reported to PSU, with paralytic status specified (99 per cent of the total reported) are presented in Table 3 by vaccination history and age group. The paralytic category includes 4,783 cases with residual paralysis at sixty days plus 689 cases with a preliminary diagnosis of paralytic poliomyelitis for which no follow-up data were received. The nonparalytic - aseptic meningitis category includes nonparalytic poliomyelitis and other cases with a diagnosis of aseptic meningitis syndrome plus cases with a preliminary diagnosis of paralytic poliomyelitis but without residual paralysis at sixty days.

(Please refer to Table 3 on page 7.)

The first case was reported during the first week in January. Cases occurred sporadically thereafter, totalling 7 by early April when the incidence began to increase markedly. There were 32 cases during April including 6 during the week ending April 30. Of the cases reported, 25 have occurred within the Corporate Area of Kingston and St. Andrew which accounts for only about 22 per cent of the total island population of approximately 1.6 million.

This outbreak is the largest to occur on the semi-isolated island since the epidemic of 1954 when 729 cases and 94 deaths occurred. The attack rate in 1954 was 50 cases/100,000 with the pre-school population most heavily involved, giving a rate of 194/100,000. Since 1954 the yearly incidence has been as follows:

Year	Total Cases
1955	71
1956	14
1957	35
1958	32
1959	16

3. 1959 POLIOMYELITIS CASES REPORTED TO PSU - FINAL REPORT

During 1959 the total number of preliminary case reports submitted by the State epidemiologists to the Poliomyelitis Surveillance Unit essentially equaled the number of cases reported to the National Office of Vital Statistics. The preliminary PSU report includes age, sex, race, the presence of paralysis, date of onset of symptoms, and vaccination status. In addition, this preliminary report was supplemented by a 60-day follow-up report which included a verification of diagnosis, an estimate of the severity of residual paralysis, and any laboratory findings available. A 60-day follow-up report was received on 87 per cent of the cases with preliminary report. Presented below are the final PSU totals for 1959 compared to the preliminary totals received from NORS.

	PSU (Final)	NORS (Preliminary)
Paralytic	5473	5209
Nonparalytic	3983	3165
Unspecified	71	689

T A B L E 3

Poliomyelitis Cases by Paralytic Status, Vaccination History
And Age Group Reported* in the United States, 1959
 Per cent Distribution by Age and Doses of Vaccine**

Age Group	<u>Paralytic</u> Doses of Vaccine								<u>Nonparalytic:</u> <u>Aseptic Meningitis Syndrome</u> Doses of Vaccine								TOTAL
	0	1	2	3	4+	Unk	Tot	%	0	1	2	3	4+	Unk	Tot	%	
0-4	1508	234	209	267	51	75	2344	43.0	390	98	115	142	37	27	809	27.3	3153
5-9	576	115	134	243	64	33	1165	21.4	245	56	93	230	125	45	794	26.8	1959
10-14	208	23	42	97	26	11	407	7.5	105	33	42	181	67	18	446	15.1	853
15-19	213	21	22	50	9	14	329	6.0	106	20	39	98	27	8	298	10.1	627
20-29	531	36	51	65	14	29	726	13.3	176	22	41	87	28	20	374	12.6	1100
30-39	256	28	16	21	12	15	348	6.4	84	18	21	45	14	10	192	6.5	540
40+	109	3	5	7	1	6	131	2.4	30	3	5	7	2	3	50	1.7	181
Unk	17	1	2	0	1	1	22	-	8	2	1	5	2	2	20	-	42
Total	3418	461	481	750	178	184	5472	100.0	1144	252	357	795	302	133	2983	100.0	8455
% Doses	64.6	8.7	9.1	14.2	3.4	-	100.0		40.1	8.8	12.5	27.9	10.6	-	100.0		

13

* Based upon cases reported to PSU corrected for 60-day follow-up.

** Of those cases specified.

4. LIVE POLIOVIRUS VACCINE PROGRAMS

In PSU Reports Nos. 194, 195, and 196, listings and brief descriptions were published of live poliovirus vaccines currently in progress or planned. Below are listed all reports previously received and a description of two new programs. Progress reports on two of the previously described programs are also included.

A. Programs Previously Reported:

1. Sabin Strains

- a. New Haven, Connecticut (Dr. John R. Paul, Section of Epidemiology and Preventive Medicine, Yale University School of Medicine). --
A field trial using Types I, II, and III in pre-school children.
- b. Houston, Texas (Dr. Joseph L. Melnick, Department of Virology and Epidemiology, Baylor University College of Medicine). --
A study of attenuated virus in young children and family contacts.
- c. Cleveland, Ohio (Dr. Frederick C. Robbins, Department of Pediatrics and Contagious Diseases, Cleveland Metropolitan Hospital). --
A study of Type I attenuated virus in newborn infants.
- d. New Orleans, Louisiana (Dr. John P. Fox, Division of Epidemiology, The Public Health Research Institute of the City of New York and Dr. Henry M. Gelfand, Enterovirus Unit Laboratory Branch, CDC, Chamblee, Georgia). --
All three types of attenuated virus being studies in infants under 30 days of age.
- e. New York City, New York (Dr. Saul Krugman, Department of Pediatrics, New York University College of Medicine) --
A study of both monovalent and trivalent vaccines in newborn infants.
- f. Nashville, Tennessee (Dr. Amos Christie, Department of Pediatrics, Vanderbilt University School of Medicine). --
Monovalent and trivalent vaccines administered to infants of several ages in varying schedules.

g. Foreign Programs (submitted by Dr. Albert B. Sabin, The Children's Hospital Research Foundation, Cincinnati, Ohio)

- 1) Toluca, Mexico (Dr. M. Ramos - Alvarez)--
Mass feeding of children with a polyvalent vaccine in a tropical, poorly-sanitated population.
- 2) British Medical Research Council (Professor C.H. Stuart - Harris, University Department of Medicine, The Royal Hospital, Sheffield 1, England) --
A series of studies using the 3 types of vaccine virus.
- 3) Holland (Professor J. D. Verlinde - Netherlands Institute of Preventive Medicine, Wassenaarseweg 56, Leiden, Holland) --
A study of immunization effectiveness in infants.
- 4) Italy (Professor G. D'Alessandro, Istituto D'Igiene E Microbiologia, Università Di Palermo, Via Divisi 83, Palermo, Italy, and Dr. A. Giovanardi, Istituto Di Igiene, Università Di Milano, Via Francesco Sforza 35, Milano, Italy) --
details not available.
- 5) Yugoslavia (Dr. M. Milanovic - Institute of Hygiene, Bulerar J.N.A. 12, Belgrade, Yugoslavia) --
A community study using three monovalent vaccines in children.
- 6) U.S.S.R. (Professor M.P. Chumakov, Institute for Polio-myelitis Research, Moscow) --
Oral vaccination of the total population 20 years of age and under.
- 7) Hungary --
Feeding of all 3 monovalent vaccines to all children 2 months to 14 years old.
- 8) Czechoslovakia (Dr. V. Skovranek, Ministry of Health, Prague) --
Mass vaccination of all children up to about 15 years of age.

2. Cox Strains

- a. Miami, Florida (Dr. George Erickson, Dade County Health Department, 1350 N.W. 14th Street, Miami, Florida, and Dr. M. Eugene Flipse, University of Miami School of Medicine, Jackson Memorial Hospital, Miami, Florida) --
A large-scale community-wide field trial of oral trivalent vaccine among all residents less than 40 years of age.

b. Minnesota (Dr. R. N. Barr, State of Minnesota, Department of Health, Minneapolis, Minnesota) --

Community-wide field trials of trivalent attenuated oral vaccine in three cities plus several specialized studies.

B. Newly Reported Programs - New York State

In a preliminary communication, Dr. R.J. Korn, Assistant Commissioner for Program Development and Evaluation, New York State Department of Health, has reported on two programs in which live poliovirus vaccines will be used in New York.

A program using Sabin monovalent vaccine strains, undertaken by the Monroe County Health Department, Dr. W. Ames, Director, will begin on Monday, May 16, in Rochester and Monroe County. An attempt will be made to saturate the entire county childhood population, a potential 200,000 children starting at 3 months and extending through the high school age group. Type I vaccine will be given during the week of May 16 to the school population of both city and county and to the pre-school population starting May 23. It is planned that Type III vaccine will be given in mid-June, prior to school closing, and Type II vaccine will be given after schools re-open in September. Vaccine will be given in a number of public clinics rather than by practicing physicians. Blood specimens, from a sample of the population, taken before and after the vaccine feedings will be studied by the New York State Virology Laboratory, under the direction of Dr. J.E. Hotchin. A stool survey taken before the vaccination program and again in mid-August is being carried out by the virology laboratory of Dr. P. Fisset, University of Rochester School of Medicine.

In Tompkins County and Ithaca, New York, a study is planned by the Tompkins County Health Department, Dr. R. Broad, Director, to begin on May 23rd. Trivalent Cox oral poliomyelitis vaccine will be offered to all age groups, a population of approximately 65,000 persons, in an attempt to saturate the county with the vaccine. Paired blood specimens and stool specimens for virologic examination will be studied by the New York State Virology Laboratory of Dr. J. E. Hotchin.

C. Progress Reports

1. Minnesota

A progress report concerning the studies of live poliovirus vaccine (Cox strains) carried out this spring in Minnesota has been received from Dr. H. Bauer, Director of Medical Laboratories, and Dr. D.S. Fleming, Director of Disease Prevention and Control, Minnesota Department of Health. A controlled study of the trivalent oral vaccine has been undertaken in field trials, not only in the original three cities including Minneapolis, St. Paul, and Duluth, but also in a tri-county rural region in Meeker, Kandiyohi, and Swift Counties, and, most recently, in two Minneapolis suburbs, St. Louis Park and Bloomington.

In each area one-half of the participants have received trivalent Cox vaccine, and one-half have received placebo. This is a double blind study, but when it is completed and the code broken, it is planned that the vaccine will be offered to all members of the placebo group. Surveillance has been maintained in all areas in an effort to fully evaluate any possible adverse reactions to the vaccine. The "Thirty Day Reaction Surveillance Program" has included the cooperation of all physicians in reporting any suspect illness, investigation of all such cases by state epidemiologists, and close follow-up of a study population in each city, both clinically, by public health nurses, and virologically by Dr. Bauer's laboratory. There has been no suggestion of any untoward events and no report of vaccine related illness.

In Minneapolis 30,753 persons participated in the program, completed March 31, in two relatively restricted areas, one of high economic status and one of middle and low socio-economic status. The program in St. Paul, including 17042 participants in 3 areas, was completed on April 19. The 3 groups included one each of high and middle incomes, and one low-cost housing project. In Duluth the entire city population was eligible with 21,700 persons participating. The tri-county rural program was organized through the consolidated schools and an estimated 17,000 children up to age 19 took part during the first week in May. An estimated 8,000 persons in Bloomington and 15,000 persons in St. Louis Park have also participated in vaccine trials starting in early May.

2. Cincinnati, Ohio

Progress reports on the live virus vaccine field trial were received from Dr. A. B. Sabin, University of Cincinnati and Dr. R. Ware, Health Officer, Cincinnati Health Department. One significant change has been made from the original plan and this was to extend the area of vaccine trial to Hamilton County, rather than Cincinnati only. Approximately 75,000 doses of Sabin strain Type I vaccine were given between April 24 and May 1, including about 80 per cent of the pre-school children between three months and 5 years of age. Of the vaccine administered, 26,500 doses were given in the Health Department clinics, 10,000 were given in hospital and Milk Fund clinics, and the remainder, or majority of vaccinations, were given by private physicians. The response on collection of specimens was excellent both in the higher and lower socio-economic groups. Surveillance for central nervous system infections is well organized at the hospital level and anal swabs are being taken from pre-school children in the general pediatric clinics.

Under present plans the pre-school population will receive a second round of Type III vaccine during the week of May 22, and the third round of Type II vaccine during the week of June 20. In addition, it is planned to offer vaccine to the school age population, numbering about 107,000 children in the age group 5 years and over. Type I vaccine will be given during the week of May 16, Type III during September and Type II in October, because of the closure of schools for the summer.

5. ROUTINE POLIOMYELITIS SURVEILLANCE - 1960

A. Cases With Onset Within 30 Days of Vaccination.

There has been one additional under 30-day case reported to the Polio Surveillance Unit during April. This makes the second such case reported during 1960. This is a paralytic case in a one year old female from Oahu County, Hawaii. Vaccination was received on 3-28-60 in the right gluteal muscle with onset of paralysis on 3-30-60 in the left leg. The vaccine used was Merke, Sharpe and Dohme lot No. 55640.

B. Vaccine Distribution

A summary of current and cumulative data concerning vaccine released, shipped and inventoried is presented in Table II. Also included are releases and shipments of quadruple antigen.

* * * * *

ERRATA: In PSU Report No. 196, April 25, 1960, in the section on Live Poliovirus Vaccine Programs, page 5, the report of the study underway in Nashville, Tennessee, was erroneously attributed to Dr. Saul Krugman. This section should read: "The following data have been extracted from a report furnished by Dr. Amos Christie, Department of Pediatrics, Vanderbilt University School of Medicine".

(This report was prepared by the Poliomyelitis and Polio-Like Diseases Surveillance Unit, Harold W. Wylie, Jr., M.D., Chief, Joseph Oren, M.D., and Mr. Leo Morris, Statistician, with the assistance of the Statistics Section, CDC.)

Figure 1. CURRENT U.S. POLIO INCIDENCE
compared with years 1956 through 1959

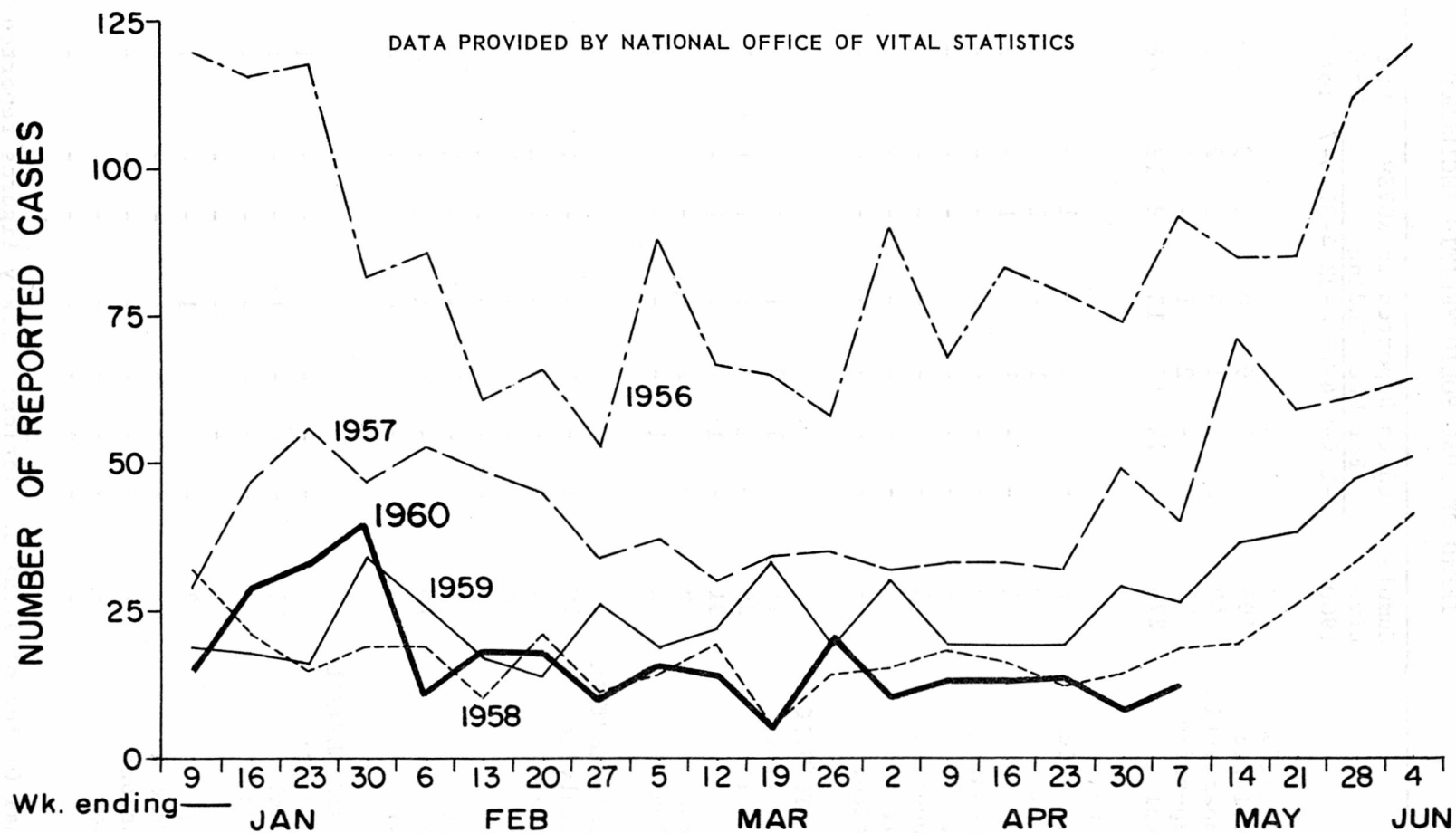


Table I

TREND OF 1960 POLIOMYELITIS INCIDENCE

State and Region	Cumula- tive 1960	Cases Reported to NOVS*						Six Week Total	Comparable Six Weeks Totals in:		
		For Week Ending							1959	1958	1957
		4-2	4-9	4-16	4-23	4-30	5-7				
UNITED STATES											
Paralytic	198	5	11	9	8	6	9	48	101	46	93
Nonparalytic	49	3	1	1	4	2	2	13	24	26	99
Unspecified	31	1	-	2	1	-	1	5	18	24	28
Total	278	9	12	12	13	8	12	66	143	96	220
NEW ENGLAND											
Paralytic	8	-	-	1	-	1	-	2	1	2	-
Total	8	-	-	1	-	1	-	2	2	2	1
Maine	4	-	-	1	-	1	-	2	-	-	-
New Hampshire	-	-	-	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	-	-	-	-	-
Massachusetts	4	-	-	-	-	-	-	-	2	-	-
Rhode Island	-	-	-	-	-	-	-	-	-	-	-
Connecticut	-	-	-	-	-	-	-	-	-	2	1
MIDDLE ATLANTIC											
Paralytic	28	-	1	2	1	1	1	6	7	-	2
Total	39	-	2	2	1	1	1	7	12	3	5
New York	31	-	1	-	1	1	-	3	12	3	4
New Jersey	6	-	-	2	-	-	1	3	-	-	-
Pennsylvania	2	-	1	-	-	-	-	1	-	-	1
EAST NORTH CENTRAL											
Paralytic	10	1	-	2	-	-	1	4	5	2	6
Total	33	2	-	2	1	1	2	8	11	8	23
Ohio	16	1	-	-	-	-	1	2	5	1	4
Indiana	-	-	-	-	-	-	-	-	1	2	8
Illinois	5	-	-	1	-	-	1	2	2	-	2
Michigan	10	1	-	1	1	1	-	4	2	3	5
Wisconsin	2	-	-	-	-	-	-	-	1	2	4
WEST NORTH CENTRAL											
Paralytic	9	-	-	-	1	-	-	1	5	-	1
Total	15	-	-	-	1	-	-	1	8	6	13
Minnesota	8	-	-	-	-	-	-	-	-	-	-
Iowa	4	-	-	-	-	-	-	-	-	2	1
Missouri	2	-	-	-	1	-	-	1	5	-	2
North Dakota	-	-	-	-	-	-	-	-	-	1	1
South Dakota	1	-	-	-	-	-	-	-	1	2	-
Nebraska	-	-	-	-	-	-	-	-	-	-	6
Kansas	-	-	-	-	-	-	-	-	2	1	3

*National Office of Vital Statistics: weekly figures reported by the states as of Wednesday of the specified week; cumulative figures include revisions and corrections.

Table I (Continued)

State and Region	Cumula- tive 1960	Cases Reported to NOVS For Week Ending						Six Week Total	Comparable Six Weeks Totals in:		
		4-2	4-9	4-16	4-23	4-30	5-7		1959	1958	1957
SOUTH ATLANTIC											
Paralytic	37	2	2	-	-	1	1	6	25	8	8
Total	47	2	2	-	1	1	1	7	33	17	26
Delaware	1	-	-	-	-	-	-	-	-	-	-
Maryland	1	-	-	-	-	-	-	-	-	-	-
D. C.	-	-	-	-	-	-	-	-	-	-	-
Virginia	-	-	-	-	-	-	-	-	2	2	7
West Virginia	3	1	-	-	-	-	-	1	3	2	-
North Carolina	15	-	1	-	-	1	1	3	4	-	4
South Carolina	2	-	-	-	-	-	-	-	2	1	1
Georgia	3	-	-	-	1	-	-	1	1	2	6
Florida	22	1	1	-	-	-	-	2	21	10	8
EAST SOUTH CENTRAL											
Paralytic	8	-	-	-	-	-	1	1	6	5	12
Total	9	-	-	-	-	-	1	1	12	10	17
Kentucky	6	-	-	-	-	-	-	-	2	4	2
Tennessee	-	-	-	-	-	-	-	-	6	2	6
Alabama	1	-	-	-	-	-	-	-	-	2	5
Mississippi	2	-	-	-	-	-	1	1	4	2	4
WEST SOUTH CENTRAL											
Paralytic	21	-	6	1	1	2	2	12	25	16	34
Total	30	1	6	1	3	3	3	17	32	22	54
Arkansas	3	-	-	-	-	-	-	-	3	1	3
Louisiana	6	-	-	-	-	1	-	1	6	1	11
Oklahoma	3	-	-	-	-	1	1	2	-	3	-
Texas	18	1	6	1	3	1	2	14	23	17	40
MOUNTAIN											
Paralytic	8	-	1	-	-	-	-	1	3	4	6
Total	14	-	1	2	-	-	-	3	6	8	17
Montana	4	-	-	-	-	-	-	-	-	1	1
Idaho	4	-	-	-	-	-	-	-	-	-	1
Wyoming	1	-	-	1	-	-	-	1	-	1	-
Colorado	1	-	1	-	-	-	-	1	2	5	3
New Mexico	1	-	-	1	-	-	-	1	1	-	2
Arizona	2	-	-	-	-	-	-	-	1	-	8
Utah	1	-	-	-	-	-	-	-	2	-	2
Nevada	-	-	-	-	-	-	-	-	-	1	-
PACIFIC											
Paralytic	69	2	1	3	5	1	3	15	24	9	24
Total	83	4	1	4	6	1	4	20	27	20	64
Alaska	-	-	-	-	-	-	-	-	-	1	1
Washington	6	-	-	-	-	-	-	-	2	5	2
Oregon	12	1	-	1	-	-	-	2	2	-	5
California	63	3	1	3	5	1	4	17	22	12	56
Hawaii	2	-	-	-	1	-	-	1	1	2	-
Puerto Rico	93	1	31	-	17	12	14	75	-	5	-

Table II

POLIOMYELITIS AND QUADRUPLE ANTIGEN VACCINE REPORTS*

(Data provided by the Polio Vaccine Activity, BSS, USPHS through May 6, 1960)

POLIOMYELITIS VACCINE SHIPPED (1000's cc's)

Period	National Foundation	Public Agencies	Commercial Channels	Export	Total
1955	13,541	7,893	6,223	-	27,667
1956	194	45,588	24,784	6,477	77,043
1957	154	50,026	38,062	12,784	101,026
1958	203	18,533	28,319	33,571	80,626
1959	160	26,160	37,553	21,161	85,034
1960					
Jan-March	-	4,298	5,371	2,782	12,451
Week Ending					
4- 8	-	489	691	249	1,429
4-15	-	673	674	465	1,812
4-22	-	151	873	37	1,061
4-29	-	472	754	542	1,768
Total to date	-	6,083	8,363	4,075	18,521
Cumulative					
Total	14,252	154,283	143,304	78,068	389,907

*Excludes amounts of outdated unshipped vaccine

QUADRUPLE ANTIGEN VACCINE SHIPPED (in cc's)

Period	Public Agencies	Commercial Channels	Export	Total
1959	157,251	4,019,577	59,143	4,235,971
1960				
Jan-March	117,915	1,307,923	64,700	1,490,538
Week Ending				
4- 8	8,221	119,448	-	127,669
4-15	5,994	110,628	-	116,622
4-22	21,096	153,315	1,710	176,121
4-29	8,006	129,897	279	138,182
Total to date	161,232	1,821,211	66,689	2,049,132
Cumulative				
Total	318,483	5,840,788	125,832	6,285,103