

POLIOMYELITIS SURVEILLANCE REPORT

NO. 121

AUGUST 8, 1957

U.S. Department of Health, Education and Welfare
 Public Health Service Bureau of State Services
 Communicable Disease Center
 Poliomyelitis Surveillance Unit
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SPECIAL NOTE

The information in this report represents a factual summary of preliminary data reported to the Poliomyelitis Surveillance Unit from State Health Departments, Epidemic Intelligence Service Officers, participating laboratories and other pertinent sources. It is understood that the contents of these reports will not be released to the press, except by the Office of the Surgeon General, Public Health Service, U.S. Department of Health, Education and Welfare. State Health Officers may, of course, release any information concerning data from their own states.

I. Summary

1. The incidence of paralytic poliomyelitis increased, with 71 cases reported during the past week. Incidence of paralytic poliomyelitis had remained stable for the preceding 6 weeks at about 50 cases per week, a level low in comparison with 1956 and 1955.

2. Outbreaks of non-paralytic aseptic meningitis, with or without rash and epidemiologically unlike poliomyelitis, have occurred over the past two or three months in Tennessee, Virginia, Georgia, North Carolina, Ohio, Wisconsin, and Michigan. Associated Coxsackie viruses, probably group B, have been isolated in Ohio and Michigan, and ECHO virus, type 9, has been found also in Ohio. Some of these aseptic meningitides have been included in provisional Morbidity reports as non-paralytic poliomyelitis.

3. Review of presently available data regarding immunization of infants with poliomyelitis vaccine indicates that satisfactory response is obtained starting the series of inoculations as young as two months of age. It would appear that injections of poliomyelitis vaccine may be included in routine infant immunization schedules and given concurrently with standard vaccinations.

4. The 29 paralytic poliomyelitis cases reported to PSU as occurring in 1957 within 30 days following a poliomyelitis vaccine inoculation have been reviewed. There is no evidence of apparent similarity to the 1955 Cutter cases of "inoculation polio".

II. Current Poliomyelitis Morbidity Trends

National poliomyelitis incidence increased during the past week, from 265 cases for the week ending July 27, to 297 cases for the week of August 3. Last year the total incidence for the 31st week was 759 cases. In 1947 only 218 cases were reported. Figure 1 shows the U.S. poliomyelitis incidence curve by weeks for the years 1947 and 1952 through 1957.

Of the national total of 297 cases, 71 were reported as paralytic, 172 as non-paralytic and 54 as unspecified (Table 1). Although cases reported as paralytic increased to 71, as compared to 51 for the preceding week, the incidence of paralytic disease remains notably low this year compared to 1956 and 1955. Thus, a total of 320 paralytic cases has been reported during the past six weeks, compared with 1,373 during the comparable six-week period last year (the proportion unspecified as to paralytic status is almost identical during this period for 1956 and 1957). Table 1 presents the distribution of total cases by State and Region, and of paralytic cases by region, for the past six weeks, with six-week totals for the comparable periods of the previous four years.

The North Central region reported a total of 115 cases, the largest regional total, and an increase over the 76 reported last week. This increase represented paralytic as well as non-paralytic disease with a rise from 9 to 24 paralytic cases.

III. Reports from States

a. Ohio - During the past week, a total of 23 poliomyelitis cases were reported to NOVS from the State of Ohio, compared with 10 cases for each of the two preceding weeks. Dr. Fred Wentworth, Chief, Division of Communicable Diseases, Ohio State Health Department, reports that 7 of these represent late reports of a non-paralytic aseptic meningitis syndrome occurring in the town of Athens during the past month. Dr. George Anderson of the Ohio State Health Department Laboratories, indicates that preliminary testing of specimens from this outbreak have revealed a non-polio agent, probably one of the Coxsackie groups.

A cumulative total of 73 polio cases have been reported in the State of Ohio during 1957. Of these, 29 were paralytic, 27 non-paralytic, 10 unspecified, and 7 the non-paralytic polio-like illnesses mentioned above.

Dr. Wentworth and Dr. David Carver, EIS Officer assigned to Dr. Frederick Robbins, Department of Pediatrics & Contagious Diseases, Cleveland City Hospital, have studied a second outbreak of aseptic meningitis, occurring over the past two months in the town of Willard, Huron County. In addition to meningeal symptoms, a macular rash on the trunk was reported in many patients. Few were hospitalized, but the number of cases in the community probably totaled some 100. Preliminary tests on specimens from several patients and families in the town have also revealed non-polio agents which appear to be Coxsackie viruses.

Dr. Albert Sabin, Children's Hospital, Cincinnati, has studied two siblings, ages 7 and 11, from Norwood, Ohio, with fever, aseptic meningitis, and rash. Cerebrospinal fluid in one case yielded an ECHO virus type 9. Of 8 children among neighboring families in Norwood, 4 have since become ill with a similar syndrome.

The patients' family had just previously been visiting in Clearwater Beach, Florida; they left Clearwater on July 26, arriving back in Norwood on July 27. Onset of illness in one child was July 31 and in the second patient was August 2. Since the incubation period of ECHO 9 aseptic meningitis has been estimated to be some 5 to 15 days in several studies of the European outbreaks of ECHO 9 last year, it is probable that the infection had been acquired in Clearwater, Florida.

b. Michigan - Dr. George H. Agate, Chief, Communicable Disease Department, Michigan State Department of Health, indicates that the 27 cases reported to NOVS as poliomyelitis during the past week were scattered throughout the state, roughly proportionate to the population distribution; thus, 10 of the 27 cases were reported from Detroit. Two of the non-paralytic cases were siblings who both experienced chest pain in addition to an acute meningeal syndrome. Four other children in the same family also suffered an acute illness with chest pain but without meningeal symptoms. One of the four non-hospitalized children also was said to have a "viral" pneumonia.

Dr. Gordon C. Brown, University of Michigan School of Public Health, Ann Arbor, indicates that a number of laboratory specimens from patients with onset of illness during the past three weeks have yielded non-polio viral agents probably of the Coxsackie B group. Poliovirus has been isolated from only a few of specimens submitted so far this year. Dr. Brown emphasizes, however, that the large majority of specimens are submitted from non-paralytic or suspect poliomyelitis cases rather than from the small number of paralytic polio cases which have occurred this year.

c. South Dakota - Dr. G.J. Van Heuvelen, South Dakota State Health Officer, and Dr. R.F. Hubner, Health Officer, Yankton, have reported information concerning a recent acute outbreak of poliomyelitis in the town of Yankton. A total of 11 cases of poliomyelitis has been diagnosed, including 5 paralytic and 6 non-paralytic. Two deaths, females age 9 and 32 with bulbar poliomyelitis, have occurred among the group of paralytic cases. None of the reported cases had received poliomyelitis vaccine.

d. Wisconsin - Dr. Milton Feig, Director, Section on Preventable Diseases, Wisconsin State Board of Health, reports that Dr. Kenneth Wilcox, EIS Officer, has studied the outbreak of aseptic meningitis in New Richmond (See PSU Report No. 120). Further investigation has revealed a total of 97 cases of varying severity. Symptoms include headache, fever, malaise, stiff neck, myalgia, periorbital pain, nausea and vomiting. The incubation period appears to be between 3 and 10 days, based on study of illness in households, and the duration of illness is from one to 11 days, usually 2 to 5 days. Peak incidence occurred during the week of July 22-29, immediately following a Centennial celebration the weekend of July 19-21. Laboratory specimens are being processed by the Wisconsin State Health Department Laboratories.

Waupaca County is experiencing an outbreak of acute febrile illness with an unusual skin rash (rash was not encountered in New Richmond) but without meningeal signs. On the other hand, Milwaukee County has reported a concentration of illnesses characterized by fever, aseptic meningitis and rash. Further investigation is underway in these areas.

IV. Immunization of Infants with Poliomyelitis Vaccine

Recommended priority age groups for the administration of poliomyelitis vaccine have been gradually broadened as supplies of the vaccine have increased. These "priorities" were established to include age groups considered at greatest risk. Thus, the initial vaccination programs were limited to first and second-graders while at the present time the age range generally being administered vaccine has been extended down to six months and up to forty years of age. No specific data were available concerning the relative response to polio vaccine of infants at various ages, however, and selection of six months as the lower age limit was a practical measure consistent with conservative pediatric practice and based on known immunologic and epidemiologic principles.

Once the need for immunization of infants against a certain agent has been established and an effective vaccine developed, an optimal infant immunization schedule must of course be based on immunologic data concerning a) the age at which the infant becomes sufficiently mature to attain adequate response to the specific antigen, and b) the degree and duration of effect (if any) of passively transferred maternal antibody on the infant's immune response. Studies are currently in progress investigating both aspects of this problem with regard to poliomyelitis vaccine. Certain data are already available indicating that infants will respond adequately to polio vaccination schedules starting as young as two months of age, and suggesting that the short-lived passive maternal antibody does not interfere with the young infant's response.

Preliminary studies by Brown and Smith (1) suggested that "passively transmitted antibodies are demonstrable in low titer..." for three to four months only and that "infants respond in a satisfactory manner" when inoculations are started as young as two months of age. Continuing studies have provided further supporting data and have prompted Brown to recommend (2) that polioimmunization may be started at two months of age.

In order to determine the youngest age at which infants would respond to poliomyelitis vaccine, Batson and associates (3) immunized infants starting as young as six weeks of age. A further objective was to determine whether as favorable a response resulted when poliomyelitis vaccine was given in one injection mixed with diphtheria, pertussis and tetanus antigens as when the poliomyelitis vaccine and the DPT triple antigen were given in separate inoculations. These investigators concluded that "a) Immunization against poliomyelitis is effective when begun in infants six weeks of age. b) Poliomyelitis vaccine is an effective immunizing agent when administered, according to our technique, in combination with other antigens. c) There were no apparent hazards or adverse reactions associated with the above combinations."

Studies are also continuing regarding the effect of passively transmitted maternal antibodies on the serologic response to active immunization. Brown and associates (4) demonstrated in eight-to-ten year old boys that passive immunization with gamma globulin does not suppress response to Salk vaccine. da Silva and associates (5) (6) found that infants' passive maternal antibody has a $1\frac{1}{2}$ month "half-life" and does not affect the satisfactory antibody response resulting from administration of live attenuated virus vaccine to infants as young as a few days of age. (In immunizing 185 pregnant women during this study, da Silve and associates noted some variation in antigenicity between different lots of commercial Salk vaccine). Koprowski and associates (7) also found that passive antibody did not inhibit the serologic response of infants to live attenuated strains of poliovirus.

The data presently available thus indicate that poliomyelitis vaccination with Salk vaccine may be started as young as six weeks of age. Accordingly, the Committee on the Control of Infectious Diseases of the American Academy of Pediatrics, in discussing administration of poliomyelitis vaccine (8), states that "it seems reasonable to begin primary immunization as early as the second month of life. Injections of polio vaccine may be given concurrently with other vaccinations..."

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4. Brown, G.C.; Rabson, A.S; and Craig, D.E.: Poliomyelitis Vaccine Studies, Public Health Reports 71: 604-611 (June) 1956.
5. da Silva, M.M., and others: Transfer and Duration of Naturally-Occurring and Salk-Vaccine Induced Maternal Antibodies in Newborns; Preliminary Observations on the Antigenic Potency of the Oral Attenuated Live-Virus Poliomyelitis Vaccine in Newborns, Program and Abstracts of the 67th Annual Meeting, American Pediatric Society, Carmel, Calif., June 1957, p. 69.
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7. Koprowski, H., and others: Immunization of infants with Living Attenuated Poliomyelitis Virus, J.A.M.A. 162: 1281-1288 (December 1) 1956.
8. Report of the Committee on the Control of Infectious Diseases, American Academy of Pediatrics, Poliomyelitis, p. 50, 1957.

V. Poliomyelitis Incidence in Great Britain

The Lancet has published additional data concerning the high poliomyelitis incidence this year in England and Wales. Uncorrected polio notifications through the 27th week of the year (July 6) totaled 1524 cases, compared with 947 at this time last year. The highest corresponding figure during 1948-56 was 1447 (in 1950).

For the week ending July 6, polio cases reported were 68 paralytic and 65 nonparalytic, a total of 133. The numbers of cases reported for the 27th week and the year's total through the 27th week are presented in the table below with corresponding data for the nine preceding years.

| <u>Year</u> | <u>Total cases up to and including 27th week</u> | <u>Cases in 27th Week</u> |
|-------------|--|---------------------------|
| 1948 | 706 | 25 |
| 1949 | 631 | 77 |
| 1950 | 1447 | 212 |
| 1951 | 907 | 100 |
| 1952 | 895 | 86 |
| 1953 | 1200 | 183 |
| 1954 | 738 | 65 |
| 1955 | 675 | 99 |
| 1956 | 947 | 114 |
| 1957 | 1524 | 133 |

VI. Summary of 1957 Under-30-Day Poliomyelitis Cases

During the period January through July, 1957, the Polio Surveillance Unit received reports of 29 paralytic and 30 nonparalytic poliomyelitis cases occurring in 1957 within 30 days of a polio vaccine inoculation. These cases are shown below by interval in days from inoculation to onset of symptoms.

| <u>Interval from Inoculation to Onset</u> | <u>0-3</u> | <u>4-11</u> | <u>12-15</u> | <u>16-30</u> | <u>Total</u> |
|---|------------|-------------|--------------|--------------|--------------|
| Paralytic Cases | 9 | 9 | 3 | 8 | 29 |

The Cutter cases of "inoculation" paralytic polio showed concentration in the 4-11 day period following vaccination (1). Of the 1957 paralytic cases, a total of 9 had onset 4-11 days following vaccination (an 8 day period), compared with 12 cases in the 0-3 day plus 12-15 day periods (also 8 days). Therefore, these cases show no concentration in the 4-11 day period as did cases of "inoculation" polio.

Of the 29 paralytic cases, 17 followed inoculation with Lilly vaccine, 4 with Sharpe and Dohme vaccine, and 8 with a vaccine for which manufacturer and lot number are unknown (Table 2). No striking association of paralytic cases with particular lots of vaccine is apparent; however, specific lot number data are not available for 14 of the 29 paralytic cases.

The 29 paralytic under-30-day cases are shown in the table below by type of paralysis and site of first paralysis.

| | |
|--|----|
| Paralytic Cases | 29 |
| First Paralysis Bulbar | 4 |
| First Paralysis Unknown | 8 |
| First Paralysis Spinal | 17 |
| First Paralysis inoculated limb (and other sites) | 4 |
| First Paralysis opposite uninoculated limb (and other sites) | 1 |
| First Paralysis both inoculated and opposite limbs (and other sites) | 1 |
| First Paralysis neither inoculated nor opposite uninoculated limb | 7 |
| Site of Inoculation Unknown | 4 |

It may be noted that there were four "correlated" cases (involvement of inoculated limb) compared with only one "uncorrelated" case (involvement of opposite uninoculated limb). A similar unexplained slight excess of correlated over uncorrelated cases has been noted previously in groups of 1955 and 1956 cases with intervals over 30 days from inoculation to onset of symptoms, as well as in those cases with intervals less than 30 days (1,2,3). Unlike the Cutter cases of inoculation polio, the four correlated cases with onset in 1957 (Table 3) show no grouping within the 4-11 day period following vaccination and were associated each with a different lot of vaccine.

REFERENCES

- 1) A Study of the Correlation between Sites of Inoculation and First Paralysis in Vaccinated Poliomyelitis Cases: Supplement to Poliomyelitis Surveillance Report, No. 102 (December) 1956.
- 2) Langmuir, A.D., Nathanson, N., and Hall, W.J. The Surveillance of Poliomyelitis in the United States in 1955. Am. J. of Pub. Health 46: 75-88 (January) 1956.
- 3) Poliomyelitis Surveillance Unit: Surveillance of Poliomyelitis in the United States in 1956, Public Health Reports 72: 381-392 (May) 1957.

VII. Routine Poliomyelitis Surveillance

During the week ending August 7, the Poliomyelitis Surveillance Unit received reports of two cases, one paralytic fatal case and one non-paralytic, occurring within 30 days of a polio vaccine inoculation.

Onset of illness in this fatal paralytic case (see Table 4) was one day following the child's second inoculation of polio vaccine. This 700,000 cc lot of vaccine had been distributed to 2 states during February and March. No other polio cases have been reported to PSU in association with this lot. Dr. James O. Bond, State Epidemiologist, Florida State Board of Health, reports that a sibling and a number of other school children received the same lot of vaccine on the same day without incident.

The patient developed bulbar paralysis with encephalitic signs and expired 6 days after onset. No laboratory specimens were obtained but the clinical diagnosis appeared secure.

VIII. Triply-Vaccinated Cases

During the week ending August 7 a total of 7 triply-vaccinated poliomyelitis cases was reported to PSU, including 5 non-paralytic and 2 paralytic. The two paralytic cases, reported from Florida, are listed in Table 4.

PSU has now received reports of 30 paralytic and 100 non-paralytic 1957 poliomyelitis cases occurring in triply-vaccinated individuals.

IX. Vaccine Distribution

Poliomyelitis vaccine shipments and inventory are presented in Table 5. Also presented are data regarding vaccine releases, which have previously not been shown in PSU Reports. During the week ending August 2, a total of 3.5 million cc's of net bottled vaccine were released by manufacturers. Excluding export, 5.8 million cc's were shipped July 1-26.

Figure 1: CURRENT U.S. POLIO INCIDENCE COMPARED WITH YEARS 1952-1956

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS

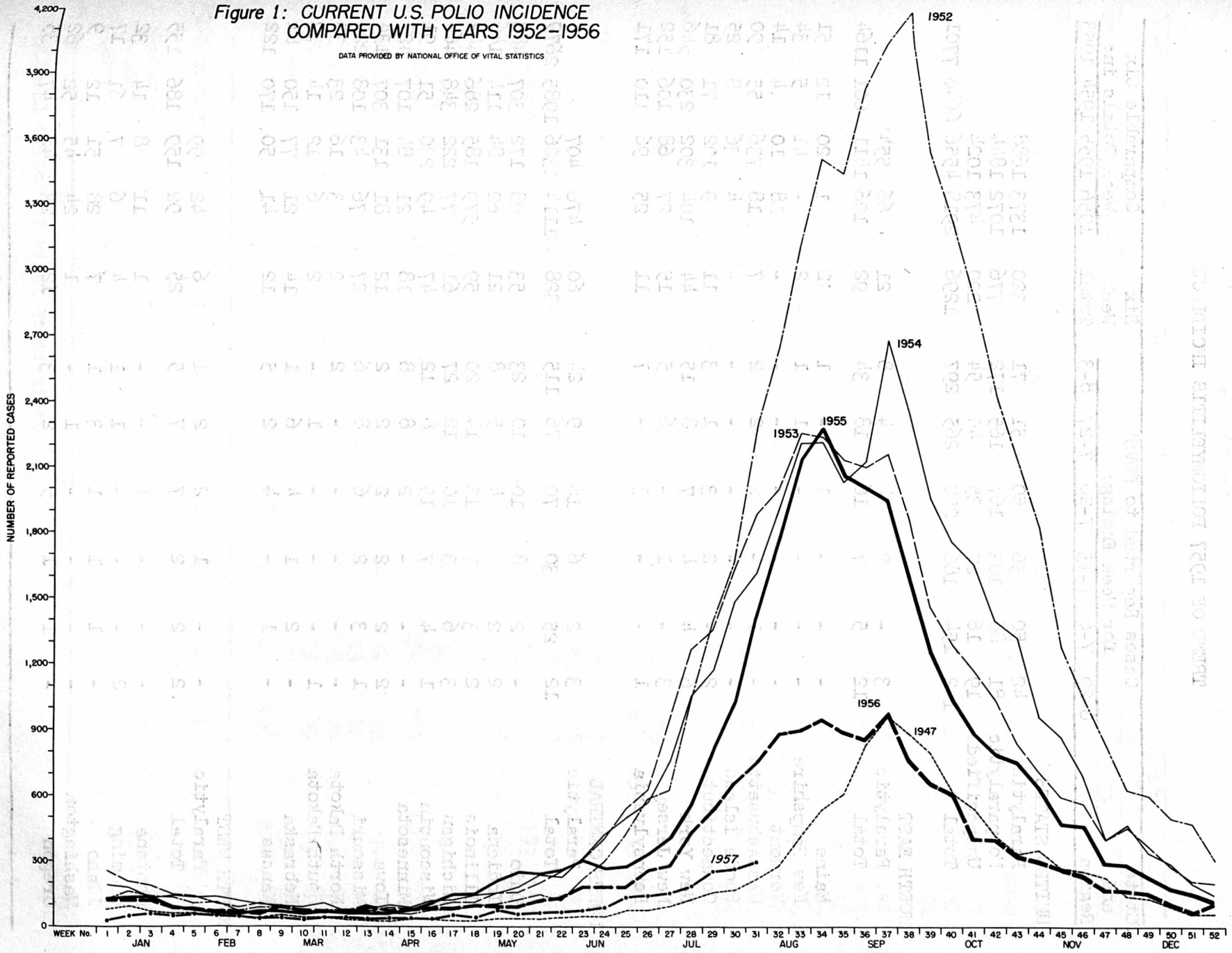


Table 1

TREND OF 1957 POLIOMYELITIS INCIDENCE

| State and Region | Cases Reported to NOV5* for Week Ending: | | | | | | Six Week Total | Comparable Six Week Totals in: | | | |
|------------------------|---|-----|------|------|------|-----|----------------------|-----------------------------------|------|------|------|
| | 6-29 | 7-6 | 7-13 | 7-20 | 7-27 | 8-3 | | 1956 | 1955 | 1954 | 1953 |
| UNITED STATES | | | | | | | | | | | |
| Paralytic | 42 | 50 | 56 | 50 | 51 | 71 | 320 | 1373 | 1688 | | |
| Nonparalytic | 81 | 88 | 103 | 167 | 165 | 172 | 776 | 1072 | 1844 | | |
| Unspecified | 19 | 16 | 27 | 35 | 49 | 54 | 200 | 473 | 1024 | | |
| Total | 142 | 154 | 186 | 252 | 265 | 297 | 1296 | 2918 | 4556 | 6646 | 7701 |
| NORTH EAST | | | | | | | | | | | |
| Paralytic | 3 | - | 2 | 4 | 4 | 8 | 21 | 66 | 554 | | |
| Total | 12 | 5 | 7 | 16 | 18 | 34 | 92 | 196 | 1411 | 601 | 1164 |
| Maine | - | - | - | 1 | - | 1 | 2 | 1 | 20 | 12 | 51 |
| New Hampshire | - | - | - | - | 1 | 1 | 2 | - | 41 | 5 | 34 |
| Vermont | - | - | - | - | - | - | - | 18 | 10 | 4 | 14 |
| Massachusetts | - | 1 | - | 2 | 2 | 2 | 7 | 18 | 736 | 55 | 90 |
| Rhode Island | - | - | - | - | - | - | - | 4 | 36 | 8 | 25 |
| Connecticut | 2 | - | 2 | 3 | 1 | 3 | 11 | 9 | 102 | 71 | 81 |
| New York | 6 | 4 | 4 | 7 | 8 | 15 | 44 | 104 | 302 | 230 | 546 |
| New Jersey | 3 | - | 1 | - | 6 | 5 | 15 | 27 | 68 | 106 | 152 |
| Pennsylvania | 1 | - | - | 3 | - | 7 | 11 | 25 | 96 | 110 | 171 |
| NORTH CENTRAL | | | | | | | | | | | |
| Paralytic | 3 | 2 | 6 | 16 | 9 | 24 | 60 | 476 | 407 | | |
| Total | 12 | 25 | 30 | 70 | 76 | 115 | 328 | 1114 | 1306 | 1985 | 2679 |
| Ohio | - | 2 | 8 | 10 | 10 | 23 | 53 | 98 | 172 | 307 | 483 |
| Indiana | 2 | 2 | - | 4 | 5 | 8 | 21 | 62 | 84 | 114 | 146 |
| Illinois | 2 | 3 | 7 | 13 | 14 | 20 | 59 | 579 | 185 | 286 | 442 |
| Michigan | 3 | 6 | 3 | 10 | 12 | 27 | 61 | 77 | 222 | 348 | 464 |
| Wisconsin | 1 | 4 | 7 | 15 | 8 | 12 | 47 | 49 | 230 | 51 | 91 |
| Minnesota | - | - | - | 2 | 8 | 8 | 18 | 21 | 84 | 107 | 427 |
| Iowa | 2 | 2 | 2 | 2 | 2 | 2 | 12 | 81 | 131 | 307 | 134 |
| Missouri | 1 | 3 | 2 | 6 | 8 | 6 | 27 | 76 | 43 | 108 | 220 |
| North Dakota | - | - | - | - | - | 2 | 2 | 3 | 16 | 23 | 30 |
| South Dakota | 1 | - | - | - | 1 | - | 2 | 6 | 12 | 14 | 39 |
| Nebraska | - | 2 | 1 | 4 | 6 | 1 | 14 | 21 | 77 | 150 | 81 |
| Kansas | - | 1 | - | 4 | 2 | 5 | 12 | 41 | 50 | 170 | 122 |
| NORTH WEST | | | | | | | | | | | |
| Paralytic | - | - | 1 | 2 | 2 | 1 | 6 | 42 | 99 | | |
| Total | 2 | 2 | 2 | 7 | 7 | 5 | 25 | 92 | 159 | 186 | 155 |
| Montana | - | - | - | 1 | - | - | 1 | 11 | 8 | 14 | 32 |
| Wyoming | 2 | - | - | - | 1 | 1 | 4 | 6 | 7 | 61 | 17 |
| Idaho | - | 1 | 1 | 1 | 3 | 1 | 7 | 28 | 51 | 12 | 9 |
| Washington | - | - | - | - | 1 | - | 1 | 24 | 45 | 52 | 62 |
| Oregon | - | 1 | 1 | 5 | 2 | 3 | 12 | 23 | 48 | 47 | 35 |

* National Office of Vital Statistics.

(CONTINUED ON NEXT PAGE)

Table 1 (Continued)

| State and Region | Cases Reported to NOVS* for Week Ending: | | | | | | Six Week Total | Comparable Six Week Totals in: | | | | |
|------------------------|---|-----|------|------|------|-----|----------------------|-----------------------------------|------|------|------|--|
| | 6-29 | 7-6 | 7-13 | 7-20 | 7-27 | 8-3 | | 1956 | 1955 | 1954 | 1953 | |
| SOUTH EAST | | | | | | | | | | | | |
| Paralytic | 10 | 12 | 15 | 7 | 18 | 21 | 83 | 139 | 203 | | | |
| Total | 36 | 37 | 54 | 48 | 62 | 59 | 296 | 334 | 607 | 1357 | 1840 | |
| Delaware | - | 1 | - | - | - | - | 1 | 2 | 14 | 13 | 7 | |
| Maryland | - | - | - | - | 1 | 1 | 2 | 14 | 34 | 22 | 131 | |
| D. C. | - | - | - | - | 1 | 6 | 7 | 2 | 14 | 11 | 21 | |
| Virginia | - | 2 | 7 | 2 | 2 | 7 | 20 | 41 | 87 | 111 | 247 | |
| West Virginia | 1 | - | 1 | 2 | - | 3 | 7 | 19 | 20 | 29 | 142 | |
| North Carolina | 1 | 6 | 7 | 17 | 31 | 21 | 83 | 54 | 92 | 168 | 427 | |
| South Carolina | 7 | 5 | 9 | 6 | 9 | 3 | 39 | 19 | 76 | 97 | 58 | |
| Georgia | 3 | 3 | 4 | 2 | - | 3 | 15 | 47 | 43 | 179 | 152 | |
| Florida | 5 | - | 14 | 2 | 7 | 3 | 31 | 66 | 53 | 311 | 119 | |
| Kentucky | - | - | 5 | 8 | 6 | 7 | 26 | 33 | 86 | 165 | 118 | |
| Tennessee | 16 | 19 | 7 | 7 | 3 | 3 | 55 | 22 | 48 | 153 | 273 | |
| Alabama | 3 | 1 | - | 2 | 2 | 2 | 10 | 15 | 40 | 98 | 145 | |
| SOUTH CENTRAL | | | | | | | | | | | | |
| Paralytic | 25 | 30 | 20 | 15 | 11 | 10 | 111 | 370 | 274 | | | |
| Total | 64 | 67 | 52 | 68 | 68 | 44 | 363 | 660 | 701 | 1433 | 1064 | |
| Mississippi | 3 | 2 | 4 | 8 | 10 | 7 | 34 | 45 | 49 | 170 | 115 | |
| Arkansas | 4 | 3 | 3 | 4 | 5 | 1 | 20 | 45 | 47 | 94 | 93 | |
| Louisiana | 12 | 12 | 2 | 9 | 6 | 4 | 45 | 187 | 71 | 154 | 152 | |
| Oklahoma | 6 | 5 | 5 | 14 | 9 | 9 | 48 | 62 | 91 | 193 | 189 | |
| Texas | 39 | 45 | 38 | 33 | 38 | 23 | 216 | 321 | 443 | 822 | 515 | |
| SOUTH WEST | | | | | | | | | | | | |
| Paralytic | 1 | 6 | 12 | 6 | 7 | 7 | 39 | 280 | 151 | | | |
| Total | 16 | 18 | 41 | 43 | 34 | 40 | 192 | 522 | 381 | 1084 | 799 | |
| Colorado | - | 1 | - | - | 1 | 2 | 4 | 22 | 37 | 65 | 48 | |
| New Mexico | - | 1 | 3 | 4 | 1 | 4 | 13 | 12 | 39 | 27 | 30 | |
| Arizona | 1 | - | 2 | 2 | 2 | 1 | 8 | 24 | 16 | 60 | 94 | |
| Utah | 1 | 2 | - | - | 2 | - | 5 | 49 | 4 | 25 | 42 | |
| Nevada | - | 1 | 1 | - | - | - | 2 | 7 | 19 | 31 | 16 | |
| California | 14 | 13 | 35 | 37 | 28 | 33 | 160 | 408 | 266 | 876 | 569 | |
| TERRITORIES | | | | | | | | | | | | |
| | - | 1 | - | 2 | - | 6 | 9 | 12 | 49 | | | |
| Alaska | - | - | - | - | - | - | - | 1 | 5 | 63 | 20 | |
| Hawaii | - | - | - | - | - | - | - | 4 | 19 | 30 | 10 | |
| Puerto Rico | - | 1 | - | 2 | - | 6 | 9 | 9 | 19 | - | 4 | |

* National Office of Vital Statistics.

(continued) Table 1

Table 2

Paralytic Poliomyelitis Cases by
Vaccine Manufacturer, Lot Number and Lot Size

| Manufacturer | Lot No. | Number of Cases | Lot Size |
|----------------|---------|-----------------|-----------|
| Sharpe & Dohme | Unknown | 1 | - |
| | 35356 | 1 | 67,000 |
| | 39177 | 1 | 157,000 |
| | 39176 | 1 | 157,000 |
| Lilly | Unknown | 5 | - |
| | 679904 | 3 | 800,000 |
| | 683454 | 3 | 1,000,000 |
| | 683458 | 2 | 900,000 |
| | 683453 | 1 | 1,000,000 |
| | 683462 | 1 | 1,000,000 |
| | 697783 | 1 | 1,000,000 |
| | 683459 | 1 | 1,000,000 |
| Unknown | Unknown | 8 | - |

Table 3

Paralytic Poliomyelitis Cases Occurring
within 30 Days of Inoculation and with
First Paralysis in the Inoculated Limb

| PSU Case No. | County | Ini- tials | Age | Sex | Date Inoc. | Date 1st Symp. | Date 1st Para. | Site of Inoc. | Site of Para. | Mfr. | Lot No. | Remarks |
|--------------------|-----------|---------------|---------|-----|------------------------------|----------------------|----------------------|---------------------|---------------------|-------------|------------------|--|
| Conn-62 | Hartford | RTW | 33 | M | 3-2-57 | 3-5-57 | 3-18-57 | LA | LA | L | 683462 | CSF-2WBC, 30 mg protein. Stool neg. Antibody titer stable. |
| Cal-289 | San Diego | MC | 19 mos. | F | 4-6-57 | 4-9-57 | ? | LA | LA,LL | L | 683453 | |
| La-83 | Caddo | SRM | 5 mos. | F | 3-18-57 | 4-10-57 | 4-13-57 | LL | LL | L | 683458 | |
| Conn-61 | New Haven | JLaB | 6 | F | 7-18-56 8-15-56 4-1-57 | 4-8-57 | 4-27-57 | ? ? RA | ? ? RA | ? ? L | ? ? 683454 | No spinal done. |
| Tex-153 | Hidalgo | JB | 6 mos. | M | 5-15-57 | 5-18-57 | 5-24-57 | ? ? | LA,RA LL,RL | SD | ? ? | |

Table 4

PARALYTIC POLIOMYELITIS OCCURRING WITHIN 30 DAYS OF LAST VACCINE INOCULATION
Cases Reported to PSU July 31 through August 7, 1957

| PSU Case No. | County | Ini- tials | Age | Sex | Date Inoc. | Mfr. | Lot No. | Date First Symp. | Date First Paral. | Site Inoc. | Site First Paral. | Extent Paral. | Remarks |
|--------------|-----------|---------------|-----|-----|------------------|--------|-------------|------------------------|-------------------------|---------------|-------------------------|-------------------|---|
| Fla-44 | St. Johns | DPC | 3 | M | 5-6-57 6-6-57 | L L | ? 679907 | 6-7-57 | 6-10-57 | LA LA | Bulbar | Bulbar (fatal) | No T & A CSF: 139WBC Encephali- tic course Expired 6/13/57 |

Table 5

1957 Paralytic Poliomyelitis Following Three Inoculations of Vaccine
(Reports through August 7, 1957)

| 3 V Case No. | State | County | Ini- tials | Age | Sex | Date 1st Symp. | Cerebro- Spinal Fluid | Site of Para. | Dates of Vacc. Inoc. | Mfr. | Lot No. |
|---|-------|---------|---------------|-----|-----|----------------------|-----------------------------|---------------------|-------------------------------|-------------|-------------|
| 68 | Fla. | Duval | DW | 7 | M | 7-9-56 | | LL | ? ? 11-?-56 | ? ? ? | ? ? ? |
| <p>Comment: Patient has "flail" left foot. Diagnosis considered secure on clinical grounds child's mother also has paralytic poliomyelitis, onset simultaneous with that of Douglas. Laboratory specimens on the entire family of four are being processed.</p> | | | | | | | | | | | |
| 69 | Fla. | Osceola | REH | 10 | M | 7-15-57 | | RL | 2-11-56 3-10-56 10-6-56 | ? ? ? | ? ? ? |
| <p>Comment: Laboratory specimens are in process.</p> | | | | | | | | | | | |

Table 6

POLIOMYELITIS VACCINE REPORT through 8-2-57

(Data provided by the Polio Vaccine Activity, BSS, USPHS.
Listed in 1000's of cc's of Net Bottled Vaccine)

VACCINE RELEASED

| <u>Week Ending</u> | <u>Lilly</u> | <u>Parke, Davis</u> | <u>Pitman-Moore</u> | <u>Wyeth</u> | <u>Sharpe & Dohme</u> | <u>Cutter</u> |
|--------------------|--------------|---------------------|---------------------|--------------|---------------------------|---------------|
| June | - | 3,375 | 2,812 | 402 | - | - |
| July | 5,047 | 1,843 | 1,239 | 378 | 1,015 | - |
| 8-2-57 | 3,032 | - | - | - | 480 | - |
| Cumulative to date | 113,743 | 26,428 | 28,188 | 8,972 | 8,513 | 401 |

VACCINE SHIPPED

| <u>Period</u> | <u>NFIP</u> | <u>Public Agencies</u> | <u>Commercial Channels</u> | <u>Export</u> | <u>Total</u> |
|-------------------|-------------|------------------------|----------------------------|---------------|--------------|
| 1955 | 13,541 | 7,893 | 6,233 | - | 27,667 |
| 1956 | 194 | 45,588 | 24,784 | 6,477 | 77,043 |
| 1957 | | | | | |
| January-March | 8 | 19,306 | 13,483 | 4,111 | 37,538 |
| April | - | 8,639 | 5,161 | 1,360 | 15,161 |
| May | 73 | 5,365 | 3,767 | 536 | 9,740 |
| June | 70 | 2,734 | 1,349 | 378 | 4,531 |
| July 1-26 | - | 2,916 | 2,651 | 252 | 5,819 |
| Cumulative Totals | 13,886 | 93,072 | 57,427 | 13,115 | 177,500 |

VACCINE INVENTORY

| <u>Week Ending</u> | <u>Unshipped by Manufacturers</u> | <u>In State and Local Health Departments</u> | <u>In Commercial Channel and Physicians Office</u> | <u>Total</u> |
|--------------------|-----------------------------------|--|--|--------------|
| 7-12-57 | 2,224 | 3,016 | 1,720 | 6,960 |
| 7-19-57 | 6,168 | 2,883 | 2,055 | 11,106 |
| 7-26-57 | 5,234 | 3,193 | 2,110 | 10,538 |

Table 6

POLYOMYELITIS VACCINE REPORT THROUGH 6-30-57

(Data provided by the Polio Vaccine Activity, R&D, USPHS. Listed in 1000's of cc's of Net Bottled Vaccine)

| Week Ending | VACCINE RECEIVED | | | | |
|--------------------|------------------|-----------------|-------|--------|--------|
| | Lotus | Lotus & Dornier | Lotus | Lotus | Lotus |
| 7-26-57 | 3,032 | - | 3,372 | 1,813 | 3,032 |
| 7-19-57 | - | 1,015 | 378 | 1,239 | - |
| 7-12-57 | - | - | 403 | - | - |
| Cumulative to date | 113,703 | 8,213 | 8,973 | 28,188 | 26,428 |

| Period | VACCINE SHIPPED | | | | |
|--------------------|-----------------|------------------|---------------------|--------|---------|
| | WVIF | Private Agencies | Commercial Channels | Export | Total |
| January-March 1957 | 4 | 10,306 | 13,483 | 4,111 | 28,238 |
| April | - | 8,039 | 2,151 | 1,350 | 12,141 |
| May | 73 | 2,382 | 3,322 | 232 | 6,410 |
| June | 70 | 2,784 | 1,349 | 378 | 4,931 |
| July 1-30 | - | 2,214 | 2,621 | - | 4,835 |
| Cumulative Totals | 13,886 | 23,075 | 22,453 | 13,116 | 127,500 |

| Week Ending | VACCINE INVENTORY | | |
|-------------|-------------------|---------------------------------------|--|
| | Manufacturers | In State and Local Health Departments | In Commercial Channel and Physicians Offices |
| 7-26-57 | 2,234 | 3,016 | 1,280 |
| 7-19-57 | 2,163 | 2,553 | 2,052 |
| 7-26-57 | 2,234 | 3,193 | 2,110 |
| Total | 6,631 | 8,762 | 5,442 |