FOR ADMINISTRATIVE USE

AUGUST 5, 1960

Table of Contents

## SUMMARY

## 1. CURRENT POLIOMYELITIS MORBIDITY TRENDS

2. REPORTS
3. 1960 POLIOMYELITIS CASES REPORTED TO PSU
4. ROUTINE POLIOMYELITIS SURVEILLANCE
A. Under 30-Day Vaccinated Cases
B. Vaccine Distribution
[^0]
## 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

There was a slight increase in paralytic poliomyelitis this week although a decrease was evident in the total number of cases reported.

There is no new concentration of cases in any area of the nation, despite the noticeable increase of cases in New York, Mississippi and Texas. The epidemic in Rhode Island and the outbreak in the tri-county area on the North Carolina-South Carolina State line continue but at lesser intensity. The epidemic in Puerto Rico appears to be waning. Chicago has no new cases of poliomyelitis.

Narrative reports are included from Rhode Island, New York, Illinois, North Carolina-South Carolina, Mississippi, Texas, Puerto Rico, and Jamaica.

## 1. CURRENT POLIOMYELITIS MORBIDITY TRENDS

(Note: The preliminary figures of 105 total cases, 63 paralytic, reported to NOVS last week have been corrected to 113 total cases, 69 paralytic - SEE TABLE I.)

A total of 108 cases, 78 paralytic, was reported to the National Office of Vital Statistics during the 30th week of 1960, ending July 30. This represents a slight decrease in total cases as compared to the 113 reported to NOVS last week although there was a 13 percent increase in paralytic cases. During the corresponding week in 1959, a total of 31.2 cases, 183 paralytic, was reported to NOVS.

The 1960 cumulative total has now reached 839 cases, of which 601 (71.6 percent) are paralytic. The seasonal rise is reflected in the totals for the past six weeks as more than half the cases for 1960 have been reported in this period. These figures are presented below:

Total for 25th through 30th Week for Five Years

|  | $\underline{1960}$ | $\underline{1959}$ | $\underline{1958}$ | $\underline{1957}$ | $\underline{1956}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Paralytic | 317 | 823 | 288 | 300 | 1,139 |
| Total | 449 | 1,304 | 580 | 1,133 | 2,344 |

The Middle Atlantic Region showed the largest upswing in paralytic cases this week due to an increase in New York. In addition to New York, other increases are noted in Illinois, Mississippi, and Texas (See Reports Section 2). Six-week totals are higher than those for the corresponding period in 1959 for the States of Rhode Island, Illinois, South Carolina, and California. A general decrease in cases has been noted in Rhode IsJ.and and California.

## 2. REPORTS

## A. Rhode Island

Dr. R.F. McAteer, Medical Director, Division of Communicable Diseases, Rhode Island Department of Health, reports only 4 new cases of poliomyelitis during the past week in the metropolitan Providence area. Three of these cases are paralytic. This brings the total number of cases reported to the State Health Department through August 3, to 76, of which 61 are paralytic. In addition to these 76 cases, Dr. Joseph Oren, Chief, Poliomyelitis Surveillance Unit, CDC, assisting Dr. McAteer, cites another 16 cases under investigation.

Only 6 ( 9.8 percent) of the 61 paralytic cases have received three or more inoculations of Salk vaccine, while 28 are unvaccinated. The paralytic cases are presented below by age group and immunization status:

| Age | Doses of Vaccine |  |  |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Group | OV | IV | 2V | 3 V | $4+\mathrm{V}$ |  |
| 0-4 | 18 | 11 | 7 | 0 | 1 | 37 |
| 5-9 | 8 | 5 | 3 | 4 | 0 | 20 |
| 10-19 | 1 | 0 | 1 | 1 | 0 | 3 |
| $20+$ | 1 | 0 | 0 | 0 | 0 | 1 |
| Total | 28 | 16 | 11 | 5 | 1 | 61 |

Dr. Charles Hall, EIS Officer, also assisting Dr. McAteer in the epidemic investigation, reports the following attack rates among 65 families with at least one case of poliomyelitis per family (including those cases under investigation). There are 390 family members within the 65 families which gives an above average mean of 6 persons per family. Within this group, there are 66 primary cases and 8 secondary cases giving attack rates of 16.9 per 100 and 2.1 per 100 respectively.

The four cases reported this week have all had onset of symptoms since July 14. The 76 reported cases are presented below by week of onset:

Number of Cases

## B. New York

A sharp increase of 12 cases of poliomyelitis was reported to the National Office of Vital Statistics from New York for the week ending July 30. During the previous three weeks, there were 2, 3 and 1 case reported respectively. Discussion with Dr. Robert Albrecht, Director, Epidemiology and Communicable Disease Control, reveals no concentration of cases in New York State, exclusive of New York City.

Dr. Harold F. Fuerst, Director, Bureau of Preventable Diseases, New York City Department of Health, reports that 11 of the 18 cases reported in July are from New York City and have had onset throughout the month with little geographic concentration. New York City has now had reports of 21 cases, 17 paralytic, in 1960 which is double the 10 cases reported at this time last year. Of these 21 cases, 13 involve Puerto Ricans with an additional two other cases coming to New York from Puerto Rico after onset of symptoms. The following age distribution of the 1960 cases has been noted with an unusual predominance among the 4 and 5 year olds.

## Age Group

0-4
5-9
10-19
$20+$

## Number of Cases

8 (5 are 4 years of age)
7 (5 are 5 years of age)
1
5
C. Illinois

Dr. Norman J. Rose, Chief, Bureau of Epidemiology, Illinois Department of Health, reports 37 cases of poliomyelitis, 27 paralytic, through August 4, 1960. There continues to be no concentration of cases throughout the State, excluding Chicago, during 1960.

In Chicago, Dr. Samuel L. Andelman, Commissioner of Health, Chicago Board of Health, reports no new cases of poliomyelitis during the past week. Therefore, the total number of cases with onset since the last week in May remains at 17, of which 15 are paralytic (SEE PSU Report No. 204). Thus, this previous concentration of cases among the Puerto Rican population has remained localized. The extensive vaccination program aimed at the Spanish-speaking areas within the city has continued.

## D. South Carolina - North Carolina

The following reports have been received from Dr. G. E. McDaniel, Director, Communicable Disease Control, South Carolina Board of Health, and Dr. Jacob Koomen, Chief, Communicable Diseases, North Carolina State Board of Health.

In the tri-county area of Cherokee and Spartanburg Counties in South Carolina and Cleveland County in North Carolina, there has been a total of 43 cases of poliomyelitis, 33 paralytic, since the week ending June 1l. This represents and increase of 7 cases, 6 paralytic, in this area during the past week.

Of the 33 paralytic cases, only 3 ( 9.1 percent) have received 3 or more doses of Salk vaccine while 22 are unvaccinated. The majority of cases ( 73 percent) are in the pre-school age group. The paralytic cases are presented below by age group and vaccination status:

| Age | Doses of Vaccine |  |  |  |  | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Group | 0 | 1 | 2 | 3 | $4+$ |  |
| 0-4 | 17 | 4 | 2 | 1 | 0 | 24 |
| 5-9 | 4 | 0 | 1 | 1 | 1 | 7 |
| 10-14 | 1 | 1 | 0 | 0 | 0 | 2 |
| $15+$ | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 22 | 5 | 3 | 2 | 1 | 33 |

Of the 10 nonparalytic cases, 7 are unvaccinated and 1 has received 3 doses of vaccine. The cases are distributed as follows:

| County | Total Cases |  |  | 1960* <br> Census | $\begin{gathered} \text { Attack Rate } \\ (100,000) \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | White | Negro | Total |  |  |
| Cherokee, S. C. | 12 | 4 | 16 | 35,053 | 45.6 |
| Cleveland, N.C. | 6 | 4 | 10 | 65,377 | 15.3 |
| Spartanburg, S. | 14 | 3 | 17 | 155,274 | 10.9 |
| Total | 32 | 11 | 43 | 255,704 | 16.8 |

* Preliminary figures.

The cases are presented by paralytic status on the following page by week of onset.
-6-

POLIOMYELITIS BY WEEK OF ONSET: TRI-COUNTY AREA (Cherokee, S.C., Cleveland, N.G., Spartanburg, S.C.) - 1960


## E, MEss:3sippi

Dr. Durward L. Blakey, Director, Preventable Disease Control, Mississippi State Board of Health, states that the 9 paralytic cases of poliomyelitis reported to NOVS during the past two weeks are scattered throughout the State with no county having more than 1 case.

An outbreak of aseptic meningitis has been noted in Coahoma County with 13 cases occurring earlier in July. The illness was mild, lasting about 5 to 7 days. Symptoms consisted of fever up to $104^{\circ} \mathrm{F}$, headache, nausea, vomiting, and stiff neck. About one-third of the cases had a rash and multiple cases in families were observed. There was no paralysis or muscle weakness noted.

## F. Texas

Dr. Van C. Tipton, State Epidemiologist, Texas State Department of Health, reports that the recent increase of poliomyelitis in Texas is scattered throughout the State. There have been 30 cases, 19 paralytic, reported to NOVS during the past two weeks.

Only two counties have reported as much as 3 cases during this time. Brazoria County in Eastern Texas reported 3 paralytic cases the week ending July 23, with no additional cases during the past week. In extreme West Texas, the small town of Kermit (estimated population 8,000 ) in Winkler County has reported the occurrence of 3 paralytic cases with 1 death during the week ending July 30 . There have been no additional cases in Kermit through August 3.

The 75 cases reported thus far in 1960 is well below the 256 cases reported at this time last year in Texas.
G. Puerto Rico

Dr. Manuel Feliberti, Epidemiologist, Bureau of Communicable Disease Control, Puerto Rico Department of Health, reports that the five-month old epidemic in Puerto Rico appears to be waning. Through August 3, 1960, there have been 352 cases of poliomyelitis with onset in 1960. Of these, 347 are paralytic.

Dr. Feliberti reports the occurrence of only 3 new paralytic cases this week, all from the southern part of the island. No new cases have appeared in the northern municipalities. The municipality of Orocovis, near Ponce, has accounted for the only recent cluster with 9 cases, 4 in the post-polio phase, being reported this month.

## H. JAMATCA, B.W.I.

The previously reported outbreak of poliomyelitis (See PSU Report 197) on the island of Jamaica in the British West Indies, seems to be about ended within the corporate area of Kingston and St. Andrew, but continues in the rural parishes according to communications received from Dr. E. D. B. Charles, Epidemiologist, Jamaica Ministry of Health. Of the last 16 cases reported, 15 have been from the rural parishes.

Through the week ending July 23, there has been a total of 96 cases, 52 from the corporate area, reported in 1960. The aforementioned geographic shift in distribution of cases is noted as 86 percent of the cases prior to May were from the corporate area and only 40 percent from the corporate area since May 1. The cases are still predominately in the pre-school age group where 74 percent of the cases have occurred. In a recent inmunization program, 11,010 first doses. of vaccine have been given to children up to 3 years of age and 3,375 boosters given to those immunized in the 1957-8 campaign. 3. 1960 POLIOMYELITIS CASES REPORTED TO PSU

Through August 1, there have been 480 cases of poliomyelitis with onset in 1960 reported to PSU on individual case forms. Of these cases, 365 or 76 percent are paralytic. Thus, 61 percent of the paralytic cases of poliomyelitis reported to the NOVS through July 30 , have been reported to PSU. During the corresponding period in 1959, PSU forms had been received on 893 paralytic cases which was 68 percent of those reported to NOVS.

The 1960 cases are presented below by paralytic status, age group and vaccination history.

POLIOMYELITIS CASES BY PARALYTIC STAIUS, AGE GRCUP AND VACCINATION STATUS REPORTED ON PSU FORMS (Through August 1, 1960)

| Age | Paralytic |  |  |  |  |  |  | $\frac{\text { Nonparalytic }}{\text { Doses of Vacc }}$ |  |  |  |  |  | Unspeci- |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Group | 0 | 1 | 2 | 3 | $4+$ | Unk | Tot |  | 12 |  | $4+$ |  |  | Tot | TOTAL |
| 0-4 | 95 | 19 | 21 | 20 | 5 | 8 | 168 | 10 | 34 | 6 | 4 | 2 | 29 | 4 | 201 |
| 5-9 | 34 | 6 | 10 | 19 | 9 | 4 | 82 | 3 | 24 | 9 | 4 | 3 | 25 | 5 | 112 |
| 10-14 | 9 | 2 | 3 | 11 | 3 | 2 | 30 | -1 | 1 | 7 | 3 | - | 11 | 4 | 45 |
| 15-19 | 8 | 4 | 3 | 5 | - | 1 | 21 | 1 | -1 | 4 | 4 | 1 | 11 | 2 | 34 |
| 20-29 | 21. | 2 | 2 | 5 | 1 | 2 | 33 | 21 | 12 | 4 |  | 5 | 15 | 1 | 49 |
| 30-39 | 11 | 2 | 4 | 1 | - | 1 | 19 | 11 | 11 | 2 | 1 | - | 6 | - | 25 |
| 40 | 10 | - | - | - | - | 2 | 12 | 1 | - - | - | - | - | 1 | - | 13 |
| Unk. | - | - | - | - | - | - | - | - | - - | - | 1 | - | 1 | - | 1 |
| Total | 88 | 35 | 43 | 61 | 18 | 20 | 365 | 188 | 812 | 32 | 18 | 11 | 99 | 16 | 480 |

4. ROUTINE POLIOMYELITIS SURVEILLANCE - 1960
A. Cases with Onset Within 30 Days of Vaccination

During the past week, the PSU was notified of 4 cases of poliomyelitis, 3 paralytic, with onset within 30 days of vaccination. The 1960 total now stands at 17. Of these, 11 are paralytic ( 2 correlated) and 6 nonparalytic. At this time last year, the PSU had information on 53 cases of poliomyelitis, 42 paralytic, with onset within 30 days of vaccination.

The paralytic cases reported this week are presented in Table II. The two cases from South Carolina are from the area within that State with highly active immunization programs in progress due to a current outbreak of poliomyelitis. (See Section 2-REPORTS).
B. Vaccine Distribution

The summary of current and cumulative data concerning vaccine released, shipped, and inventoried is presented in Table III. Also included are releases and shipments of quadruple antigen.
(This report was prepared by Mr. Leo Morris, Statistician, Poliomyelitis and Polio-like Diseases Surveillance Unit, with the assistance of Statistics Section, CDC.)

$$
\begin{aligned}
& \therefore 1 .+1
\end{aligned}
$$

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




Table 1
TREND OF 1960 POLIOMYELITIS INCIDENCE

| State and Region | $\begin{aligned} & \hline \text { Cumula- } \\ & \text { tive } \\ & 1960 \\ & \hline \end{aligned}$ | Cases Reported to NOVS* For Week Ending |  |  |  |  |  | Six <br> Week <br> Total | Comparable Six Weeks Totals in: |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 6-2 |  | 7-9 | 7-16 | 7-23 | 7-30 |  | 1959 | 1958 | 1957 |
| UNITED STATES |  |  |  |  |  |  |  |  |  |  |  |
| Paralytic | 601 | 28 | 34 | 39 | 69 | 69 | 78 | 317 | 823 | 288 | 300 |
| Nonparalytic | 175 | 12 | 9 | 10 | 21 | 28 | 26 | 106 | 355 | 196 | 675 |
| Unspecified | 63 | 1 | - | - | 5 | 16 | 4 | 26 | 126 | 96 | 158 |
| Total | 839 | 41 | 43 | 49 | 95 | 113 | 108 | 449 | 1,304 | 580 | 1,133 |
| NEW ENGLAND |  |  |  |  |  |  |  |  |  |  |  |
| Paralytic | 79 | 3 | 8 | 10 | 19 | 10 | 9 | 59 | 16 | 6 | 2 |
| Total | 94 | 3 | 10 | 12 | 25 | 14 | 10 | 74 | 25 | 7 | 16 |
| Maine | 6 | 1 | - | - | - | - | - | 1 | - | - | 1 |
| New Hampshire | - | - | - | - | - | - | - | - | - | - | 1 |
| Vermont | - | - | - | - | - | - | - | - | - | - | - |
| Massachusetts | 10 | - | - | - | - | 1 | 3 | 4 | 7 | 3 | 5 |
| Rhode Island | 74 | 2 | 10 | 12 | 24 | 11 | 6 | 65 | - | 1 | - |
| Connecticut | 4 | - | - | - | 1 | 2 | 1 | 4 | 18 | 3 | 9 |
| MIDDLE ATLANTIC |  |  |  |  |  |  |  |  |  |  |  |
| Paralytic | 59 | 2 | 1 | 3 | 7 | 3 | 14 | 30 | 41 | 28 | 14 |
| Total | 79 | 3 | 1 | 3 | 10 | 4 | 16 | 37 | 60 | 45 | 47 |
| New York | 53 | 1 | 1 | 2 | 3 | 1 | 12 | 20 | 35 | 19 | 33 |
| New Jersey | 13 | - | - | - | 2 | 2 | 3 | 7 | 12 | 21 | 10 |
| Pennsylvania | 13 | 2 | - | 1 | 5 | 1 | 1 | 10 | 13 | 5 | 4 |
| EAST NORTH CENTRAL |  |  |  |  |  |  |  |  |  |  |  |
| Paralytic | 45 | 1 | 3 | 1 | 6 | 6 | 10 | 27 | 60 | 18 | 29 |
| Total | 96 | 4 | 5 | 1 | 10 | 18 | 13 | 51 | 126 | 52 | 158 |
| Ohio | 24 | 1 | - | - | - | 3 | - | 4 | 35 | 14 | 34 |
| Indiana | 13 | 1 | 1 | - | 1 | 8 | 2 | 13 | 27 | 6 | 14 |
| Illinois | 30 | 1 | 4 | - | 7 | 1 | 8 | 21 | 20 | 11 | 41 |
| Michigan | 25 | 1 | - | 1 | 2 | 6 | 2 | 12 | 40 | 15 | 34 |
| Wisconsin | 4 | - | - | - | - | - | 1 | 1 | 4 | 6 | 35 |
| WEST NORTH CENTRAL |  |  |  |  |  |  |  |  |  |  |  |
| Paralytic | 24 | 1 | 1 | 1 | 2 | 3 | 4 | 12 | 174 | 1 | 13 |
| Total | 42 | 5 | 1 | 1 | 4 | 4 | 6 | 21 | 358 | 19 | 72 |
| Minnesota | 15 | 2 | 1 | 1 | - | - | 1 | 5 | 22 | 2 | 11 |
| Iowa | 9 | 3 | - | - | 1 | - | 1 | 5 | 131 | 2 | 12 |
| Missouri | 9 | - | - | - | 2 | 3 | - | 5 | 111 | 3 | 24 |
| North Dakota | - | - | - | - | - | - | - | - | - | - | - |
| South Dakota | 2 | - | - | - | - | - | 1 | 1 | 1 | 3 | 2 |
| Nebraska | 2 | - | - | - | 1 | 1 | - | 2 | 47 | 2 | 14 |
| Kansas | 5 | - | - | - | - | - | 3 | 3 | 46 | 7 | 9 |

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

| State | Cumula- Cases Reported to NOVS |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| and | tive | For Week Ending: | Comparable Six |  |
| Region | 1960 | $6-25$ | $7-2$ | $7-9$ |

SOUTH ATLANTIC
Paralytic 92

Total 133
Delaware
Maryland D. C.

Virginia
West Virginia
North Carolina
South Carolina
Georgia
Florida
EAST SOUTH CENTRAL
Paralytic
33
Total
36

## Tennessee

Alabama
Mississippi
WEST SOUTH CENTRAL
$\quad$ Paralytic
$\quad$ Total
Arkansas
Louisiana
Oklahoma
Texas

MOUNTAIN
Paralytic
Total
Montana
Idaho
Colorado
New Mexico
Arizona
Ucah
Nevada
PACIFIC
$\quad$ Paralytic
Total
Alaska
Washington
Oregon
California
Hawaii

## Table II

PARALYTIC POLIOMYELITIS OCCURRING WITHIN 30 DAYS OF LAST VACCINE INOCULATION (Cases Reported to PSU from July 26 through August 1, 1960)

| State | County | $\begin{aligned} & \text { Ini- } \\ & \text { tials } \end{aligned}$ | Age | Sex | Date <br> Inoc. | Mfr. | Lot No. | Date First Symp. | Site Inoc. | Site <br> First <br> Para. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Oregon | Deschutes | T. R . | 8 | M. | 7-15-60 | Unk. | Unk. | 7-18-60 | Unk. | Unk. |
| South Carol | Cherokee ina | R. C. | 4 | M. | 7-15-60 | Wyeth | Unk. | 7-17-60 | Left arm | Unk. |
| South Carol | $\begin{aligned} & \text { Spartan- } \\ & \text { ina burg } \end{aligned}$ | R. M. | 3 | M. | 7-18-60 | Wyeth | Unk. | 7-19-60 | Left arm | Unk. |

Table III

POLIOMYELITIS AND QUADRUPLE ANTIGEN VACCINE REPORTS*
(Data provided by the Polio Vaccine Activity, BSS, USPHS, through July 22, 1960)

> POLIOMYELITIS VACCINE SHIPPED (1000's cc's)

| Period | National Foundation | Public Agencies | Commercial Channels | Export | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1955 | 13,541 | 7,893 | 6,223 | -- | 27,657 |
| 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 |  |  |  | 21,161 | 85,034 |
| Jan-March | -- | 4,298 | 5,371 | 2,782 | 12,451 |
| April-June | -- | 6,149 | 9,763 | 3,498 | 19,410 |
| Week Ending |  |  |  |  |  |
| 7-8 | -- | 480 | 621 | 95 | 1,196 |
| 7-15 | -- | 1,175 | 500 | 106 | 1,781 |
| Total to Date | -- | 12,102 | 16,255 | 6,481 | 34,838 |
| Cumulative |  |  |  |  |  |
| Total | 14,252 | 160,302 | 151,196 | 80,474 | 406,224 |

* Excludes amounts of outdated unshipped vaccine.

QUADRUPLE ANTIGEN VACCINE SHIPPED (in cc's)

| Period | Public Agencies | Commercial Channels | Export | Total |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 1959 \\ & 1960 \end{aligned}$ | 157,251 | 4,019,577 | 59,143 | 4,235,971 |
| Jan-March | 117,915 | 1,307,923 | 64,700 | 1,490,538 |
| April-June | 165,415 | 1,927,955 | 62,014 | 2,155,384 |
| Week Ending |  |  |  |  |
| 7-8 | 14,256 | 147,766 | 1,574 | 163,596 |
| 7-15 | 9,445 | 123,516 | 13,461 | 146,422 |
| Total to Date | 307,031 | 3,507,160 | 141,749 | 3,955,940 |
| Cumulative |  |  |  |  |
| Total | 464,282 | 7,526,737 | 260,892 | 8,191,911 |




$$
44, b 3
$$

s8, 202




[^0]:    HEALTH.S. DEPARTMENT OF PU, EDUCATION, AND WELFARE
    PUBLIC HEALTH SERVICE
    COMMUNICABLE DISEASE CENTER
    Clarence A. Smith, Chief
    Epidemiology Branch
    Alexander D. Langmuir, Chief
    Surveillance Section
    E. Russell Alexander, Chief

    Atlanta 22, Georgia

