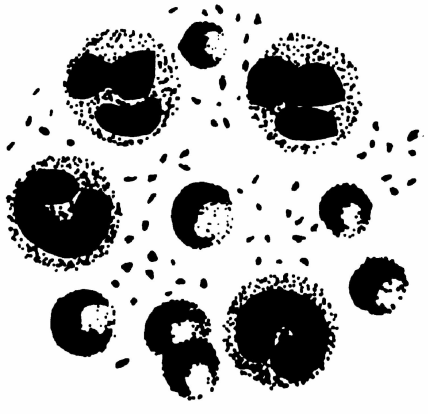
ANNUAL SUMMARY
REPORT NO. 38
Issued September 1976

center for disease control

SHIGELLA surveillance

TABLE OF CONTENTS
for the
Year 1976



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

PREFACE

This report summarizes data voluntarily reported from participating states, territorial, and city health departments. 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 investigators for confirmation and interpretation.

Contributions to the surveillance report are most welcome. Please address to:

Center for Disease Control
Attn: Shigella Surveillance Activity
Bureau of Epidemiology
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SUGGESTED CITATION

Center for Disease Control: Shigella Surveillance Report No. 38
Annual Summary; issued August 1976

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TABLE OF CONTENTS

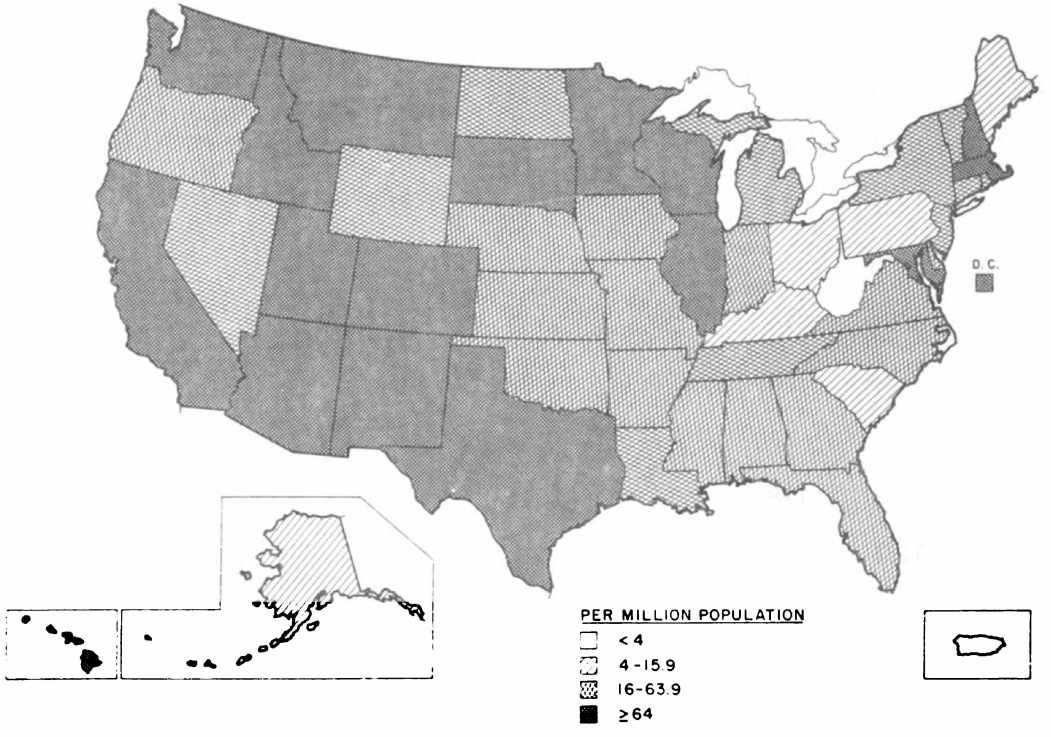
HEW Publication No. (CDC) 76-8225

I. SUMMARY

For 1975, 14,757 shigella isolations from humans were reported to CDC. This was a decrease of 24.0% from the 19,420 isolations reported in 1974. (Tables IA, IB, IC, and ID).

Utilizing population estimates for July 1, 1975, approximately 69.2 isolations were reported for each million population of the United States in 1975. The corresponding rates for 1973 and 1974 were 89.5 and 75.7, respectively.* Rates by state are shown in Figure 1.

Fig. 1 SHIGELLOSIS ATTACK RATES, BY STATE, 1975



II. REPORTED ISOLATIONS

A. Human

1. General Incidence. For 1975, 63.3% of reported isolations identified by age were from children under 10 years of age (Table 1); this is consistent with previous years. The highest rate of isolation was in the 1-4 age group.

*California did not report on a regular basis in 1973.

Table I

Cases of Shigellosis, by Age and Sex, 1975*

Age (Years)	Male	Female	Unknown	Total	Percent	Cumulative Percent	Isolations Per Million Population**
Under 1	257	224	4	485	6.2	6.2	178.6
1 - 4	1516	1443	6	2965	38.1	44.3	254.2
5 - 9	737	734	4	1475	19.0	63.3	94.2
10 - 19	417	488	1	906	11.6	74.9	24.2
20 - 29	337	628	4	969	12.5	87.4	30.1
30 - 39	197	270		467	6.0	93.4	20.3
40 - 49	96	113	1	210	2.7	96.1	10.2
50 - 59	61	75		136	1.7	97.8	6.7
60 - 69	41	41		82	1.1	98.9	5.3
70 - 79	22	32	1	55	.7	99.6	6.3
80 or over	10	22		32	.4	100.0	7.9
Subtotal	3691	4070	21	7782			
Child (Unspec)	26	31	2	59			
Adult (Unspec)	26	29	1	56			
Unknown	1441	1498	76	3015			
Total	5184	5628	100	10912			
Percent	47.9	52.1					

*California not included
**Population estimates based on "Current Population Reports," Series P-25, No. 614, and on unpublished data, U.S. Census Bureau

2. Serotype Frequency. Fifty-two of the 54 centers participating in the Shigella Surveillance Program reported isolations of 29 different serotypes.

Reports of isolations not serotyped were distributed among serotypes reported in the same proportions as the reports of isolations that were serotyped (Table II). The resulting distribution in the tables is called the "calculated number", and from this is derived a "calculated percent" for each serotype. These provide approximate indices of the relative frequencies of reporting of the shigella serotypes in the United States. S. sonnei accounted for approximately 64.5% of all reported isolations. This is a decrease from 1973 and 1974 when S. sonnei constituted 83.6% and 75.8% respectively of all reported isolations (Figure 2). The next most common serotypes were S. flexneri 2a (7.8%), S. flexneri 3a (6.3%), S. flexneri 1b (4.8%) and S. flexneri 1a (3.9%). Only 12 S. dysenteriae 1 isolations were reported for 1975. The calculated number, which includes a proportion of the unspecified S. dysenteriae isolates from California, was 27. This is significantly less than the 68 cases reported for the U.S. in 1972, and thought to reflect the epidemic caused by S. dysenteriae 1 in Central America from 1969-71.

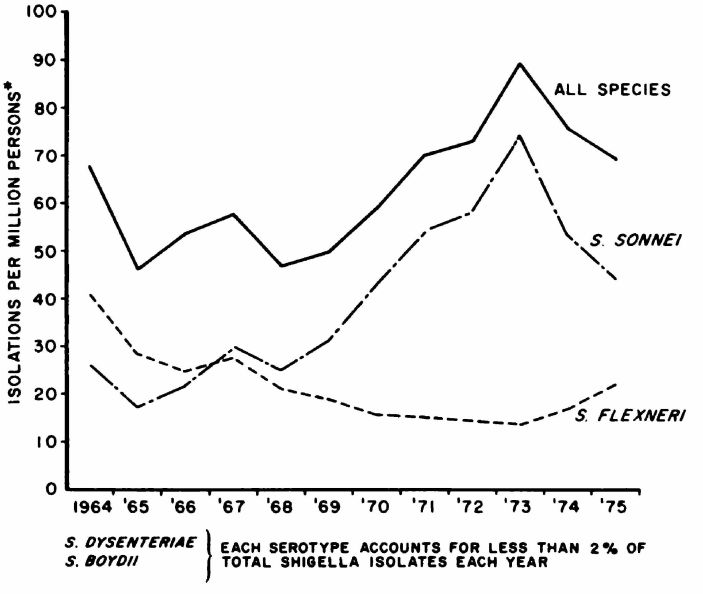
Table III shows the distribution by state of shigella serotypes reported from mental institutions.

3. Geographical and Seasonal Observations. Figure 1 shows the number of reported isolations (per million population by 1975 population estimates) by state for 1975. There were more reported isolations of S. sonnei than S. flexneri in all but the following 10 states: Delaware (7:10),* West Virginia (0:0), Nevada (4:15), South Dakota (7:37), Arizona (342:446), New Mexico (218:339), California (1574:1779), Virgin Islands (0:0), Idaho (21:32) and North Dakota (5:7). The seasonal distribution, peaking in fall and winter, is depicted in Figure 3. Table IV shows the general type of residence of those patients from whom shigella was isolated and reported.

B. Nonhuman

For 1975, 86 isolations from nonhuman sources were reported, 76 of them from primates (Table V).

Fig. 2 REPORTED ISOLATIONS OF SHIGELLA SPECIES, BY YEAR, UNITED STATES, 1964-1975



*The first figure in parentheses is the number of reported isolates of S. sonnei, the second is the number of reported S. flexneri.

Table II

Relative Frequencies of Shigella Serotypes, 1975

	Serotypes	Number Reported	Calculated Number	Calculated Percent
A.	*S. dysenteriae*			
	Unspecified	106		
	1	12	27	.2
	2	56	127	.9
	3	8	18	.1
	4	7	16	.1
	7	1	2	.0
	8	1	2	.0
	9	3	7	.0
B.	*S. flexneri*			
	Unspecified	2291		
	1 Unspecified	237		
	1a	176	578	3.9
	1b	215	706	4.8
	2 Unspecified	245		
	2a	383	1157	7.8
	2b	130	393	2.7
	3 Unspecified	190		
	3a	280	932	6.3
	3b	14	47	.3
	3c	9	30	.2
	4 Unspecified	58		
	4a	116	352	2.4
	4b	4	12	.1
	5	25	51	.3
	6	233	476	3.2
	Varient X	1	2	.0
	Varient Y	2	4	.0
C.	*S. boydii*			
	Unspecified	138		
	1	7	14	.1
	2	105	209	1.4
	3	1	2	.0
	4	12	24	.2
	5	7	14	.1
	7	1	2	.0
	10	9	18	.1
	14	6	12	.1
D.	*S. sonnei*	9261	9524	64.5
	Unknown	407		
	Total	14,757	14,758	

Table III

Shigella Serotypes Isolated From Patients in Mental Institutions, By State, 1975*

	S. dysenteriae Unspecified	S. dysenteriae 2	S. flexneri Unspecified	S. flexneri 1 Unspecified	S. flexneri 1a	S. flexneri 2 Unspecified	S. flexneri 2a	S. flexneri 3 Unspecified	S. flexneri 3a	S. flexneri 3b	S. flexneri 4a	S. flexneri 5	S. flexneri 6	S. sonnei	Total
Alabama	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Florida	0	6	0	1	0	0	0	0	0	0	0	0	13	7	27
Georgia	0	0	0	0	0	2	0	0	0	0	0	0	0	3	5
Illinois	0	20	0	0	0	0	4	0	20	2	0	4	3	26	79
Massachusetts	0	0	2	0	0	0	15	0	0	0	0	0	0	0	17
Michigan	0	0	0	0	0	1	0	1	1	0	0	0	0	0	3
Minnesota	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8
Mississippi	27	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Missouri	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
New Jersey	0	0	0	0	0	0	0	0	0	0	0	0	0	53	53
North Carolina	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
Pennsylvania	0	0	7	0	0	0	0	0	0	0	0	0	0	12	19
South Dakota	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Texas	0	0	0	0	38	0	0	0	0	0	0	0	0	3	41
Utah	0	0	0	0	0	19	0	0	0	0	5	0	0	12	36
Washington	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Wisconsin	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Total	27	26	10	1	38	22	19	1	21	2	5	4	16	135	327

*California not included

Table IV. Reported Isolations of Shigella, by Residence at Time of Onset, 1975*

Source	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	% of Subtotal
Mental Institutions	11	42	25	23	15	20	27	15	11	48	52	38	327	6
Indian Reservations	10	3	2	6	7	5	4	12	4	5	2	9	69	1
Other Residences	479	302	364	423	386	338	506	473	462	518	295	359	4905	93
Subtotal	500	347	391	452	408	363	537	500	477	571	349	406	5301	
Residence Unknown	495	348	351	551	369	448	541	480	568	661	402	396	5610	
Total	995	695	742	1003	777	811	1078	980	1045	1232	751	802	10,911	

*California not included

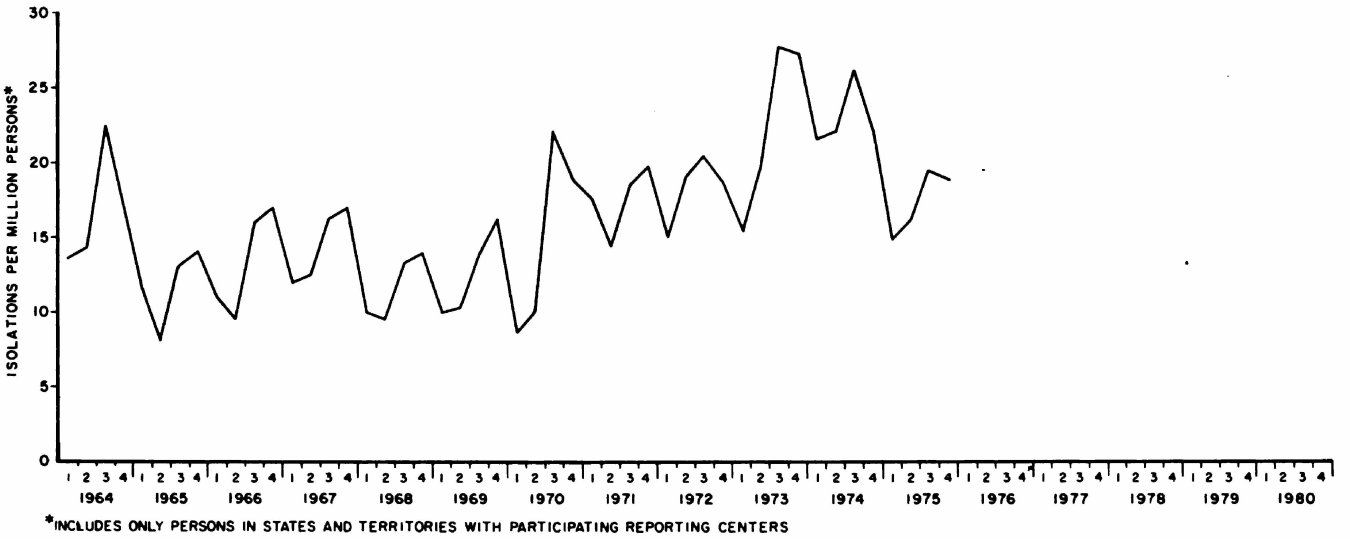
Table V

Shigella Serotypes Isolated from Non-Human Primates, by State, 1975*

Serotype	Number	Source	State
S. dysenteriae (Unspec)	1	monkey	Arkansas
S. dysenteriae 2	1	primate	Arizona
	1	rhesus monkey	Illinois
	2	monkey	Washington
S. flexneri (Unspec)	1	monkey	Georgia
	1	gorilla	Illinois
	1	monkey	Iowa
	1	baboon	Massachusetts
S. flexneri 1 (Unspec)	3	monkey	Georgia
	1	rhesus monkey	Maryland
	1	monkey	Washington
S. flexneri 2 (Unspec)	1	cynamologus monkey	Maryland
	1	monkey	Maryland
	6	rhesus monkey	Maryland
	1	monkey	New Mexico
	3	monkey	Wisconsin
	1	primate	Wisconsin
S. flexneri 2a	3	gibbon	Hawaii
	2	monkey	Texas
S. flexneri 3 (Unspec)	1	monkey	Wisconsin
S. flexneri 3c	1	rhesus monkey	Louisiana
S. flexneri 4 (Unspec)	7	chimpanzee	Georgia
	15	monkey	Georgia
	1	monkey	Maryland
	5	rhesus monkey	Maryland
	1	monkey	New Mexico
S. flexneri 4a	2	monkey	Illinois
S. flexneri 4b	1	rhesus monkey	Texas
S. flexneri 6	5	monkey	Georgia
S. boydii 2	1	primate	Texas
S. sonnei	1	monkey	Georgia
	1	monkey	Illinois
	1	monkey	Ohio
	1	monkey	Washington

*California not included

Fig. 3 REPORTED ISOLATIONS OF SHIGELLA, BY QUARTER, UNITED STATES, 1964-1975



*INCLUDES ONLY PERSONS IN STATES AND TERRITORIES WITH PARTICIPATING REPORTING CENTERS

III. DISCUSSION

1975 is the second successive year in which the rate of shigella isolations for the U.S. as a whole has decreased. This total rate and the rate for S. sonnei both peaked in 1973. Although the total number of isolates reported in 1974 increased with the inclusion of reports from California, a significant decrease in isolates reported from the other 49 states led to a decreased rate for the nation.

The 24% decrease in reported shigella isolations from 1974 to 1975 reflects a decrease in the number of S. sonnei isolates reported. These decreased 34.8% from 14,593 in 1974 to 9,524 in 1975; whereas the number of S. flexneri isolates increased slightly from 4,341 to 4,740 (9.1%). The reasons for these changes are not clear. Ten states each had a decrease of more than 200 reported isolations, and accounted for a total decrease of 4,061 isolations.* Two of these states suggested that changes in reporting procedures might account for their decrease: the Georgia State Department of Human Resources discontinued performing bacteriological analyses on stool specimens submitted by private physicians and local health departments; and a change in stool culturing protocol at a large hospital in Memphis, Tennessee resulted in a large decrease in number of stools cultured and isolations made. The other states reported no change in reporting procedures. However, several state epidemiologists noted that increased unemployment in 1975 could have resulted in fewer persons seeking medical care (and subsequently getting a stool culture) for non-severe diarrheal episodes. The

*(Wisconsin 904, Illinois 739, Pennsylvania 525, Michigan 341, New York 321, Georgia 303, Connecticut 261, Iowa 234, Tennessee 229, and New Jersey 204).

significance of such reporting biases were evaluated in a special study of the nationwide shigella surveillance system which is abstracted in Section IV of this report.

In 1975, health departments in 2 large cities conducted studies to assess the role of day-care centers in the spread of shigellosis.* Several recent studies had described day-care center-associated outbreaks and had suggested that day-care centers could be responsible for the increase in the rate of reported cases seen in 1973 (1,2). In these 2 studies each sequential case was interviewed to determine whether the case or any other family member was enrolled in or worked at a day-care center. Of 100 sequential cases reported to the Chicago Health Department from May through November 1975, only 2 occurred in children attending day-care centers; in 1 additional family, cases occurred in 2 siblings who had a brother attending a day-care center. In New York City 6 of 50 sequential cases reported to the Health Department occurred in children attending day-care centers; 8 other cases occurred in families which had young children attending day-care centers. Thus, in Chicago, where day-care centers were associated with only 2% of all reported cases, day-care did not seem to be an important factor for shigellosis spread in 1975. In New York City, the etiologic significance of day-care center attendance cannot be estimated without knowing the rate of day-care center attendance for a non-ill control group. These preliminary observations suggest that further studies with cases and controls are now needed to better define the role of day-care centers in shigellosis transmission.

Weissman JB, Schmerler A, Weiler P, Filice G, Godbey N, Hansen I: Role of preschool children and day-care centers in the spread of shigellosis in urban communities: A new high-risk group in the U.S.A. J Pediatr 84:797-802, 1974

Weissman JB, Gangarosa EJ, Schmerler A, Marier RL, Lewis JN: Shigellosis in day-care centers. Lancet, January 11, 1975, p. 8-15

IV. SPECIAL REPORT

Description and Evaluation of the Nationwide Shigella Surveillance System

Introduction. This report represents an application of operations research and cost-benefit analysis to an evaluation of disease surveillance. Mark L. Rosenberg, M.D., Shigella Surveillance Officer from July 1974 to June 1976, became interested in assessing the value of the reports of shigella isolations submitted to CDC each week and requested funds to support an evaluation of shigella surveillance. Michael R. Wallace, a student in the Kennedy School of Government's Public Policy Program at Harvard University, was hired to undertake this evaluation with Dr. Rosenberg in the summer of 1975.

Method. There are 5 parts to our description and evaluation. These are presented here because we believe they constitute a useful framework for evaluating or reviewing any disease surveillance program.

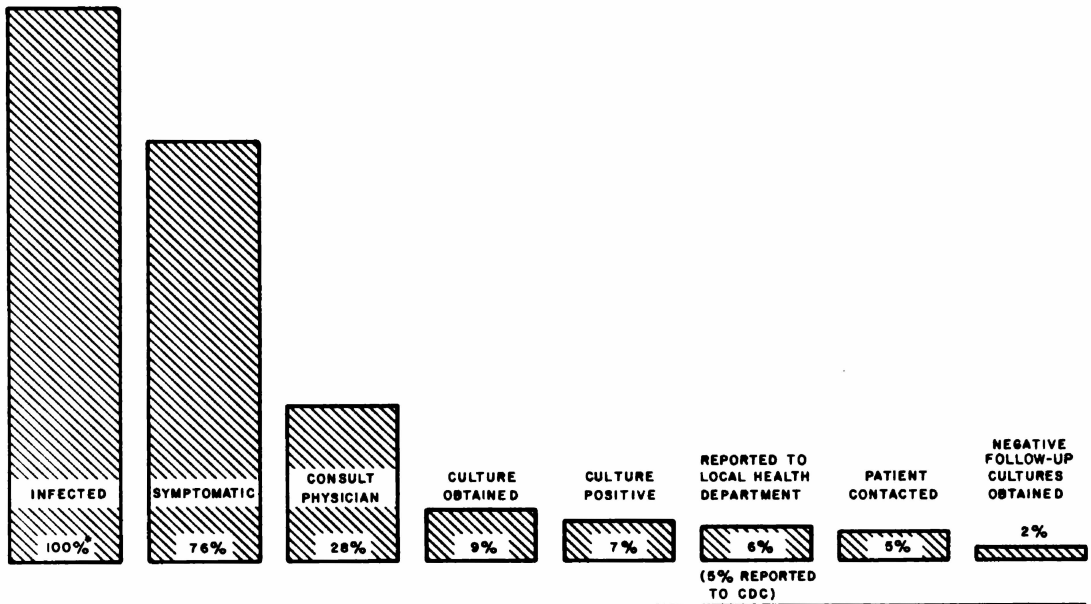
1. Determine the objectives of the program.
   Why is this information being collected?
   How will the data be used? -- Be specific: what decisions will be affected by this information?
   Who will use the data?
   How will this information help to control disease?
   Are there any indirect objectives or political motives for this program? If so, make them explicit.
   What were the objectives of the program when it was initiated?
   How do these compare with its present objectives?

*These studies were conducted by Olga Brolnitsky, M.D., Chief Epidemiologist, Chicago Department of Health; and John S. Marr, M.D., M.P.H., Director, Bureau of Infectious Disease Control; and Public Health Nurse Epidemiologists, New York City Health Department.

2. Describe the present program.
   How are cases defined and detected?
   Who has responsibility for reporting and who actually reports cases?
   What kind of information is requested and what kind is collected?
   What percent of actual cases are reported?
   How is the information analyzed and disseminated?
   What are the time delays from actual incidence to detection, reporting, analysis, and dissemination?
   What biases can affect the program?
   What are the costs of data collection, analysis, and dissemination?
3. Evaluate the program's performance.
   How has the information actually been used?
   What outcomes has it effected?
   Is the data collection system efficient? Is the information accurate?
   Is the data analyzed appropriately and fully?
   What is the value or effectiveness of the program? Do the benefits of having the information exceed the costs of collecting it?
   What is the expected value of the program for each successive year?
4. List alternatives and modifications and evaluate each by the criteria in Step 3.
   Are there other sources of data or different types of surveillance -- e.g. population vs sample data or active vs passive surveillance.
   Would periodic surveys be as effective as continuous surveillance?
   Are there ways other than surveillance that would be more effective in controlling disease?
5. Make recommendations.
   What other programs are competing for the same resources?

Description. Figure 4 describes the present system in terms of the percentage of cases reported, interval between identifying and reporting cases, and costs of collecting, analyzing, and distributing this information. These estimates were derived from Epidemic Aid Reports, data from Seattle-King County and Washington State Health Departments, and interviews with CDC personnel. The data base for this analysis is obviously limited in that the Seattle-King County and Washington State Health Departments are not representative of all health departments in the U.S.; however, we believe that their shigella surveillance program is typical of the best ones in the U.S.

Fig. 4 STAGES IN THE IDENTIFICATION, REPORTING, AND INVESTIGATION OF SHIGELLOSIS



*PERCENT OF ALL INFECTED PERSONS LISTED AT EACH STAGE IN THE REPORTING SYSTEM

ROSENBERG, M.L. – BACTERIAL DISEASES, BUREAU OF EPIDEMIOLOGY, 1976

Evaluation. Actual performance was compared with objectives and the resulting evaluation is presented here in summary form. We are grateful to the State and Territorial Epidemiologists who assisted in this evaluation by providing information about local surveillance procedures and the value of Shigella Surveillance Reports.

Objective	Remarks	Performance
1. Limit transmission		
A. Identifying and intervening in outbreaks	Low reporting rate Long time lags Reporting artifacts Interstate variation Outbreaks per se not reported Only 4/50 Epi Aids initiated through surveillance system	Slow and inefficient but large outbreaks show up eventually
B. Identifying high-risk environments and control measures	Poor residence reporting; day-care center associations not noted. High-risk areas suspected prior to collection of surveillance data - confirmed through outbreak investigation	Poor
C. Assisting with vaccine development	Serotype prevalence well-known now; vaccine now considered impractical	Information accurate but not relevant
D. Collecting data for research	Most valuable information came from outbreak investigation and planned studies.	Decreasing marginal value
2. Fulfill CDC's designated responsibilities		
A. Fulfilling specific obligations	No interstate outbreaks; CDC gets credit for maintaining surveillance	Limited
B. Providing a means of communication	Late entree into outbreaks	Late entree, but effective
C. Compiling, analyzing and distributing nationwide data	Full value difficult to assess	Good
D. Influencing state activities	Implicit effect on states' resource allocation	Minimal effect

Recommendations. We recommend that:

1. The feasibility of using laboratories, such as those involved in the CDC proficiency testing program, or hospital laboratories in selected locations, as sources of information on serotype-frequency and antibiotic-sensitivity be explored.
2. Clinical case report data reported annually to MMWR and published in annual supplement be used to document incidence trends. This data collection system is not based on laboratory confirmed isolates but annual figures closely parallel shigella surveillance system data.
3. State health departments be encouraged to report outbreaks by telephone immediately and to report in writing after investigations have been completed.
4. Alternatives to the Shigella Surveillance Report for distributing information about current diagnostic procedures and treatment be evaluated.
5. An evaluation of the costs, benefits, and effectiveness of shigella surveillance by state and local health departments be undertaken.

SHIGELLA TABLES

TABLE IA

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

FIRST QUARTER, 1975

SEROTYPE	NORTHEAST																									NORTHWEST												NORTH TOTAL
	CONNECTICUT	DELAWARE	DISTRICT OF COLUMBIA	ILLNOIS	INDIANA	IOWA	KENTUCKY	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA	MISSOURI	NEW HAMPSHIRE	NEW JERSEY	NEW YORK–A	NEW YORK–BI	NEW YORK–C	OHIO	PENNSYLVANIA	RHODE ISLAND	VERMONT	VIRGINIA	WEST VIRGINA	WISCONSIN	NORTHEAST TOTAL	COLORADO	IDAHO	KANSAS	MONTANA	NEBRASKA	NEVADA	NORTH DAKOTA	OREGON	SOUTH DAKOTA	UTAH	WASHINGTON	WYOMING	NORTHWEST TOTAL	
S. DYSENTERIAE																																						
Unspecified															1						1					2								1			1	3
1				4											1											5									2		2	7
2				1						1				1												3											0	3
3												1														1											0	1
4												1														1											0	1
TOTAL	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**3**	**15**
S. FLEXNERI																																						
Unspecified	2	7	2			1				6			4			5	2	19		5	1	1				55	16			6			1	1	14		1	1	40	95
1 Unspecified											1														2	3									1	17		18	21
1a	1										1	1														3					2							2	5
1b				1																						1		3									3	4
2 Unspecified									1		3		1						1						1	7									12	7		19	26
2a	2			7						6	3	5			3			1								27			4								4	31
2b				6						1																7											0	7
3 Unspecified									1		4		1		2										1	9		2	1						3	2		8	17
3a	7			31							2															40											0	40
3b				2																						2											0	2
3c												3														3											0	3
4 Unspecified													1												1	2										2	2	4
4a				1						1		2														4											0	4
4b															1											1									1		1	2
5																										0											0	0
6	7			3							1	1				1										13			1						4		5	18
TOTAL	**19**	**7**	**2**	**51**	**0**	**1**	**0**	**0**	**2**	**14**	**15**	**12**	**7**	**0**	**6**	**6**	**2**	**20**	**1**	**5**	**1**	**1**	**0**	**0**	**5**	**177**	**16**	**5**	**6**	**6**	**0**	**2**	**1**	**1**	**14**	**21**	**29**	**1**	**102**	**279**
S. BOYDII																																						
Unspecified						1					1															2												0	2
1																										0											0	0
2				4						1																5											0	5
4																										0											0	0
10																										0											0	0
TOTAL	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**
S. SONNEI	40	2	27	143	37	17	7	7	27	110	104	50	28	2	42	70	3	50	29	29	3	7	32		115	981	50	6	12	14	26		1	10	3	49	77	10	258	1,239
Unknown			7				1				3										1				1	13	1			1						2	1	5	18
TOTAL	**59**	**9**	**36**	**203**	**37**	**19**	**8**	**7**	**29**	**126**	**123**	**64**	**35**	**3**	**50**	**76**	**5**	**70**	**30**	**34**	**6**	**8**	**32**	**0**	**121**	**1,190**	**67**	**11**	**18**	**21**	**26**	**2**	**2**	**12**	**17**	**70**	**110**	**12**	**368**	**1,558**

TABLE 1A (Continued)

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

FIRST QUARTER, 1975

SOUTHEAST										SOUTHWEST					SOUTH TOTAL	OTHER					TOTAL	PERCENT OF TOTAL	PREVIOUS QUARTER		SEROTYPE
ALABAMA	ARKANSAS	FLORIDA	GEORGIA	LOUISIANA	MISSISSIPPI	NORTH CAROLINA	SOUTH CAROLINA	TENNESSEE	SOUTHEAST TOTAL	ARIZONA	NEW MEXICO	OKLAHOMA	TEXAS	SOUTHWEST TOTAL		ALASKA	CALIFORNIA	HAWAII	VIRGIN ISLANDS	OTHER TOTAL			TOTAL	PERCENT OF TOTAL	
																									S. DYSENTERIAE
									0		1			1	1		23			23	27	0.9	58	1.2	Unspecified
									0					0	0					0	7	0.2	6	0.1	1
		2							2				3	3	5					0	8	0.3	12	0.3	2
									0					0	0					0	1	0.0	4	0.1	3
																				0	1	0.0	0	0.0	4
0	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**3**	**4**	**6**	**0**	**23**	**0**	**0**	**23**	**44**	**1.4**	**81**	**1.7**	**TOTAL**
																									S. FLEXNERI
	25		1						26			1	1	2	28		387			387	510	16.1	543	11.7	Unspecified
		4							4		28			28	32					0	53	1.7	38	0.8	1 Unspecified
									0	2			27	29	29					0	34	1.1	28	0.6	1a
									0	32			1	33	33					0	37	1.2	37	0.8	1b
5		3	1			2			11		11			11	22					0	48	1.5	75	1.6	2 Unspecified
				5				9	14	12		1	24	37	51			6		6	88	2.8	122	2.6	2a
								1	1	5			5	10	11					0	18	0.6	22	0.5	2b
		1	1						2		20			20	22			1		1	40	1.3	55	1.2	3 Unspecified
								1	1	9			14	23	24					0	64	2.0	62	1.3	3a
									0	1			1	2	2					0	4	0.1	2	0.0	3b
									0				1	1	1					0	4	0.4	12	0.3	3c
		3							3		6			6	9					0	13	0.4	31	0.7	4 Unspecified
				1					1	4			6	10	11					0	15	0.5	29	0.6	4a
									0				1	1	1					0	3	0.1	2	0.0	4b
									0				1	1	1					0	1	0.0	2	0.0	5
		3				2	2		7	9	7	1	13	30	37					0	55	1.7	119	2.6	6
5	**25**	**14**	**3**	**6**	**0**	**4**	**2**	**11**	**70**	**74**	**72**	**3**	**95**	**244**	**314**	**0**	**387**	**7**	**0**	**394**	**987**	**31.2**	**1,180**	**25.3**	**TOTAL**
																									S. BOYDII
									0	5				5	5		19			19	26	0.8	59	1.3	Unspecified
									0	1	1			2	2					0	2	0.1	1	0.0	1
									0	3			5	8	8					0	13	0.4	17	0.4	2
									0	1			1	2	2					0	2	0.1	4	0.1	4
									0				2	2	2					0	2	0.1	2	0.0	10
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**1**	**0**	**8**	**19**	**19**	**0**	**19**	**0**	**0**	**19**	**45**	**1.4**	**85**	**1.8**	**TOTAL**
28	14	47	36	54	1	35	3	28	246	30	37	12	179	258	504	2	272	16		290	2,033	64.2	3,184	68.4	*S. SONNEI*
									0				1	1	1		38			38	57	1.8	126	2.7	Unknown
33	**39**	**63**	**39**	**60**	**1**	**39**	**5**	**39**	**318**	**114**	**111**	**15**	**286**	**526**	**844**	**2**	**739**	**23**	**0**	**764**	**3,166**		**4,656**		**TOTAL**

TABLE IB

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

SECOND QUARTER, 1975

NORTHEAST

SEROTYPE	CONNECTICUT	DELAWARE	DISTRICT OF COLUMBIA	ILLINOIS	INDIANA	IOWA	KENTUCKY	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA	MISSOURI	NEW HAMPSHIRE	NEW JERSEY	NEW YORK–A	NEW YORK–BI	NEW YORK–C	OHIO	PENNSYLVANIA	RHODE ISLAND	VERMONT	VIRGINIA	WEST VIRGINIA	WISCONSIN	NORTHEAST TOTAL
S. DYSENTERIAE																										
Unspecified						1						1				2		1								5
2				18																						18
3																										0
TOTAL	0	0	0	18	0	1	0	0	0	0	0	1	0	0	0	2	0	1	0	0	0	0	0	0	0	23
S. FLEXNERI																										
Unspecified		3		1	2	1				5			4		1	4	2	22		2			3		1	51
1 Unspecified																										0
1a				9						1		1														11
1b				3								1														4
2 Unspecified									7		1								1						6	15
2a				16						1	1	6														24
2b				7							1															8
3 Unspecified													1		2			2	1							6
3a	8			16							1	1														26
3b											2															2
3c												1														1
4 Unspecified													1													1
4a				3								1	2													6
5				3																						3
6	2			2					4				1		1	2			1						1	14
Variant X																										0
Variant Y																										0
TOTAL	10	3	0	60	2	1	0	0	11	7	6	11	9	0	4	6	2	24	3	2	0	0	3	0	8	172
S. BOYDII																										
Unspecified											1							1								2
1																										0
2				1																						1
4				1																						1
10																										0
14																1										1
TOTAL	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	5
S. SONNEI	32	3	63	128	21	14	2	2	49	45	85	16	21	2	32	40	3	47	51	52		1	58		48	815
Unknown	1		5			1												6							2	15
TOTAL	43	6	68	208	23	17	2	2	60	52	92	28	30	2	36	49	5	79	54	54	0	1	61	0	58	1,030

NORTHWEST

SEROTYPE	COLORADO	IDAHO	KANSAS	MONTANA	NEBRASKA	NEVADA	NORTH DAKOTA	OREGON	SOUTH DAKOTA	UTAH	WASHINGTON	WYOMING	NORTHWEST TOTAL	NORTH TOTAL
S. DYSENTERIAE														
Unspecified	4												4	9
2											1		1	19
3													0	0
TOTAL	4	0	0	0	0	0	0	0	0	0	1	0	5	28
S. FLEXNERI														
Unspecified	18		1	5		1	1	5	3		2		36	87
1 Unspecified										8	9		17	17
1a									1		2		3	14
1b													0	4
2 Unspecified										9	13		22	37
2a		3		1		1							5	29
2b													0	8
3 Unspecified		1	1							1	4		7	13
3a													0	26
3b													0	2
3c													0	1
4 Unspecified											2		2	3
4a		1											1	7
5		3									3		6	9
6		1								3	1		5	19
Variant X													0	0
Variant Y		1											1	1
TOTAL	18	10	2	6	0	2	1	5	4	21	36	0	105	277
S. BOYDII														
Unspecified									1				1	3
1													0	0
2			1										1	2
4													0	1
10													0	0
14													0	1
TOTAL	0	0	1	0	0	0	0	0	1	0	0	0	2	7
S. SONNEI	25		4	11	63		4	62	1	115	137	2	424	1,239
Unknown	4						1				2		7	22
TOTAL	51	10	7	17	63	2	6	67	6	136	176	2	543	1,573

TABLE 1B (Continued)

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

SECOND QUARTER, 1975

SOUTHEAST										SOUTHWEST					SOUTH TOTAL	OTHER					TOTAL	PERCENT OF TOTAL	PREVIOUS QUARTER		SEROTYPE
ALABAMA	ARKANSAS	FLORIDA	GEORGIA	LOUISIANA	MISSISSIPPI	NORTH CAROLINA	SOUTH CAROLINA	TENNESSEE	SOUTHEAST TOTAL	ARIZONA	NEW MEXICO	OKLAHOMA	TEXAS	SOUTHWEST TOTAL		ALASKA	CALIFORNIA	HAWAII	VIRGIN ISLANDS	OTHER TOTAL			TOTAL	PERCENT OF TOTAL	
																									S. DYSENTERIAE
									0	1			1	1	1		12			12	22	0.6	27	0.9	Unspecified
1		1							2	1			1	2	4					0	23	0.7	8	0.3	2
									0	1			1	2	2					0	2	0.1	1	0.0	3
1	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**2**	**5**	**7**	**0**	**12**	**0**	**0**	**12**	**47**	**1.4**	**44**	**1.4**	**TOTAL**
																									S. FLEXNERI
	27			1	10				38				3	3	41		405			405	533	15.5	510	16.1	Unspecified
		3				1			4		35			35	39					0	56	1.6	53	1.7	1 Unspecified
									0	10			23	33	33					0	47	1.4	34	1.1	1a
				1					1	36			1	37	38			1		1	43	1.3	37	1.2	1b
2		10	1			3			16		10			10	26					0	63	1.8	48	1.5	2 Unspecified
				4				6	10	14			28	42	52			7		7	88	2.6	88	2.8	2a
									0	3			22	25	25					0	33	1.0	18	0.6	2b
1		1	8			2	1		13		33			33	46			4		4	63	1.8	40	1.3	3 Unspecified
				5					5	20			24	44	49					0	75	2.2	64	2.0	3a
									0				3	3	3					0	5	0.1	4	0.1	3b
									0					0	0					0	1	0.0	4	0.1	3c
		1							1		10			10	11					0	14	0.4	13	0.4	4 Unspecified
									0	9			12	21	21			1		1	29	0.8	15	0.5	4a
		2						1	1				2	2	3					0	12	0.3	1	0.0	5
1									2	8	4		15	27	29					0	48	1.4	55	1.7	6
									1					0	1						1	0.0			Variant X
									0					0	0						1	0.0			Variant Y
4	**27**	**17**	**9**	**11**	**10**	**6**	**1**	**7**	**92**	**100**	**92**	**0**	**133**	**325**	**417**	**0**	**405**	**13**	**0**	**418**	**1,112**	**32.4**	**987**	**31.2**	**TOTAL**
																									S. BOYDII
									0				1	1	1		26			26	30	0.9	26	0.8	Unspecified
									0				3	3	3					0	3	0.1	2	0.1	1
									0	6	2		10	18	18					0	20	0.6	13	0.4	2
		1							1					0	1					0	2	0.1	2	0.1	4
									0	1			2	3	3					0	3	0.1	2	0.1	10
									0				2	2	2					0	3	0.1			14
0	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**2**	**0**	**18**	**27**	**28**	**0**	**26**	**0**	**0**	**26**	**61**	**1.8**	**45**	**1.4**	**TOTAL**
72	10	32	50	62	3	14	2	22	267	63	48	9	192	312	579	1	274	20		295	2,113	61.6	2,033	64.2	*S. SONNEI*
									0				2	2	2		74			74	98	2.9	57	1.8	Unknown
77	**37**	**51**	**59**	**73**	**13**	**20**	**3**	**29**	**362**	**173**	**142**	**9**	**347**	**671**	**1,033**	**1**	**791**	**33**	**0**	**825**	**3,431**		**3,166**		**TOTAL**

TABLE IC

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

THIRD QUARTER, 1975

SEROTYPE	NORTHEAST																										NORTHWEST												NORTH TOTAL
	CONNECTICUT	DELAWARE	DISTRICT OF COLUMBIA	ILLINOIS	INDIANA	IOWA	KENTUCKY	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA	MISSOURI	NEW HAMPSHIRE	NEW JERSEY	NEW YORK–A	NEW YORK–BI	NEW YORK–C	OHIO	PENNSYLVANIA	RHODE ISLAND	VERMONT	VIRGINIA	WEST VIRGINIA	WISCONSIN	NORTHEAST TOTAL	COLORADO	IDAHO	KANSAS	MONTANA	NEBRASKA	NEVADA	NORTH DAKOTA	OREGON	SOUTH DAKOTA	UTAH	WASHINGTON	WYOMING	NORTHWEST TOTAL	
S. DYSENTERIAE																																						
Unspecified											2	1														3	2								1			3	6
1				2																						2												0	2
2										1																1												0	1
3																										0												0	0
4	1			4																						5												0	5
7																		1								1												0	1
9																										0												0	0
TOTAL	**1**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**15**
S. FLEXNERI																																						
Unspecified			1		6	2				9	15	2	3	3		6		7		16	2		3		2	77	26	2	1	2		2	1	9	13				56	133
1 Unspecified											2				1										1	4									8	5		13	17
1a				3											2											5		1										1	6
1b				2						1		1														4		4										4	8
2 Unspecified							3		16		1		2						2						3	27									7	9		16	43
2a				8						13		9														30										1		1	31
2b				2																						2		2										2	4
3 Unspecified									1						3				2						6	12		4							6	9		19	31
3a	2			11							3															16												0	16
3c	1																									1												0	1
4 Unspecified																										0										1		1	1
4a				3			1					2														6		1							7			8	14
5				1																					1	2												0	2
6	1			12					1	2		1			1	1									2	21								1		1		2	23
TOTAL	**4**	**0**	**1**	**42**	**6**	**2**	**4**	**0**	**18**	**25**	**21**	**15**	**5**	**3**	**7**	**7**	**0**	**7**	**4**	**16**	**2**	**0**	**3**	**0**	**15**	**207**	**26**	**14**	**1**	**2**	**0**	**2**	**1**	**10**	**13**	**28**	**26**	**0**	**123**	**330**
S. BOYDII																																						
Unspecified																				1						1												0	1
1																										0												0	0
2				7								1													1	9								1		2	1		4	13
4										2		1													1	4												0	4
5				1						1									1							3												0	3
10																										0												0	0
14																										0												0	0
TOTAL	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**1**	**0**	**4**	**21**
S. SONNEI	37		26	120	25	18	6	2	86	102	116	70	12	23	37	55		26	36	18	2	2	18		74	911	29	5	18	6	6	3		23	1	46	200	1	338	1,249
Unknown			8			1						3		1				1							2	16		5					1					6	22
TOTAL	**42**	**0**	**35**	**176**	**31**	**21**	**10**	**2**	**104**	**131**	**139**	**91**	**17**	**27**	**44**	**62**	**0**	**35**	**41**	**35**	**4**	**2**	**21**	**0**	**93**	**1,163**	**57**	**24**	**19**	**8**	**6**	**5**	**2**	**34**	**14**	**77**	**227**	**1**	**474**	**1,637**

TABLE IC (Continued)

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

THIRD QUARTER, 1975

SOUTHEAST										SOUTHWEST					SOUTH TOTAL	OTHER					TOTAL	PERCENT OF TOTAL	PREVIOUS QUARTER		SEROTYPE
ALABAMA	ARKANSAS	FLORIDA	GEORGIA	LOUISIANA	MISSISSIPPI	NORTH CAROLINA	SOUTH CAROLINA	TENNESSEE	SOUTHEAST TOTAL	ARIZONA	NEW MEXICO	OKLAHOMA	TEXAS	SOUTHWEST TOTAL		ALASKA	CALIFORNIA	HAWAII	VIRGIN ISLANDS	OTHER TOTAL			TOTAL	PERCENT OF TOTAL	
																									S. DYSENTERIAE
									0					0	0		15			15	21	0.5	22	0.6	Unspecified
									0				2	2	2					0	4	0.1			1
		6							6	1	1		6	8	14					0	15	0.4	23	0.7	2
									0	2			1	3	3					0	3	0.1	2	0.1	3
									0					0	0					0	5	0.1			4
									0					0	0					0	1	0.0			7
									0				1	1	1					0	1	0.0			9
0	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**3**	**1**	**0**	**10**	**14**	**20**	**0**	**15**	**0**	**0**	**15**	**50**	**1.2**	**47**	**1.4**	**TOTAL**
																									S. FLEXNERI
	3			1	3	3			10			3	2	5	15		490			490	638	15.3	533	15.5	Unspecified
1		2							3		60			60	63					0	80	1.9	56	1.6	1 Unspecified
								4	4				30	30	34					0	40	1.0	47	1.4	1a
									0	62				62	62					0	70	1.7	43	1.3	1b
1		6	3			5	1		16		11		1	12	28					0	71	1.7	63	1.8	2 Unspecified
				8				6	14	27		1	36	64	78			2		2	111	2.7	88	2.6	2a
				1				1	2	3	1		34	38	40					0	44	1.1	33	1.0	2b
		2	1						3		14			14	17			5		5	53	1.3	63	1.8	3 Unspecified
				4				8	12	27			32	59	71					0	87	2.1	75	2.2	3a
									0					0	0					0	1	0.0	1	0.0	3c
		1							1		12			12	13					0	14	0.3	14	0.4	4 Unspecified
									0	20			11	31	31			1		1	46	1.1	29	0.8	4a
			1						1				2	2	3					0	5	0.1	12	0.3	5
		9	1	1		2	1	1	15	22	3		16	41	56					0	79	1.9	48	1.4	6
2	**3**	**20**	**6**	**15**	**3**	**10**	**2**	**20**	**81**	**161**	**101**	**4**	**164**	**430**	**511**	**0**	**490**	**8**	**0**	**490**	**1,339**	**32.2**	**1,112**	**32.4**	**TOTAL**
																									S. BOYDII
									0					0	0		24			24	25	0.6	30	0.9	Unspecified
									0	1			1	2	2					0	2	0.0	3	0.1	1
			1						1	6	6		12	24	25					0	38	0.9	20	0.6	2
									0				4	4	4					0	8	0.2	2	0.1	4
									0		1		1	2	2					0	5	0.1			5
									0	1			3	4	4					0	4	0.1	3	0.1	10
									0	2			1	3	3					0	3	0.1	3	0.1	14
0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	**7**	**0**	**22**	**39**	**40**	**0**	**24**	**0**	**0**	**24**	**85**	**2.0**	**61**	**1.8**	**TOTAL**
51	12	66	78	46	17	39	2	21	332	119	55	19	295	488	820		477	29		506	2,575	61.9	2,113	61.6	*S. SONNEI*
									0				2	2	2		84			84	108	2.6	98	2.9	Unknown
53	**15**	**92**	**85**	**61**	**20**	**49**	**4**	**41**	**420**	**293**	**164**	**23**	**493**	**973**	**1,393**	**0**	**1,090**	**37**	**0**	**1,127**	**4,157**		**3,431**		**TOTAL**

TABLE ID

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

FOURTH QUARTER, 1975

SEROTYPE	NORTHEAST																									NORTHWEST													NORTH TOTAL
	CONNECTICUT	DELAWARE	DISTRICT OF COLUMBIA	ILLINOIS	INDIANA	IOWA	KENTUCKY	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA	MISSOURI	NEW HAMPSHIRE	NEW JERSEY	NEW YORK–A	NEW YORK–BI	NEW YORK–C	OHIO	PENNSYLVANIA	RHODE ISLAND	VERMONT	VIRGINIA	WEST VIRGINIA	WISCONSIN	NORTHEAST TOTAL	COLORADO	IDAHO	KANSAS	MONTANA	NEBRASKA	NEVADA	NORTH DAKOTA	OREGON	SOUTH DAKOTA	UTAH	WASHINGTON	WYOMING	NORTHWEST TOTAL	
S. DYSENTERIAE																																							
Unspecified																										0	6											6	6
1																			1							1												0	1
2	1			1																						2								1		1		2	4
3																										0												0	0
4																										0												0	0
8																										0										1		1	1
9												1								1						2												0	2
TOTAL	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	5	6	0	0	0	0	0	0	1	0	0	2	0	9	14
S. FLEXNERI																																							
Unspecified					3	1				7		1				12		17		7	2		1		1	52	30			3		9		4	6			52	104
1 Unspecified									1		1								1							3										1	4	5	8
1a				7								1														8		1										1	9
1b	1			4						1	2	2														10												0	10
2 Unspecified					1				17				1		1				1						3	24										1	9	10	34
2a	3			12						8		8			3											34			1	2			4					7	41
2b				9							2	1														12												0	12
3 Unspecified									1				1		1	1		3	1	1					1	10		1	1							2	6	10	20
3a				15							2	1														18												0	18
3b				1								2														3												0	3
3c	2											1														3												0	3
4 Unspecified											1				1											2												0	2
4a				3						1		1														5		1								3		4	9
4b																										0												0	0
5												1														1											1	1	2
6				4			1				1														2	8									1		1	9
Variant Y				1																						1												0	1
TOTAL	6	0	0	56	4	1	1	0	19	17	9	19	2	0	6	13	0	20	3	8	2	0	1	0	7	194	30	3	2	5	0	9	4	4	6	8	20	0	91	285
S. BOYDII																																							
Unspecified																					1					1	1												1	2
2				3			1																		1	5										2		2	7
3																									1	1												0	1
5				1					1																	2												0	2
7																										0												0	0
TOTAL	0	0	0	4	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	9	1	0	0	0	0	0	0	0	0	0	2	0	3	12
S. SONNEI	24	2	13	118	20	7	10	1	137	70	106	72	10	29	93	26		37	29	24	11		10		34	883	39	10	7	21		1		15	2	46	103		244	1,127
Unknown			1								1	29						3			2				8	44		4										4	48
TOTAL	31	2	14	179	24	8	12	1	157	87	116	121	12	29	99	39	0	60	33	33	16	0	11	0	51	1,135	76	17	9	26	0	10	4	20	8	54	127	0	351	1,486

TABLE ID (Continued)

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

FOURTH QUARTER, 1975

SOUTHEAST										SOUTHWEST					SOUTH TOTAL	OTHER					TOTAL	PERCENT OF TOTAL	PREVIOUS QUARTER		SEROTYPE
ALABAMA	ARKANSAS	FLORIDA	GEORGIA	LOUISIANA	MISSISSIPPI	NORTH CAROLINA	SOUTH CAROLINA	TENNESSEE	SOUTHEAST TOTAL	ARIZONA	NEW MEXICO	OKLAHOMA	TEXAS	SOUTHWEST TOTAL		ALASKA	CALIFORNIA	HAWAII	VIRGIN ISLANDS	OTHER TOTAL			TOTAL	PERCENT OF TOTAL	
																									A. DYSENTERIAE
									0	1				1	1		29			29	36	0.9	21	0.5	Unspecified
									0					0	0					0	1	0.0	4	0.1	1
		2							2	2	1		1	4	6					0	10	0.2	15	0.4	2
									0	2				2	2					0	2	0.0	3	0.1	3
									0	1				1	1					0	1	0.0	5	0.1	4
									0					0	0					0	1	0.0			8
									0					0	0					0	2	0.0	1	0.0	9
0	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**6**	**1**	**0**	**1**	**8**	**10**	**0**	**29**	**0**	**0**	**29**	**53**	**1.3**	**50**	**1.2**	**TOTAL**
																									S. FLEXNERI
	3		1		1		1		6			1	3	4	10		496			496	610	15.2	638	15.3	Unspecified
		4	1						5		35			35	40					0	48	1.2	80	1.9	1 Unspecified
									0	4			42	46	46					0	55	1.4	40	1.0	1a
				1					1	54				54	55						65	1.6	70	1.7	1b
2		5	2			5			14		6		8	14	28		1			1	63	1.6	71	1.7	2 Unspecified
				2				4	6	13			26	39	45			10		10	96	2.4	111	2.7	2a
							1	6	7	3			13	16	23					0	35	0.9	44	1.1	2b
		2	1						3		9		1	10	13			1		1	34	0.8	53	1.3	3 Unspecified
				3				5	8	9			19	28	36					0	54	1.3	87	2.1	3a
								1	1				1	1	2					0	5	0.1			3b
									0					0	0					0	3	0.1	1	0.0	3c
		1	1						2		13			13	15					0	17	0.4	14	0.3	4 Unspecified
				1				1	2	11			4	15	17					0	26	0.6	46	1.1	4a
									0				1	1	1					0	1	0.0			4b
									0				5	5	5					0	7	0.2	5	0.1	5
		3						6	9	17	11		5	33	42					0	51	1.3	79	1.9	6
									0					0	0					0	1	0.0			Variant Y
2	**3**	**15**	**6**	**7**	**1**	**5**	**2**	**23**	**64**	**111**	**74**	**1**	**128**	**314**	**378**	**0**	**497**	**11**	**0**	**508**	**1,171**	**29.3**	**1,339**	**32.2**	**TOTAL**
																									S. BOYDII
									0					0	0		55			55	57	1.5	25	0.4	Unspecified
									0	19			8	27	27					0	34	0.8	38	0.9	2
									0					0	0					0	1	0.0			3
									0					0	0					0	2	0.0	5	0.1	5
									0	1				1	1					0	1	0.0			7
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**0**	**8**	**28**	**28**		**55**	**0**	**0**	**55**	**95**	**2.4**	**85**	**2.0**	**TOTAL**
43	27	35	115	35	5	23	2	86	371	130	78	9	246	463	834	1	551	27		579	2,540	63.5	2,575	61.9	*S. SONNEI*
			1						1				1	1	2		94			94	144	3.6	108	2.6	Unknown
45	**30**	**52**	**122**	**42**	**6**	**28**	**4**	**109**	**438**	**267**	**153**	**10**	**384**	**8.4**	**1,252**	**1**	**1,226**	**38**	**0**	**1,265**	**4,003**		**4,157**		**TOTAL**

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The State Epidemiologists are the key to all disease surveillance activities. They are responsible for collecting, interpreting, and transmitting data and epidemiologic information from their individual States. Their contributions to this report are gratefully acknowledged. In addition, valuable contributions are made by State Laboratory Directors; we are indebted to them for their valuable support.

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EW Publication No. (CDC) 76-8225