REPORT NO. 256 MAY 18, 1962

COMMUNICABLE DISEASE CENTER

SURVEILLANCE

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

PREFACE

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

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

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SUMMARY

Fourteen cases of poliomyelitis, 12 paralytic, were reported for the 19th week ending May 12. This marks the second successive week in which there has been an increase in reported cases.

Seven of the 12 paralytic cases reported this week were from Texas. The concentration in South Texas has now reached 7 paralytic cases in Webb County, 6 paralytic cases in Bexar County and 3 paralytic cases in Hidalgo County. Narrative reports from Texas, California, and Arizona are included in Section 2.

A summary of 1961 paralytic cases by type of involvement is presented in Section 3.

A special report on the intratypic sero-differentiation of polioviruses is featured in Section 5.

1. CURRENT MORBIDITY TRENDS

Fourteen cases of poliomyelitis, 12 paralytic, were reported for the 19th week ending May 12. This marks the second successive week in which there has been an increase in reported cases (See Figure 1). There have now been 116 cases, 84 paralytic, reported thus far in 1962.

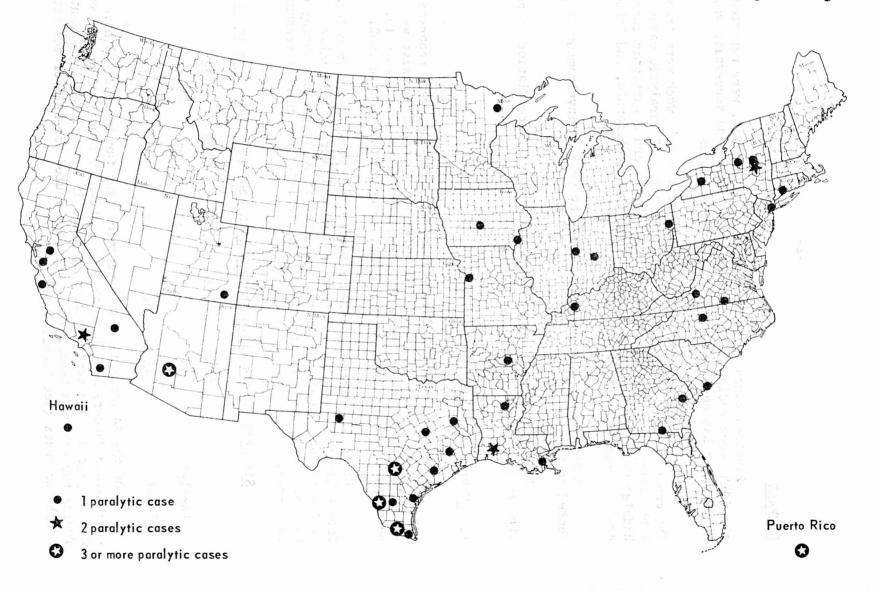
Of the 12 paralytic cases reported this week, 7 are from Texas, 3 from California and one each from Arizona and Georgia (See Table I). The following table, which shows the incidence of poliomyelitis during the past six weeks for the years 1958-1962, reflects the current seasonal incidence.

Six Week Totals (14th Through 19th Week) For Past Five Years

arianos in sali	were with-					-
	1962	<u>1961</u>	1960	1959	1958	
Paralytic	33	36	47	98	46	
Total	41	43	65	149	100	

Of the 84 paralytic cases reported thus far in 1962, 62 have had onset since January 1. These cases are shown by county of origin on the map on page 2. The concentration of cases in South Texas is evident. During the past six weeks, Texas has contributed one-half of the nation's paralytic cases (See Section 2).

REPORTED PARALYTIC POLIO IN U. S. BY COUNTY-1962 onset through May 12



2. REPORTS

SOUTH TEXAS POLIOMYELITIS, 1962

A.T

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Table 2A

A. Texas

Through May 12, a total of 27 cases, 24 paralytic, has been reported by Texas. This represents 39 percent of the paralytic cases with 1962 onset reported throughout the nation.

3-15

Nineteen of the paralytic cases and two deaths have been reported from South Texas counties thus far in 1962. According to Dr. Van C. Tipton, Director, Division of Communicable Disease Control, Texas State Department of Health, seven paralytic cases had been reported from Webb County (Laredo), six from Bexar County (San Antonio), three from Hidalgo County (McAllen), and one each from Cameron, Duval and San Patricio Counties. This concentration in South Texas is shown on the map on page 2. The detailed listing in Table 2A clearly indicates the involvement of unvaccinated Latin-American pre-school age children and infants. Disease onsets span the January-May period, but a build-up of cases in late April and early May is evident in Webb and Bexar Counties. Evidence of type I poliovirus infection has been obtained in two Webb County cases. In Bexar County, five of the six cases are confined to a localized area in southwest San Antonio. SI-12 19 .omO.L

Detailed population figures are presented in Table 2B, along with paralytic attack-rates for Webb, Bexar and Hidalgo Counties.

12-1

The seasonal pattern of paralytic poliomyelitis by month of report since 1957 is shown in Table 2C. Webb County has experienced little paralytic poliomyelitis during these past years, and in 1961 reported no cases. No outstanding seasonal differences have been discernible.

In more densely populated Bexar County, however, cases have occurred in greater numbers. Here a seasonal pattern paralelling the nationwide experience is evident with generally a steady build-up of paralytic case reports to a mid-summer peak. However, few cases have been reported in recent years.

The Hidalgo County experience in 1957 suggests an early summer peak, but the number of case reports is too small to detect seasonal differences.

More detailed data on 61 of the 65 cases reported during 1959-61 from Webb, Bexar and Hidalgo Counties are presented in Table 2D. These 61 cases are presented by age group and vaccination status as submitted on poliomyelitis surveillance case records. The predominance of unvaccinated pre-school age children is striking.

Table 2A

SOUTH TEXAS POLIOMYELITIS, 1962

County	Age	Ethnic <u>Group*</u>	Sex	Onset Date	Vaccination Status (Salk)	Remarks
Webb	8mo.	LA	F	3-3	OV	Type I sera rise
Webb	19mo.	LA	М	3-15	ov	Fatality
Webb	5yr.	LA	М	3-23	1V	Fatality
Webb	3yr.	LA	M	4-30	OV	
Webb	15mo.	LA	F	5-2	OV	Type I isolated
Webb	13yr.	LA	F	5-8	OV	
Webb	17yr.	LA	F	5-12	OV	
	1.83					
Bexar	3lyr.	AA	M	3-11	OV	
Bexar	2yr.	LA	М	4-18	OV	
Bexar	9yr.	LA	М	4-25	OV	
Bexar	15mo.	LA	М	5-1	OV**	
Bexar	4yr.	LA	F	5-1	OV	
Bexar	6yr.	LA	F	5-4	OV**	
Hidalgo	10mo.	LA	F	1-12	OV	
Hidalgo	lyr.	LA	F	1-31	OV	Minor Involvement
网络金属 医门口的						at 60 days
Hidalgo	19mo.	IA	М	Unk.	Unk.	
Cameron	6mo .	LA	F	1-29	OV	
Duval	Unk.	Unk.	Unk.	Unk.	Unk.	
			489 p.C 3			
San Patricio	lyr.	LA	F	12-31***	* OV	Significant disa-
				ala bekar Maria		bility at 60 days

* LA-Latin American; AA-Anglo American

** Siblings

*** December 31, 1961 is the beginning of week 1 in 1962

Tabge 20

PARALYTIC FOLIOMYBLITIS BY MONTH OF REPORT: WEBB, BEXAR AND HIBALCO COUNTLES, TEXAS; 1957-62

AT OT	Dec	voN	<u>0et</u>	Sept	<u>pur A</u>	July	June	May	Lingh	Marroh	dell	<u>nst</u>	389Y
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* Represents persons of Spanish surname as shown in Table P-1 of <u>U.S. Censuses of Population and Housing</u>: 1960; PHC(1)-74 and PHC(1)-134

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Hidalgo

1.70

1.962

Table 2C

PARALYTIC POLIOMYELITIS BY MONTH OF REPORT: WEBB, BEXAR AND HIDALGO COUNTIES, TEXAS; 1957-62

Year	Jan	Feb	March	April	May	June	July	Aug	Sept	<u>Oct</u>	Nov	Dec	TOTAL
					W	EBB CO	UNTY						
1957	0	0	0	0	1 -	1	3	0	0	0	0	0	5
1958	2	1	õ	õ	ō	ō	õ	õ	2	õ	õ	õ	5
1959	0	0	0	0	0	0	0	õ	2	0	0	0	5 5 2
1960	0	0	0	1	0	0	0	ĭ	1	0	1	0	4
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
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1958	0	0	0	4	2	0	1	1	0	3	6	3	20
1959	0	2	0	4	1	0	2	1	0	1	0	0	11
1960	0	0	0	1	0	3	0	0	1	2	1	0	8 3
1961	0	0	0	0	0 1*	0	0	0	1	0	2	0	3
1962	1	1	0	0	Тж								

* Through May 12, 1962

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* As reported on Poliomyelitis Surveillance Forms

B. California

The four cases reported from California during the week ending May 12, include three paralytic and one nonparalytic, all from different counties. According to Dr. Henry Renteln, Chief, Poliomyelitis Surveillance Unit, California State Department of Public Health, seven of the ten paralytic cases reported thus far in 1962 have had onsets since January 1. Two of these are from Los Angeles County, and the rest are scattered in different counties.

C. Arizona * ALPEPE . 2211W000 UDLAGIH GMA

The case of paralytic poliomyelitis reported this week is from Phoenix. According to Dr. Philip Hotchkiss, Epidemiologist, Arizona State Department of Health, the patient is a six year old white male who experienced onset of disease on March 11, and subsequently developed paralysis of the right arm and leg. Preliminary epidemiologic investigation has revealed that he had received two doses of inactivated poliovaccine (Salk). In addition, he had received type I oral poliovaccine (Sabin) in mid-January and type II in late February or early March. Further investigation is in progress, and virologic study of suitable specimens is underway.

3. 1961 POLIOMYELITIS REPORTED TO PSU - TYPE OF PARALYTIC INVOLVEMENT

During 1961, a total of 829 cases of paralytic poliomyelitis was reported to the Poliomyelitis Surveillance Unit (See PSU Report No. 254). Sixty-day follow-up reports were available for 778 of the 829 cases.

Thirty percent of the paralytic cases with known type of involvement were classified as having bulbar involvement as shown in Tables 3A and 3B. This marks the first presentation of paralytic cases by type of involvement in the Poliomyelitis Surveillance Report. However, 217 cases, or 28 percent, of the 778 cases were submitted with unknown type of involvement.

In Table 3A, the paralytic cases are presented by type of involvement and severity of paralysis. The proportion of cases with bulbar involvement ranges from 17 to 28 percent in the patients still living. In contrast, 93 percent of the fatalities were classified as having had bulbar involvement.

In Table 3B, the type of involvement is shown by age group. The proportion of cases with bulbar involvement clearly increases with age. Over one-half of the cases thirty years and older suffered this type of involvement.

* As reported on Polinmvelitie Surveylitance Re-

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ROUTINE POLIOMYRITIES SURVENANCA PAITURE

TYPE OF INVOLVEMENT BY SEVERITY OF PARALYSIS Through May 12, there * 2YAC YTXI2 TAnder-30-day cases (IIV) with

Vaccination (Inactivated)

onset in 1962 reported to the Poli 1691 litts Surveillance Unit.

Severity of	of Vacc		Involvement	<u>a Mich</u> Ona E	B. <u>Case</u>	Percent≭≭ with Bulbar
Paralysis	Spinal	Bulbar	Bulbo-Sp:		Total	Involvement
Minor Involvement	133 a	the Pol:		er desd sv		
Significant Disabili	101-2461	22 14		- 70 - 99	237 299	20.4
Severely Disabled	83	5	28	41	157	28.4
Fatality	5	37	29	6	77	93.0
Severity Unknown	32102501	109 th	REPTIATION	STRO-DIFFE	R8CVP1C	THI .2
Medic companyation in the company of the data	202	70	00	017	770	20.1

Total 392 392 392 391 901 to vb. 217 3778 30.1 County (Arizona) parlants (PSU Report No. 252) has been completed by

* Based upon cases reported to PSU with 60-day residual paralysis. employing 55th the modilled Mecker' and McBride .beifigers esohilot** clearly that the virus strains from both children are "unrelated" to

type I Sabin vaccine. The significance of these results is discussed in the following communication received from Dr. Henry Celfand, Chief, CDC Enterovirus Unit. Table 3B

s mining of berson TYPE OF INVOLVEMENT survivoreina of T mori betalosi asauriBY AGE GROUP - 1961* of is retimus betimil paralytic patients whose disease is const

Group			Bulbo-Spinal Unk. Total In	volven
tion, typ	ter vacatal	week af	understood, During the first	
			mor 15erevoper108lars 295rkv	16.6
5-9	. entous 83 or	13 od 17 ee	is 1691 whic 05clear ly r61 at	30.3
10-14	47	assuz7vo	nes67y all "Hild" type11 polic	27.7
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20-29	46	14	ne balles and ga24ub . 101woh	40.3
30-39	28	h-9n1301	an ebreasidi percentari of ve	51.7
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* Based upon cases reported to PSU with 60-day residual paralysis. ** Of those specified. bluew noits surgretal . awonshu at acitablat

date on the characteristics of policyirus strains prevalent in the same area prior to the administration of oral vaccine.

4. ROUTINE POLIOMYELITIS SURVEILLANCE - 1962

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A. <u>Cases With Onset Within 30 Days of Vaccination (Inactivated)</u>

Through May 12, there have been no under-30-day cases (IPV) with onset in 1962 reported to the Poliomyelitis Surveillance Unit.

B. Cases With Onset Within 30 Days of Vaccination (Oral)

No cases of poliomyelitis with onset within 30 days of receiving oral vaccine have been reported to the Poliomyelitis Surveillance Unit during the week ending May 12, 1962. The 1962 total of under-30-day cases (OPV) remains at one (See PSU Report No. 254).

5. INTRATYPIC SERO-DIFFERENTIATION OF POLIOVIRUSES -- SPECIAL REPORT

Antigenic study of the type I viruses isolated from two Maricopa County (Arizona) patients (PSU Report No. 252) has been completed by Dr. James Nakano, CDC Enterovirus Unit. The results of these tests, employing both the modified Wecker¹ and McBride² techniques, indicate clearly that the virus strains from both children are "unrelated" to type I Sabin vaccine. The significance of these results is discussed in the following communication received from Dr. Henry Gelfand, Chief, CDC Enterovirus Unit.

The Enterovirus Unit of C.D.C. is prepared to perform a limited number of tests upon typed polioviruses isolated from paralytic patients whose disease is considered to have some **:courtestemporal and epidemiologic relationship to the use of oral polio vaccine. However, the limitations of these tests for the solution of problems of vaccine-illness association must be understood. During the first week after vaccination, type I virus strains recovered from almost all persons have characteristics which clearly relate them to the vaccine. Conversely, nearly all "wild" type I polioviruses have characteristics which clearly differentiate them from the vaccine strain. However, during the second and subsequent weeks after vaccination, 40.3 an increasing percentage of vaccine-derived strains demonstrate antigenic "drift," with test values which would place them into "intermediate" or even "vaccine-unrelated" categories. Interpretation is therefore dependent in part upon temporal factors, and strains recovered from vaccinee-contacts are particularly difficult to classify since the exact date of possible vaccine virus infection is unknown. Interpretation would be helped by having data on the characteristics of poliovirus strains prevalent in the same area prior to the administration of oral vaccine.

It must also be pointed out that if live-virus vaccine is administered to an individual infected at the time with a "wild" enterovirus of another type, the vaccine strain may displace the "wild." A virus isolate of vaccine character may, therefore, be unrelated to the patient's illness.

It is obvious, therefore, that antigenic strain study alone will often not provide clear-cut answers to questions of the association of oral polio vaccination and subsequent disease. The results of such tests may, however, provide evidence which can be added to other laboratory and epidemiologic data in an attempt to resolve questions of that nature. There has been much less experience with antigenic strain differences among type III polioviruses and almost none with type II. Interpretation of tests with these latter types must be provisional.

If antigenic strain study is desired by the laboratory of a State Department of Health, the typed isolates should be sent directly to Enterovirus Unit, C.D.C., together with the following information about the patients:

- 1. Name, age, sex, race, residence
- 2. Diagnosis, dates of onsets of first symptoms and CNS signs
- 3. Dates specimens collected
- 4. Results of clinical and virologic laboratory studies
- 5. Dates of oral and Salk vaccines received by patient, family and community
- 6. History of contact, travel, unusual activities

Enterovirus Unit will assign the priority for study and will report results as soon as possible, both to the laboratory making the request and to the Poliomyelitis Surveillance Unit for publication in its reports.

- 1. Nakano, J.H. and Gelfand, H.M., Am. J. Hyg. Vol. 75, to appear in May 1962 issue.
- 2. McBride, W.D. Virology 7:43-58, 1959

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- 2. Disgnosis, dates of onsats of first symptoms and CNS signs
 - 2. Results of climical and virelogic fahoratory studies
 - 5. Dates of oral and Salk vaccines received by patient
 - 6. History of contact, travel, unusual activities

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> Nakano, J.H. and Colfand, H.H., Am. J. Hyg. Vol. 75, to appear In May 1952 (sum.)

> > . McBride, V.D. Virology 7:43-38, 1959

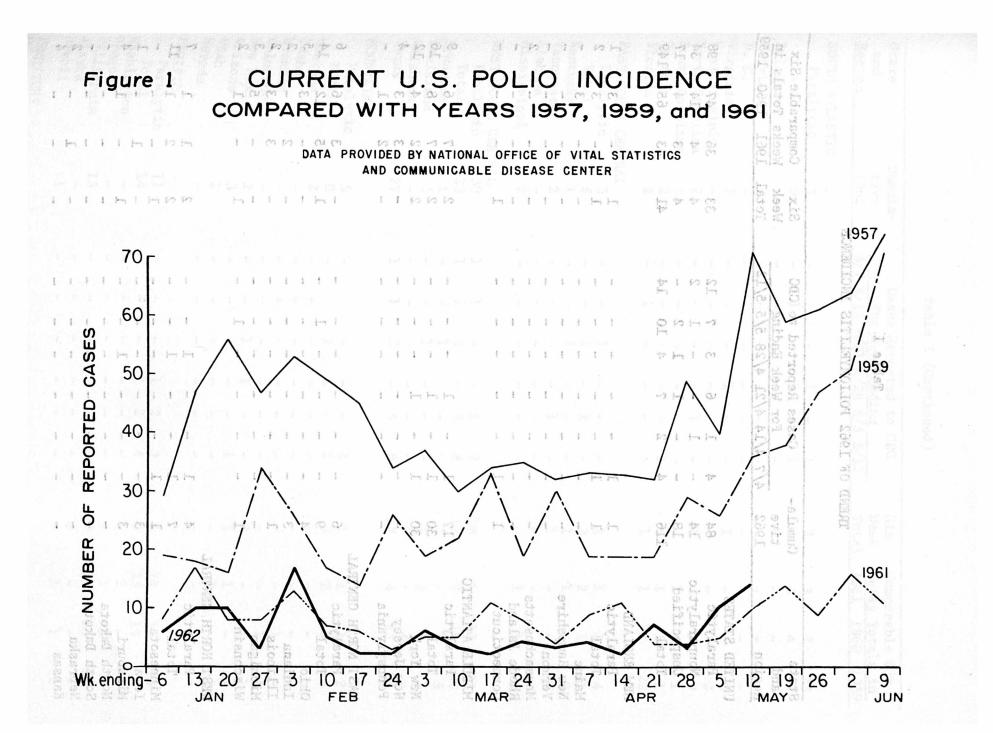


Table I

TREND OF 1962 POLIOMYELITIS INCIDENCE

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-	1302		-1/	1/ 22	1/20	0/0	0/ 12				
UNITED STATES											
Paralytic	84	4	1	6	3	7	12	33	36	47	98
Nonparalytic	14	-	1	-	-	1	2	4	4	14	34
Unspecified	18	-	_	1	1	2	-	4	3	4	17
Total	116	4	2	7	4	10	14	41	43	65	149
NEW ENGLAND											
Paralytic	1	1	_	-	-	_	-	1	_	3	1
Total	ī	ī		_	-	-	-	ì	-	3	2
Maine	_	_	-	_	_	-	-	_	-	3	-
New Hampshire	-	-	-	-	_	-	-	-	-	-	
Vermont	-	-	-	-	_	-	-	-	-	-	-
Massachusetts		-	-	-	-	-	-	-	-	-	2
Rhode Island	-	-	-	-	-	-	-	-	-	_	-
Connecticut	1	1	-	-	-	-	-	1	-	-	-
MIDDLE ATLANTIC											
Paralytic	70	P		7				2	7	6	9
Total	17 30	1 1	-	1 1	-	-	-	2 2	7	8	16
New York	30	i	_	1	_	_	_	2	2	4	12
New Jersey	-	-	_	-	_	_	_	-	3	3	4
Pennsylvania	_	-	_	-	-	_	-	-	2	ĭ	-
-											
EAST NORTH CENTRA											~
Paralytic	6	-	-	-	-	-	-	-	3	6	6
Total	9	-	-	-	-	1	-	1	5	12	14 5
Ohio Indiana	4 3	-	-		-	-	-	-	-	3	2
Illinois	1	-	_	-	-	-	-	-	2 3	- 3	2
Michigan	- -	_	_	-		_	_	-	-	5	3
Wisconsin	1	_	-	_	-	1	_	1	_	ĩ	2
	-					-		-		-	
WEST NORTH CENTRA	L										
Paralytic	4	1	-	-	1	-	-	2	1	1	7
Total	7	1	-	-	1	-	-	2	2	1	11
Minnesota	1	1	-	-	-	-	-	1	-	-	- 1
Iowa	3	-	-	-	-	-	-	-	1	-	1
Missouri	3	-	-	-	1	-	-	1	-	1	4
North Dakota	-	-	-	-	-	-	-	-	-	-	-
South Dakota	-	-	-	-	-	-	-	-	-	-	-
Nebraska	-	-	-	-	-	-	-	-	1	-	2
Kansas	-	-	-	-	-	-	-	-	-	-	4

State	Cumula-		Cases	Rep	orted	to (CDC	Six Week	Comparable Six Weeks Totals in		six s in
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Region	1962	4/7	4/14	4/21	4/28	5/3	5/14	IULAL	1301	1900	
SOUTH ATLANTIC											
Paralytic	7	-	-	-	1	-	1	2	3	2	23
Total	9	-	1	-	1	1	1	4	3	4	31
Delaware	_	-	-	-	_	-	-	- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10	-	-	-
Maryland	_	- C	-	-	_	-	-	-		-	-
D. C.	Cardel <u>C</u> reekee	_	1		_	-	-		-		-
Virginia	2		_	-	1	-	-	1	-	-	2
West Virginia	-	_	_	_	_	-	-	-	-	-	2 3
North Carolina				_	-	1	-	1	-	2	3
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South Carolina			0.00	- E	1400	_	1	1	1	1	1
Georgia	2		ī					ī	l	1	22
Florida	2		1				200			16 E. C.	
EAST SOUTH CEN	TRAL									,	4
Paralytic	3	-	-	1	-	-	-	1	1	1	11
Total	5	-	-	1	-	1	-	2	2		
Kentucky	1	-	-	1	-	-	-	1	1		2
Tennessee	2	- 11 A	-	-	-	1	- 0	1	-	-	4
Alabama		-	-	-	-	-	- K.	-	-	ī	-
Mississippi	2	-	-	-	-	-	-	-	1	1	5
WEST SOUTH CEN											
Densi SUUTH CEN	30	1	1	4	_	5	7	18	6	12	23
Paralytic		i	i	4		5	8	19	7	16	33
Total	33	+	-	i		-	_	1	-	-	5
Arkansas	l		6.5	i		1.1.1	146.	ī	3	1	2
Louisiana	5	-		т	1.1			86. ST. S		2	-
Oklahoma			ī	2	840 -	5	8	17	4	13	26
Texas	27	1	1	4		3	0				
MOUNTAIN											
Paralytic	5	_	_	_	-	-	1	1	1	1	2
Total	8	_	_	1	1	-	1	3	2	3	5
Montana	2	10 C	-		_	-	-		- 1	-	
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Wyoming					-	_		-	-	1	-
Colorado				_		-	_	-	-	1	1
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Nevada	1		102	_		2	- S	-	-	10 ⁻² -	-
PACIFIC	1				-	2	3	6	14	15	23
Paralytic	/ 11		-		1	2	4	7	15	17	26
Total	14	1.1		1511/152			-		13	-]
Washington		-	-		•		Sex Sec		ĩ	ī	4
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nawaii	1			1.1		•	-		1	T	
TERRITORY											
Puerto Rico	5	2			Link a	10.		2	1	80	Carlos A.

Table I (Continued)

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