

## POLIOMYELITIS SURVEILLANCE REPORT

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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

A decrease in paralytic poliomyelitis has been reported to the NOVS this week, although the total number of cases did not change appreciably. The paralytic number of cases is the lowest reported in four weeks, when the initial seasonal upturn of poliomyelitis took place.

A new concentration of cases has been reported in the Jersey City Hoboken area in New Jersey. The new cases are not yet reflected in NOVS figures and involve the Puerto Rican population as did clusters of cases in Chicago and New York City.

The epidemic in Rhode Island and the outbreak in the tri-county area on the North Carolina - South Carolina State line continues to decline.

Narrative reports from Rhode Island, New York City, New Jersey, North Carolina-South Carolina and Puerto Rico are presented.

## 1. CURRENT POLIOMYELITIS MORBIDITY TRENDS

(Note: The preliminary figures of 108 total cases, 78 paralytic, reported to NOVS last week have been revised to 111 total cases, 81 paralytic - SEE TABLE I.)

A total of 110 cases, 67 paralytic, was reported to the National Office of Vital Statistics during the 3lst week of 1960, ending August 6. Although the total number of cases did not differ from the 111 total cases reported last week, there was a 17 percent decrease in paralytic cases. In contrast to the decrease seen this week in paralytic cases, there was a 34 percent increase in paralytic cases during the corresponding week in 1959 when 432 cases, 245 paralytic, were reported to NOVS.

The 1960 cumulative total now stands at 951 cases, of which 673 ( 70.8 percent) are paralytic. Cumulative totals for the past five years are presented below:

|  | 1960 | 1959 | $\underline{1958}$ | $\underline{1957}$ | $\underline{1956}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Paralytic | 673 | 1,600 | 622 | 906 | 2,685 |
| Total | 951 | 2,451 | 1,254 | 2,567 | 5,380 |

New England is the only region with a six-week total higher than the corresponding period in 1959. This is due to the Rhode Island epidemic which is now waning. Increases seen this week in Ohio, Minnesota, North Dakota, North Carolina, and California reflect some delayed reporting in addition to cases widely scattered throughout these States.

## 2. REPORTS

## A. Rhode Island

Dr. R.F. McAteer, Medical Director, Division of Communicable Diseases, Rhode Island Department of Health, reports an additional 3 cases of paralytic poliomyelitis during the past week in the Metropolitan Providence area. This brings the total number of cases reported to the State Health Department through August ll, to 79, of which 64 are paralytic. In addition to these 79 cases, Dr. Joseph Oren, Chief, Poliomyelitis Surveillance Unit, CDC, assisting Dr. McAteer, cites another 15 cases under investigation.

All but 4 of the 64 paralytic cases are under 10 years of age with the pre-school age group accounting for 59 percent of the cases. The paralytic cases are presented below by age group and vaccination status:

| Age <br> Group | Doses of Vaccine |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  | $0 V$ | $1 V$ | $2 V$ | $3 V$ | $4+V$ | Total |
| $0-4$ | 18 | 12 | 7 | 0 | 1 |  |
| $5-9$ | 8 | 6 | 3 | 4 | 1 | 38 |
| $10-19$ | 1 | 0 | 1 | 1 | 0 | 22 |
| $20+$ | 1 | 0 | 0 | 0 | 0 | 3 |
|  |  |  |  |  |  | 1 |
| Total | 28 | 18 | 11 | 5 | 2 | 64 |

Only 5 of the last 20 cases reported since July 25, (including those under investigation) are from within the city limits of Providence. Cases have now appeared in 16 cities or towns, of which those below have had more than one case.

| CITY | POPULATION* |  | CASES | ATTACK RATE/100,000 |
| :--- | :---: | :---: | :---: | :---: |
|  | 206,352 |  | 44 | 21.3 |
| Providence | 80,492 | 21 | 26.1 |  |
| Pawtucket | 68,042 | 11 | 16.2 |  |
| Warwi.ck | 42,857 | 4 | 9.3 |  |
| Riverside | 21,604 | 3 | 13.9 |  |
| N. Kingstown | 20,377 | 2 | 9.8 |  |
| W. Warwick | 20 |  |  |  |

*Preliminary 1960 census figures.

This histogram presented this week includes those cases under investigation, which are mostly nonparalytic. These cases were not included in previous histograms. There has not been a case with onset of symptoms since August 1. This emphasizes the abrupt fall-off in the epidemic curve with only 4 cases having onset since the peak week ending July 23.

B. New York City

Dr. Harold F. Fuerst, Bureau of Preventable Diseases, New York City Department of Health, reports 7 additional cases of poliomyelitis, 4 paralytic, during the past week. This brings the 1960 total in New York City to 28 cases, of which 21 are paralytic. Of 27 cases with known onset, 17 have occurred since the week ending June 25 as follows:

$$
\begin{array}{lllllll}
\text { Week Ending: } & \frac{6-25}{1} & \frac{7-2}{2} & \frac{7-9}{4} & \frac{7-16}{3} & \frac{7-23}{4} & \frac{7-30}{4} \\
\text { No. of Cases: } &
\end{array}
$$

Of the 21 paralytic cases, 11 are unvaccinated, 4 have received two doses of vaccine and the remaining 6 have had three or more doses. As reported last week, the majority of cases are among the Puerto Rican population. There have been numerous Type I poliovirus isolations and one Type II poliovirus isolation this year in New York City.

## C. New Jersey

Dr. William J. Dougherty, Director, Preventable Disease Control, New Jersey State Department of Health reports a sudden cluster of 9 paralytic cases of poliomyelitis in a low socio-economic area within both Jersey City and Hoboken. All of the cases have occurred since July 15, and are under ten years of age. Of the 9 cases, 8 have had no vaccine. The outbreak involves the Puerto Rican population, as did the localized outbreak previously reported in Chicago (see PSU Report No. 204).

An intensive vaccination program has been set up in the lower socioeconomic areas, with 2,047 doses of vaccine given in Hoboken during the last 3 days. Of these, 1,003 - or almost half - were first doses for unimmunized persons.

Through August 1l, there have been 24 paralytic cases in New Jersey. (This includes the 9 aforementioned cases.) Of these 24 cases, 20 are unvaccinated. Type I poliovirus has been isolated.

## D. North Carolina - South Carolina

The following reports have been received from Dr. Fred T. Foard, Director, Division of Epidemiology, North Carolina State Board of Health, and Dr. G.E. McDaniel, Director, Communicable Disease Control, South Carolina State Board of Health.

In the tri-county area comprising Spartanburg and Cherokee Counties, South Carolina and Cleveland County, North Carolina, there have been only 3 new cases of poliomyelitis reported during the past week, bringing the area total to 46 cases, 35 paralytic, since June ll. Of the 35 paralytic cases, only 3 ( 8.6 percent) have received three or more doses of vaccine while 23 are unvaccinated. The majority of cases ( 74 percent) are in the pre-school age group. The cases are distributed as follows:

County
Cherokee, S.C.
Cleveland, N.C.
Spartanburg, S.C.
Total

| Total Cases |  |  | 1960* <br> Census | Attack Rat$(100,000)$ |
| :---: | :---: | :---: | :---: | :---: |
| White | Negro | Total |  |  |
| 12 | 4 | 16 | 35,053 | 45.6 |
| 8 | 4 | 12 | 65,377 | 18.4 |
| 14 | 4 | 18 | 155,274 | 11.6 |
| 34 | 12 | 46 | 255,704 | 18.0 |

*Preliminary figures.
The following histogram depicts the symmetrical nature of the cases by week of onset. The apparent waning of the outbreak is evident after reaching a peak the week ending July 16. No new case has been reported from Cherokee County, which was hardest hit early in the outbreak. As the outbreak diminishes, a few scattered cases have occurred in surrounding counties.


## E. Puerto Rico

Through August 6, 1960, Dr. Manuel Feliberti, Epidemiologist, Bureau of Communicable Disease Control, Puerto Rico Department of Health, reports a total of 358 cases of poliomyelitis with onset in 1960. Of these, 353 are paralytic. This represents an increase of 6 paralytic cases since the last report.

Of 289 cases with known vaccination status, only 16 ( 5.5 percent) have received three doses of Salk vaccine. Conversely, 239 ( 82.7 percent) have had no vaccine. The remaining 34 cases have received one or two doses.

The epidemic has remained one in which the pre-school age group has been hit the hardest. Of the 358 cases reported, 87 percent have been in this age group. The percent distribution of the cases by individual years of age through age 12 are presented in the histogram below. Two cases over 15 years of age are not included.

PER CENT

3. 1960 POLIOMYELITIS CASES REPORTED TO PSU

Through August 8, there have been 540 cases of poliomyelitis with onset in 1960 reported to PSU on individual case forms. Of these cases, 411 are paralytic, 110 nonparalytic and 19 unspecified. These cases are presented below in Table 3:

## TABLE 3

POLIOMYEJITIS CASES BY PARALYTIC STATUS, AGE GROUP AND VACCINATION STATUS REPORTED ON PSU FORMS
(Through August 8, 1960)

| Age | Paralytic |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Doses of Vaccine |  |  |  |  |  |
| Group | 0 | 1 | 2 | 3 | 4. | Unk Tot |
| 0-4 | 110 | 23 | 24 | 23 | 5 | 9194 |
| 5-9 | 35 | 6 | 12 | 19 | 10 | 688 |
| 10-14 | 10 | 2 | 4 | 14 | 3 | 235 |
| 15-19 | 9 | 4 | 3 | 5 | 1 | 123 |
| 20-29 | 24 | 3 | 2 | 5 | 1 | 237 |
| 30-39 | 12 | 2 | 4 | 1 | - | 1.20 |
| 40- | 12 | - | .. | - | - | 214 |
| Unk. | - | - | - | - | - | - - |
| Total | 212 | 40 | 49 | 67 | 20 | 23411 |
| $\%$ DOSES | 54.6 | 10.3 | 12.6 | 17.3 | 5.2 | - 100.0 |


| Age | Nonparalytic |  |  |  |  | Unk | Tot |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ses | Of V | ccine |  |  |  |
| Group | 0 |  | 2 | 3 | $4+$ |  |  |
| 0-4 | 11 | 3 | 4 | 5 | 4 | 3 | 30 |
| 5-9 | 4 | 2 | 5 | 10 | 6 | 3 | 30 |
| 10-14 | 1 | 1 | - | 7 | 3 | - | 12 |
| 15-19 | 1 | - | 1 | 6 | 4 | 1 | 13 |
| 20-29 | 2 | 1 | 2 | 4 | 2 | 5 | 16 |
| 30-39 | 1 | 1 | 1 | 3 | 1 | - | 7 |
| $40+$ | 1 | - | - | - | - | - | 1 |
| Unk. | - | - | - | - | 1 | - | 1 |
| Total | 21 |  | 13 | 35 | 21 | 12 | 110 |
| \% DOSES | 21.4 | 3.2 | 13.3 | 35.7 | 21.4 | - | $\therefore 00.0$ |

A. Cases with Onset Within 30 Days of Vaccination

During the past week, there have been no new cases of poliomyelitis, occurring within 30 days of vaccination, reported to the Poliomyelitis Surveillance Unit. Thus, the total reported for the year 1960 remains at 17. Of these, 11 are paralytic ( 3 correlated) and 6 nonparalytic.

Additional information received on Oregon case T. R. (Deschutes County), which was listed in PSU Report No. 205, indicates site of injection and site of paralysis: right arm; manufacturer and lot number: Wyeth 35303.

## B. Vaccine Distribution

The summary of current and cumulative data concerning poliomyelitis vaccine and quadruple antigen vaccine shipped is presented in Table II. The format of this weekly table has been slightly changed as the vaccine exported has been removed from the weekly total, which now represents the domestic total only. The quadruple antigen vaccine shipped, formerly represented by cc's, is now shown by 1000 cc 's as is the poliomyelitis vaccine shipped.
(This report was prepared by the Poliomyelitis and Poliolike Diseases Surveiliance Unit, Mr. Leo Morris, Statistician and Michael J. Regan, M. D., with the assistance of Statistics Section, CDC.)


Figure I
CURRENT U.S. POLIO INCIDENCE
COMPARED WITH YEARS 1955-1959; APRIL-AUGUST, BY WEEK

PROVISIONAL DATA SUPPLIED BY NATIONAL OFFICE OF VITAL STATISTICS




| State and <br> Region | $\begin{aligned} & \text { Cumula- } \\ & \text { tive } \\ & 1960 \\ & \hline \end{aligned}$ | Cases Reported to NOVS* For Week Bnding |  |  |  |  | SixWeek8-6Tata] |  | $\begin{aligned} & \text { Comparable Six } \\ & \text { Weeks Totals in: } \\ & 19591958.1957 \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| UNITED STATES |  |  |  |  |  |  |  |  |  |  |  |
| Paralytic | 673 | 34 | 39 | 69 | 71 | 81 | 67 | 361 | 1015 | 325 | 320 |
| Nonparalytic | 207 | 8 | 10 | 21 | 29 | 26 | 32 | 126 | 443 | 243 | 776 |
| Unspecified | 71 | - | - | 5 | 13 | 4 | 11 | 33 | 139 | 111 | 200 |
| Total | 951 | 42 | 49 | 95 | 113 | 111 | 110 | 520 | 1597 | 679 | 1296 |
| NEW ENGLAND |  |  |  |  |  |  |  |  |  |  |  |
| Paralytic | 85 | 8 | 10 | 19 | 10 | 9 | 6 | 62 | 27 | 8 | 5 |
| Total | 100 | 10 | 12 | 25 | 14 | 10 | 6 |  | 41 | 10 | 22 |
| Maine | 6 | - | - | - |  |  |  | 7 | - | - | 2 |
| New Hampshire | - | - | - | - | - | - |  |  | - | - | 2 |
| Vermont | - | - | - | - | - | - | - |  | - |  |  |
| Massachusetts | 10 | - | - | - | 1 | 3 | - | 4 | 9 | 4 | 7 |
| Rhode Island | 78 | 10 | 12 | 24 | 11 | 6 | 4 |  | - | 1 |  |
| Connecticut | 6 | - | - | 1 | 2 | 1 | 2 | 6 | 32 | 5 | 11 |


| MIDDLE ATLANTIC |  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $\quad$ Paralytic | 69 | 1 | 3 | 7 | 3 | 14 | 10 | 38 | 57 | 39 | 16 |
| $\quad$ Total | 93 | 1 | 3 | 10 | 4 | 16 | 14 | 48 | 80 | 65 | 70 |
| New York | 64 | 1 | 2 | 3 | 1 | 12 | 11 | 30 | 43 | 28 | 44 |
| New Jersey | 16 | - | - | 2 | 2 | 3 | 3 | 10 | 14 | 28 | 15 |
| Pennsylvania | 13 | - | 1 | 5 | 1 | 1 | - | 8 | 23 | 9 | 11 |

EAST NORTH CENTRAL
Paralytic

| 55 | 3 | 1 | 6 | 8 | 10 | 8 | 36 | 77 | 33 | 44 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 18 | 4 | 1 | 10 | 18 | 13 | 23 | 69 | 164 | 94 | 241 |
| 30 | - | - | - | 3 | - | 6 | 9 | 48 | 19 | 53 |
| 16 | - | - | 1 | 8 | 2 | 4 | 15 | 30 | 11 | 21 |
| 36 | 4 | - | 7 | 1 | 8 | 6 | 26 | 32 | 15 | 59 |
| 29 | - | 1 | 2 | 6 | 2 | 4 | 15 | 45 | 41 | 61 |
| 7 | - | - | - | - | 1 | 3 | 4 | 9 | 8 | 47 |

WEST NORTH CENTRAL

| $\quad$ Paralytic | 32 | 1 | 1 | 2 | 3 | 4 | 8 | 19 | 204 | 7 | 16 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $\quad$ Total | 55 | 1 | 1 | 4 | 4 | 6 | 13 | 29 | 419 | 29 | 87 |
| Minnesota | 22 | 1 | 1 | - | - | 1 | 7 | 10 | 30 | 2 | 18 |
| Iowa | 10 | - | - | 1 | - | 1 | 1 | 3 | 146 | 6 | 12 |
| Missouri | 10 | - | - | 2 | 3 | - | 1 | 6 | 134 | 6 | 27 |
| North Dakota | 3 | - | - | - | - | - | 3 | 3 | - | 3 | 2 |
| South Dakota | 2 | - | - | - | - | 1 | - | 1 | 3 | 4 | 2 |
| Nebraska | 2 | - | - | 1 | 1 | - | - | 2 | 51 | 2 | 14 |
| Kansas | 6 | - | - | - | - | 3 | 1 | 4 | 55 | 6 | 12 |

*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 1 (Continued)

| State | Cumula- Cases Reported to NOVS | Six | Comparable Six |  |
| :--- | :---: | :---: | :---: | :---: |
| and | tive | For Week Ending: | Neek Weeks Totals in: |  |
| Region | 1960 | $7-27-97-167-23$ | $7-30$ | $8-6$ Total |

SOUTH ATLANTIC

| $\quad$ Paralytic | 107 | 2 | 5 | 9 | 13 | 14 | 15 | 58 | 155 | 63 | 58 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $\quad$ Total | 155 | 3 | 5 | 15 | 26 | 24 | 22 | 95 | 204 | 152 | 205 |
| Delaware | - | - | - | - | - | - | - | - | 1 | 1 | 1 |
| Maryland | 2 | - | - | - | - | - | 1 | 1 | 1 | 2 | 2 |
| D. C. | - | - | - | - | - | - | - | - | - | 4 | 7 |
| Virginia | 3 | - | - | - | - | 2 | 1 | 3 | 52 | 24 | 20 |
| West Virginia | 13 | 2 | 1 | 1 | 2 | 3 | - | 9 | 13 | 18 | 7 |
| North Carolina | 33 | 1 | - | - | 4 | 2 | 9 | 16 | 55 | 12 | 83 |
| South Carolina | 61 | - | 2 | 12 | 15 | 14 | 11 | 54 | 14 | 5 | 39 |
| Georgia | 5 | - | - | - | 1 | - | - | 1 | 35 | 6 | 15 |
| Florida | 38 | - | 2 | 2 | 4 | 3 | - | 11 | 33 | 80 | 31 |

EAST SOUTH CENTRAL Paralytic Total

| 33 | 1 | 3 | 6 | 7 | 5 | - | 22 | 150 | 16 | 27 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 37 | 1 | 3 | 6 | 7 | 5 | 1 | 23 | 175 | 56 | 125 |
| 8 | - | - | - | - | - | - | - | 7 | 5 | 26 |
| 5 | - | 1 | 1 | 1 | - | 1 | 4 | 53 | 17 | 55 |
| 8 | - | 1 | 4 | 1 | 1 | - | 7 | 88 | 7 | 10 |
| 16 | 1 | 1 | 1 | 5 | 4 | - | 12 | 27 | 27 | 34 |

## WEST SOUTH CENTTRAL

| $\quad$ Paralytic | 79 | 5 | 3 | 7 | 13 | 12 | 6 | 46 | 225 | 89 | 109 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $\quad$ Total | 140 | 8 | 9 | 12 | 22 | 23 | 13 | 87 | 358 | 157 | 329 |
| Arkansas | 13 | 2 | 1 | 3 | 2 | 2 | 1 | 11 | 84 | 4 | 20 |
| Louisiana | 36 | 3 | 4 | 3 | 4 | 4 | 3 | 21 | 38 | 17 | 45 |
| Oklahoma | 8 | - | - | 1 | 3 | - | 1 | 5 | 56 | 20 | 48 |
| Texas | 83 | 3 | 4 | 5 | 13 | 17 | 8 | 50 | 180 | 116 | 216 |

MOUNTAIN

| $\quad$ Paralytic | 17 | 1 | - | - | 4 | - | - | 5 | 24 | 12 | 7 |
| :--- | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | ---: | ---: | ---: |
| $\quad$ Total | 30 | 1 | - | - | 4 | 1 | 2 | 8 | 41 | 41 | 44 |
| Montana | 12 | - | - | - | 2 | - | - | 2 | 2 | 25 | 1 |
| Idaho | 4 | - | - | - | - | - | - | - | 2 | 3 | 7 |
| Wyoming | 4 | - | - | - | - | 1 | 2 | 3 | 1 | - | 4 |
| Colorado | 4 | 1 | - | - | 2 | - | - | 3 | 5 | 2 | 4 |
| New Mexico | 2 | - | - | - | - | - | - | - | 13 | 7 | 13 |
| Arizona | 3 | - | - | - | - | - | - | - | 16 | 2 | 8 |
| Utah | 1 | - | - | - | - | - | - | - | - | 2 | 5 |
| Nevada | - | - | - | - | - | - | - | - | 2 | - | 2 |

PACIFIC

| $\quad$ Paralytic | 196 | 12 | 13 | 13 | 10 | 13 | 14 | 75 | 96 | 58 | 38 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $\quad$ Total | 223 | 13 | 15 | 13 | 14 | 13 | 16 | 84 | 115 | 75 | 173 |
| Alaska | 2 | - | - | - | - | - | - | - | 7 | - | - |
| Washington | 10 | - | - | - | - | 3 | - | 3 | 18 | 5 | 1 |
| Oregon | 19 | - | - | - | 2 | 1 | - | 3 | 26 | 6 | 12 |
| California | 187 | 13 | 15 | 12 | 12 | 9 | 16 | 77 | 64 | 43 | 160 |
| Hawaii | 5 | - | - | 1 | - | - | - | 1 | - | 21 | - |

Table II
POLIOMYELITIS AND QUADRUPIE ANTIGEN VACCINE REPORTS
(Data provided by the Polio Vaccine Activity, BSS, USPHS, through July 29, 1960)

## POLIOMYELITIS VACCINE SHIPPED ( 1000 's cc ${ }^{\circ}$ S)

| Period | National Foundation | Public Agencies | Commercial Channels | Domestic <br> Total | Export |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1955 | 13,541 | 7,893 | 6,223 | 27,657 | -- |
| 1956 | 194 | 45,588 | 24,784 | 70,566 | 6,477 |
| 1957 | 154 | 50,026 | 38,062 | 88,242 | 12,784 |
| 1958 | 203 | 18,533 | 28,319 | 47,055 | 33,571 |
| 1959 | 160 | 26,160 | 37,553 | 63,873 | 21,161 |
| 1960 |  |  |  |  |  |
| Jan-March | -- | 4,298 | 5,371 | 9,669 | 2,782 |
| April-June | -- | 6,149 | 9,763 | 15,912 | 3,498 |
| Week Ending |  |  |  |  |  |
| 7-8 | -- | 480 | 621 | 1,101 | 95 |
| 7-15 | - | 1,175 | 500 | 1,675 | 106 |
| 7-22 | -- | 245 | 608 | 853 | 70 |
| 1960 Total to Date | -- | 12,347 | 16,863 | 29,210 | 6,551 |
| Cumulative Total | 14,252 | 160,547 | 151,804 | 326,603 | 80,544 |

## QUADRUPLE ANTIGEN VACCINE SHIPPED ( $1000^{\circ}$ S CC'S)



## FIGURE II

Poliomyelitis Vaccine Shipped by Months; 1959-60


$$
8.38001
$$



> 3sjo3 2ij29mG6
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