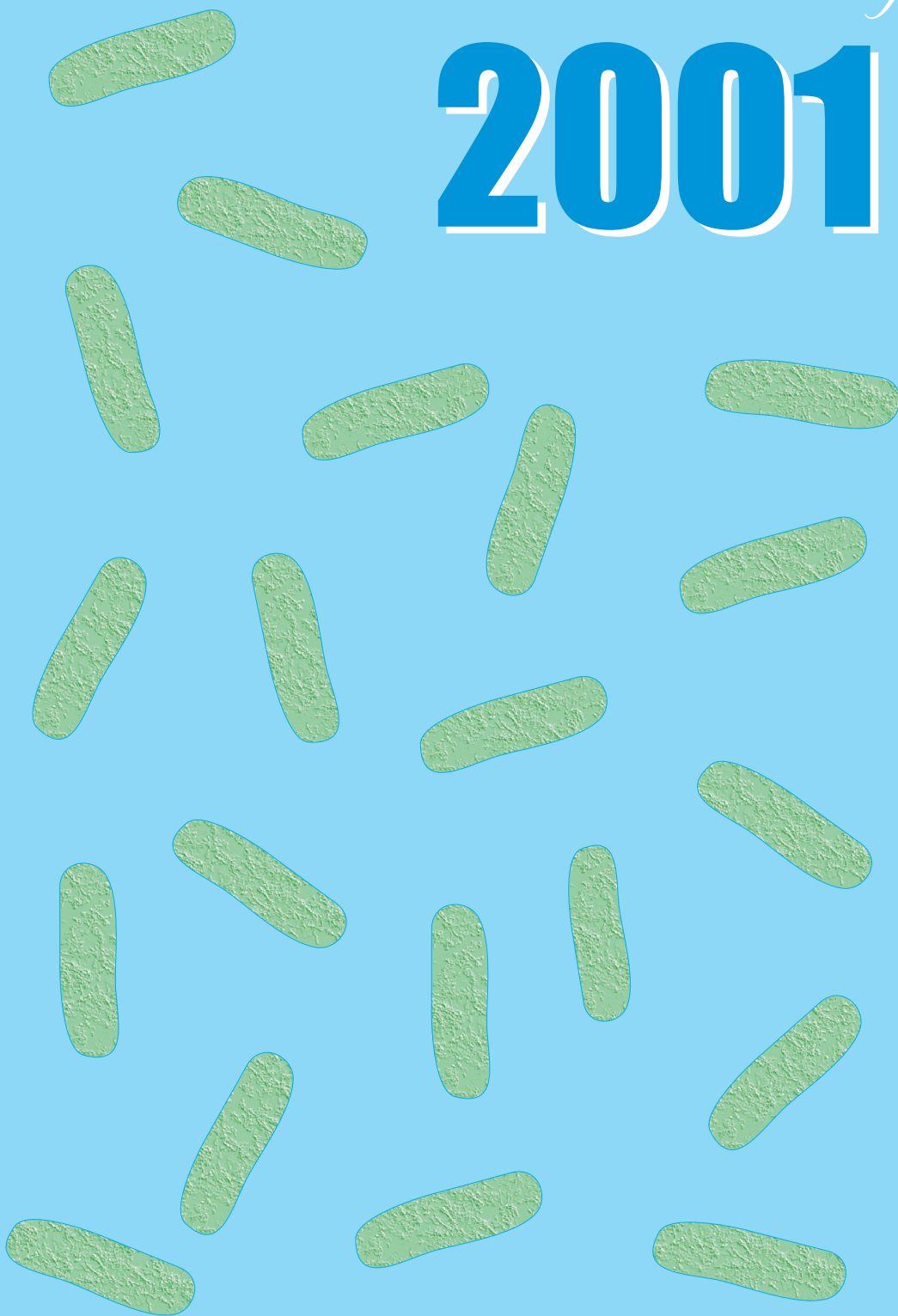


Shigella

Annual Summary

2001



Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Infectious Diseases
Division of Bacterial and Mycotic Diseases
Foodborne and Diarrheal Diseases Branch
Atlanta, GA 30333



Laboratory-Confirmed *Shigella* Surveillance Annual Summary, 2001

The Annual Summary contains surveillance data on reported laboratory-confirmed *Shigella* isolates in the United States. The National *Shigella* Surveillance System collects reports of isolates of *Shigella* from every state in the United States. This information is reported electronically through the Public Health Laboratory Information System (PHLIS) by the State Public Health Laboratory Directors and State and Territorial Epidemiologists to the Foodborne and Diarrheal Diseases Branch (FDDDB) and the Biostatistics and Information Management Branch (BIMB) of the Division of Bacterial and Mycotic Diseases in the National Center for Infectious Diseases.

The National *Shigella* Surveillance System is based on data collected by state and territorial public health laboratories. *Shigella* isolates are submitted to the state public health laboratory by clinical diagnostic laboratories. The state and territorial laboratories confirm the isolates as *Shigella*, perform subtyping, and submit the data for reporting through PHLIS. Unusual or untypable isolates are forwarded to the National *Shigella* Reference Laboratory at the Centers for Disease Control and Prevention for further characterization or confirmation. These results are reported back to the state laboratory, where they are reported to CDC through PHLIS.

The capture of isolates in the National *Shigella* Surveillance System is considered to be consistent. However, some *Shigella* isolates may not be forwarded or reported to state public health laboratories and therefore are not captured. In addition, irrespective of the surveillance system, many cases of *Shigella* illness are not reported because the ill person does not seek medical care, the health-care provider does not obtain a specimen for diagnosis or the laboratory does not perform culture for *Shigella*. The results of surveillance reported herein are therefore substantial underestimates of the true number of infections.

The number of isolates reported by state represents the state where laboratory confirmation and subtyping were performed. In some instances, the reporting state is not the same as the state of residence of the person from whom the isolate was obtained. For the Annual Summaries, duplicate records are deleted.

There are 4 major subgroups and 43 recognized serotypes of *Shigella*, shown in Table A below.

Table A. Subgroups, Serotypes and Subtypes of *Shigella*

Subgroups	Serotypes and Subtypes
Group A: <i>Shigella dysenteriae</i>	15 serotypes (type 1 produces Shiga toxin)
Group B: <i>Shigella flexneri</i>	8 serotypes and 9 subtypes
Group C: <i>Shigella boydii</i>	19 serotypes
Group D: <i>Shigella sonnei</i>	1 serotype

These subgroups and serotypes are differentiated from one another by their biochemical traits (such as ability to ferment mannitol) and antigenic properties (Table B).

Table B. Classification of *Shigella* subgroups.

Species	Group	Serotypes	Carbohydrate fermentation		
			Glucose	Mannitol	Lactose
<i>S. dysenteriae</i>	A	15	+	-	-
<i>S. flexneri</i>	B	8	+	+	-
<i>S. boydii</i>	C	19	+	+	-
<i>S. sonnei</i>	D	1	+	+	Late

Since there are no recognized environmental or animal reservoirs for *Shigella*, except higher primates, the isolates reported herein are all from infected humans.

This report can be viewed online at www.cdc.gov/ncidod/dbmd/phlisdata/shigella.htm. Further information concerning data described in this report can be obtained by contacting the Foodborne and Diarrheal Diseases Branch (404) 639-2206. For further information concerning PHLIS, please contact the Biostatistics and Information Management Branch (404) 639-1364.

The Surveillance Outbreak Detection Algorithm (SODA), developed by BMB and FDDDB, is a statistical algorithm based on the National Surveillance Data. It is designed to detect unusual clusters of *Salmonella* and *Shigella* infection. SODA compares current *Salmonella* and *Shigella* isolates reported through PHLIS by subgroup or serotype with a 5 year historical baseline for that subgroup or serotype for the specified time period to detect unusual increases from the baseline. Analyses can be conducted at state, regional, or national levels. Since 1996, SODA has been implemented at CDC and selected state health departments. If you would like more information on SODA, please call the PHLIS Helpdesk (404) 639-3365.

Annual Highlights for 2001

A total of 10,598 *Shigella* isolates were reported from public health laboratories in 50 states in 2001 (Table 1). This represents a 46% decrease compared with 1991 and a 17% decrease from 2000. The national rate of reported *Shigella* isolates in 2001 was 3.8 per 100,000 population based on 2000 census population figures for the United States.

Similar to previous years, *Shigella* was isolated frequently from children under 5 years of age, who accounted for 27.2% of all isolates. About 25.6% of all isolates came from persons aged 5-19 years, and 32.6% from persons aged 20-59, with declining numbers thereafter. The median age of patients by subgroup is shown in Table 4. Subgroups A, B, C and D represent serologically and biochemically defined groups of shigellae that historically have been treated as species: subgroup A for *S. dysenteriae*; subgroup B for *S. flexneri*; subgroup C for *S. boydii* and subgroup

D for *S. sonnei*. The distribution of *Shigella* isolates between the sexes was similar, with females accounting for 46.9% of persons from whom *Shigella* was isolated. Gender differences were most notable for a preponderance of females in three age groups, 20-29 (59.9%), 60-69 (58%), and 70-79 (56.1%) and for a relative paucity of females in three age groups 30-39 (39.9%), 40-49 (36.7%), and 80+ (35.9%). These estimates, however, are not complete since Illinois does not report age of persons from whom *Shigella* isolates are obtained. The frequency of reported subgroups, and the frequency of reported serotypes within these groups for all *Shigella* isolates are shown in Table 2. Of the 10,598 isolates, 95% were subgrouped. Trends of subgroups remained constant, with subgroup D (*S. sonnei*) accounting for the largest percentage of isolates (77.3%), followed by subgroup B (*S. flexneri*, 15.7%), subgroup C (*S. boydii*, 1.2%) and subgroup A (*S. dysenteriae*, 0.5%). *Shigella* isolate serotype trends by year are shown in Table 5. Over the past decade, the number of isolates of subgroups A, B and C that were not identified as belonging to a specific serotype (and the rate of reporting such unspecified isolates) has declined.

Shigella transmission occurs via the fecal-oral route. The majority of subgroup D (*S. sonnei*) infections in the United States occur in young children and are associated with crowding and poor personal hygiene. Daycare centers have been implicated in many large subgroup D (*S. sonnei*) outbreaks that can last many months and affect many persons (1). In 2001, a prolonged multi-county daycare-associated outbreak of subgroup D (*S. sonnei*) infections in Ohio contributed significantly to the national burden of culture-confirmed shigellosis (2). Subgroup D (*S. sonnei*) has also been transmitted through unchlorinated wading pools (3), interactive water fountains (4), food items such as parsley (5) and bean dip (6), and men who have sex with men (MSM) (7). Until recently, the dominant subgroup causing illness among MSM was subgroup B (*S. flexneri*) (8). However, in a large outbreak among MSM in San Francisco, the dominant serotype was subgroup D (*S. sonnei*) (7).

Geographic trends by region for subgroup D (*S. sonnei*) isolates from 1987 to 2001 are illustrated in Figure 1. All regions except the South Atlantic and East South Central regions exhibited decreases in subgroup D (*S. sonnei*) isolates from 2000 to 2001.

Acknowledgements

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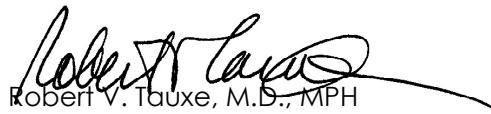
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TABLE 1
SHIGELLA SUBGROUPS REPORTED TO THE CDC
FOR 2001

RANK	SPECIES	NUMBER	PERCENT
1	SONNEI	8192	77.3
2	FLEXNERI	1668	15.7
3	BOYDII	126	1.2
4	DYSENTERIAE	48	0.5
		-----	-----
	SUBTOTAL	10034	94.7
	UNKNOWN	564	5.3
		<hr/>	
	TOTAL	10598	100.0

TABLE 2
NUMBER OF REPORTED ISOLATES OF SHIGELLA
SEROTYPES FOR 2001

RANK	SEROTYPE	NUMBER	PERCENT
1	SONNEI	8192	77.3
2	FLEXNERI UNSPECIFIED	738	7.0
3	FLEXNERI 2 UNSPECIFIED	226	2.1
4	FLEXNERI 2A	147	1.4
5	FLEXNERI 1 UNSPECIFIED	136	1.3
6	FLEXNERI 3 UNSPECIFIED	95	0.9
7	FLEXNERI 6	71	0.7
8	FLEXNERI 4 UNSPECIFIED	67	0.6
9	BOYDII UNSPECIFIED	62	0.6
10	FLEXNERI 4A	55	0.5
11	FLEXNERI 3A	34	0.3
12	DYSENTERIAE UNSPECIFIED	32	0.3
13	BOYDII 2	26	0.2
14	FLEXNERI VARIANT Y	21	0.2
15	FLEXNERI 1B	19	0.2
16	FLEXNERI 2B	17	0.2
17	FLEXNERI 5 UNSPECIFIED	17	0.2
18	BOYDII 1	11	0.1
19	FLEXNERI 1A	11	0.1
20	FLEXNERI 3B	9	0.1
21	DYSENTERIAE 2	8	0.1
22	BOYDII 12	6	0.1
23	BOYDII 15	4	0.0
24	BOYDII 4	4	0.0
25	DYSENTERIAE 3	4	0.0
26	BOYDII 14	3	0.0
27	BOYDII 3	3	0.0
28	DYSENTERIAE 9	3	0.0
29	FLEXNERI 3C	3	0.0
30	BOYDII 5	2	0.0
31	BOYDII 8	2	0.0
32	FLEXNERI VARIANT X	2	0.0
33	BOYDII 10	1	0.0
34	BOYDII 6	1	0.0
35	BOYDII 9	1	0.0
36	DYSENTERIAE 1	1	0.0
	UNKNOWN	564	5.3
	TOTAL	10598	100.0

TABLE 3

AGE AND SEX OF PERSONS FROM WHOM ISOLATES
OF SHIGELLA WERE REPORTED FOR 2001

AGEGROUP	SEX			TOTAL
	FEMALE	MALE	UNKNOWN	
< 1 YR	78	94	11	183
1 TO 4 YRS	1347	1267	82	2696
5 TO 9 YRS	973	921	52	1946
10 TO 19 YRS	401	336	31	768
20 TO 29 YRS	663	414	29	1106
30 TO 39 YRS	496	715	31	1242
40 TO 49 YRS	254	424	14	692
50 TO 59 YRS	195	211	8	414
60 TO 69 YRS	91	59	7	157
70 TO 79 YRS	55	39	4	98
80+ YEARS	14	25	0	39
UNKNOWN AGE	406	423	428	1257
TOTAL	4973	4928	697	10598

TABLE 3A

AGE AND SEX OF PERSONS FROM WHOM ISOLATES
OF SHIGELLA BOYDII WERE REPORTED FOR 2001

AGEGROUP	SEX			TOTAL
	FEMALE	MALE	UNKNOWN	
< 1 YR	1	1	0	2
1 TO 4 YRS	8	11	2	21
5 TO 9 YRS	10	5	9	15
10 TO 19 YRS	2	4	0	6
20 TO 29 YRS	13	7	0	20
30 TO 39 YRS	11	10	1	22
40 TO 49 YRS	5	7	0	12
50 TO 59 YRS	0	6	0	6
60 TO 69 YRS	4	3	0	7
70 TO 79 YRS	0	0	1	1
80+ YEARS	0	0	0	0
UNKNOWN AGE	9	4	1	14
TOTAL	63	58	5	126

TABLE 3B

AGE AND SEX OF PERSONS FROM WHOM ISOLATES
OF SHIGELLA DYSENTERIAE WERE REPORTED FOR 2001

	SEX			TOTAL
	FEMALE	MALE	UNKNOWN	
AGEGROUP				
< 1 YR	0	0	0	0
1 TO 4 YRS	3	5	0	8
5 TO 9 YRS	1	2	0	3
10 TO 19 YRS	2	5	0	7
20 TO 29 YRS	6	2	0	8
30 TO 39 YRS	2	4	0	6
40 TO 49 YRS	1	4	0	5
50 TO 59 YRS	0	0	1	1
60 TO 69 YRS	0	2	0	2
70 TO 79 YRS	1	1	0	2
80+ YEARS	1	2	0	3
UNKNOWN AGE	0	2	1	3
TOTAL	17	29	2	48

TABLE 3C

AGE AND SEX OF PERSONS FROM WHOM ISOLATES
OF SHIGELLA FLEXNERI WERE REPORTED FOR 2001

	SEX			TOTAL
	FEMALE	MALE	UNKNOWN	
AGEGROUP				
< 1 YR	18	23	2	43
1 TO 4 YRS	235	174	12	421
5 TO 9 YRS	119	101	4	224
10 TO 19 YRS	55	51	8	114
20 TO 29 YRS	96	92	5	193
30 TO 39 YRS	58	141	10	209
40 TO 49 YRS	31	84	3	118
50 TO 59 YRS	40	50	1	91
60 TO 69 YRS	19	11	2	32
70 TO 79 YRS	17	13	1	31
80+ YEARS	2	7	0	9
UNKNOWN AGE	57	79	47	183
TOTAL	747	826	95	1668

TABLE 3D

AGE AND SEX OF PERSONS FROM WHOM ISOLATES
OF SHIGELLA SONNEI WERE REPORTED FOR 2001

	SEX			TOTAL
	FEMALE	MALE	UNKNOWN	
AGEGROUP				
< 1 YR	55	63	9	127
1 TO 4 YRS	1040	1016	65	2121
5 TO 9 YRS	798	775	47	1620
10 TO 19 YRS	325	255	23	603
20 TO 29 YRS	507	280	23	810
30 TO 39 YRS	391	514	20	925
40 TO 49 YRS	186	308	10	504
50 TO 59 YRS	139	135	5	279
60 TO 69 YRS	52	35	5	92
70 TO 79 YRS	29	21	1	51
80+ YEARS	9	13	0	22
UNKNOWN AGE	336	336	366	1038
TOTAL	3867	3751	574	8192

TABLE 3E

AGE AND SEX OF PERSONS FROM WHOM ISOLATES
OF SHIGELLA OF UNKNOWN SUBGROUP WERE REPORTED FOR 2001

	SEX			TOTAL
	FEMALE	MALE	UNKNOWN	
AGEGROUP				
< 1 YR	4	7	0	11
1 TO 4 YRS	61	61	3	125
5 TO 9 YRS	45	38	1	84
10 TO 19 YRS	17	21	0	38
20 TO 29 YRS	41	33	1	75
30 TO 39 YRS	34	46	0	80
40 TO 49 YRS	31	21	1	53
50 TO 59 YRS	16	20	1	37
60 TO 69 YRS	16	8	0	24
70 TO 79 YRS	8	4	1	13
80+ YEARS	2	3	0	5
UNKNOWN AGE	4	2	13	19
TOTAL	279	264	21	564

TABLE 4

MEDIAN AGE OF PERSONS FROM WHOM ISOLATES OF SHIGELLA WERE REPORTED
BY SUBGROUP FOR 1987-2001

SUBGROUP	YEAR														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
BOYDII	22	22	24	10	21	18	20	20	15	10	19	22	8	26	26
DYSENTERIAE	29	29	29	20	20	26	29	26	30	26	19	36	29	11	29
FLEXNERI	22	23	23	19	19	19	18	19	18	22	16	18	10	11	15
SONNEI	7	8	8	8	9	8	7	8	8	8	8	8	8	9	9
UNKNOWN	9	7	9	8	9	11	8	7	7	8	26	7	7	13	23

NOTE: MEDIAN CALCULATION EXCLUDES CALIFORNIA ISOLATES
AGE INFORMATION UNAVAILABLE FOR CALIFORNIA PRIOR TO 2000

TABLE 5
NUMBER OF REPORTED SHIGELLA ISOLATES BY YEAR FOR 1987-2001

SUBGROUP	SEROTYPE	YEAR														TOTAL	
		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
BOYDII	BOYDII UNSPECIFIED	221	296	321	268	196	172	124	120	108	127	130	117	70	88	62	2420
	BOYDII 1	8	9	16	12	13	7	14	9	15	22	12	12	13	13	11	186
	BOYDII 2	81	108	55	57	55	19	54	49	60	82	54	43	28	38	26	809
	BOYDII 3	1	3	2	.	.	.	.	.	2	.	2	2	2	2	3	19
	BOYDII 4	14	21	29	11	21	10	12	16	21	14	20	12	16	15	4	236
	BOYDII 5	1	3	3	5	2	2	2	1	1	1	3	.	2	7	2	35
	BOYDII 6	2	1	1	.	.	.	.	.	.	1	.	2	5	4	1	17
	BOYDII 7	.	1	1	1	1	.	.	1	.	.	.	.	.	.	.	5
	BOYDII 8	.	1	1	1	1	1	1	.	1	.	4	1	.	2	2	14
	BOYDII 9	1	1	.	.	1	.	.	.	.	1	1	.	.	.	1	6
	BOYDII 10	13	13	14	25	11	5	2	3	7	10	9	5	5	.	1	123
	BOYDII 11	.	1	2	.	.	2	2	.	.	2	.	1	2	2	.	14
	BOYDII 12	.	2	2	.	1	.	1	.	.	2	2	2	3	2	6	23
	BOYDII 13	.	.	.	.	1	.	.	.	.	1	.	.	2	.	.	4
	BOYDII 14	13	11	15	13	9	6	10	7	12	13	11	5	8	5	3	141
	BOYDII 15	.	.	.	1	.	.	.	.	.	.	1	.	.	2	4	8
	BOYDII 17	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1
	BOYDII 18	1	1	4	4	1	.	.	1	.	.	2	2	1	.	.	17
	BOYDII 19	.	.	.	.	.	.	.	.	.	.	2	4	1	.	.	7
SUBTOTAL		356	472	466	398	312	224	221	207	229	275	253	208	158	180	126	4085

(Continued)

TABLE 5

NUMBER OF REPORTED SHIGELLA ISOLATES BY YEAR FOR 1987-2001

SUBGROUP	SERO TYPE	YEAR														TOTAL	
		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
DYSENTERIAE	DYSENTERIAE UNSPECIFIED	188	136	143	130	102	89	77	66	54	55	38	37	24	35	32	1206
	DYSENTERIAE 1	6	28	23	7	3	2	9	7	7	4	6	3	6	9	1	121
	DYSENTERIAE 2	20	33	29	23	20	21	11	8	10	16	17	37	12	5	8	270
	DYSENTERIAE 3	9	6	9	15	10	8	6	10	17	17	10	9	4	3	4	137
	DYSENTERIAE 4	2	3	7	3	3	3	1	.	.	3	.	1	.	3	.	29
	DYSENTERIAE 5	1	1	.	.	.	.	.	.	.	1	.	.	.	.	.	3
	DYSENTERIAE 6	1	1	.	.	1	.	.	1	.	.	1	.	.	.	.	5
	DYSENTERIAE 7	1	.	1	1	.	.	.	.	.	.	.	.	1	.	.	4
	DYSENTERIAE 8	1	1	.	.	1	.	.	.	.	.	.	.	1	.	.	4
	DYSENTERIAE 9	3	2	2	1	3	3	.	2	1	5	5	.	1	1	3	32
	DYSENTERIAE 10	.	.	1	.	.	.	.	.	.	.	.	.	.	1	.	2
	DYSENTERIAE 11	.	.	.	1	.	.	.	.	.	2	2	.	.	.	.	5
	DYSENTERIAE 12	.	.	1	.	.	.	1	.	1	.	.	.	.	.	.	3
DYSENTERIAE 13	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	2	
SUBTOTAL		232	211	216	181	145	126	105	94	90	103	79	87	49	57	48	1823
FLEXNERI	SERO TYPE																
	FLEXNERI UNSPECIFIED	2161	2716	2093	2449	2320	2027	1867	1815	1528	1350	1214	985	916	852	738	25031
	FLEXNERI 1 UNSPECIFIED	268	314	318	391	391	294	294	310	412	303	238	200	169	145	136	4183
FLEXNERI 1A	82	64	44	40	16	5	2	8	4	4	6	9	7	5	11	307	

(Continued)

TABLE 5

NUMBER OF REPORTED SHIGELLA ISOLATES BY YEAR FOR 1987-2001

SUBGROUP	SEROTYPE	YEAR														TOTAL	
		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
FLEXNERI	FLEXNERI 1B	70	180	172	167	63	26	12	54	17	7	18	26	25	13	19	869
	FLEXNERI 2 UNSPECIFIED	344	347	310	314	362	393	394	367	382	401	423	395	361	293	226	5312
	FLEXNERI 2A	143	135	151	168	98	85	88	84	71	31	85	102	134	100	147	1622
	FLEXNERI 2B	29	31	29	25	26	10	17	10	17	7	11	20	13	33	17	295
	FLEXNERI 3 UNSPECIFIED	245	151	125	118	154	158	165	131	246	255	248	155	93	96	95	2435
	FLEXNERI 3A	90	68	57	36	31	22	11	13	11	26	26	28	65	55	34	573
	FLEXNERI 3B	4	9	13	26	5	.	2	1	6	16	7	5	4	9	9	116
	FLEXNERI 3C	.	2	6	9	9	5	2	.	1	2	4	7	5	3	3	58
	FLEXNERI 4 UNSPECIFIED	133	123	167	106	120	126	91	116	139	124	108	116	75	72	67	1683
	FLEXNERI 4A	45	39	37	57	8	11	19	7	12	17	13	13	34	35	55	402
	FLEXNERI 4B	6	1	3	10	1	2	2	1	.	1	.	4	.	.	.	31
	FLEXNERI 5 UNSPECIFIED	13	16	17	16	16	14	28	43	62	39	47	56	28	23	17	435
	FLEXNERI 6	127	141	138	99	92	72	67	141	107	119	118	78	79	68	71	1517
	FLEXNERI VARIANT X	.	1	1	.	.	.	.	.	.	.	3	6	2	2	2	17
FLEXNERI VARIANT Y	.	.	1	.	.	.	.	.	4	2	4	2	15	16	21	65	
SUBTOTAL		3760	4338	3682	4031	3712	3250	3061	3101	3019	2704	2573	2207	2025	1820	1668	44951

(Continued)

TABLE 5

NUMBER OF REPORTED SHIGELLA ISOLATES BY YEAR FOR 1987-2001

SUBGROUP	SEROTYPE	YEAR														TOTAL	
		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
SONNEI	SONNEI	11282	15028	10242	11116	10734	10106	14339	12446	14811	10262	8807	9387	7363	10798	8192	164913
	UNKNOWN	1134	2287	1366	1580	1602	1217	1785	2935	1181	727	602	596	489	639	564	18704
TOTAL		16764	22336	15972	17306	16505	14923	19511	18783	19330	14071	12314	12485	10084	13494	10598	234476

TABLE 6
NUMBER OF REPORTED SHIGELLA ISOLATES BY MONTH FOR 2001

SEROTYPE	MONTH												TOTAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
BOYDII	5	5	8	2	3	8	10	8	4	5	2	2	62
BOYDII 1	1	.	1	1	.	2	1	2	1	1	1	.	11
BOYDII 2	3	2	2	3	3	1	3	3	.	3	2	1	26
BOYDII 3	.	.	.	1	1	.	.	.	1	.	.	.	3
BOYDII 4	1	1	.	.	1	.	1	.	.	.	.	.	4
BOYDII 5	.	.	.	.	1	1	.	.	.	.	.	.	2
BOYDII 6	.	1	.	.	.	.	.	.	.	.	.	.	1
BOYDII 8	.	2	.	.	.	.	.	.	.	.	.	.	2
BOYDII 9	1	.	.	.	.	.	.	.	.	.	.	.	1
BOYDII 10	.	.	.	.	.	.	.	.	.	.	1	.	1
BOYDII 12	.	1	3	.	.	1	.	.	1	.	.	.	6
BOYDII 14	.	1	.	.	.	.	1	1	.	.	.	.	3
BOYDII 15	.	.	.	.	2	.	.	1	1	.	.	.	4
DYSENTERIAE	1	1	1	3	1	3	4	7	4	4	3	.	32
DYSENTERIAE 1	.	.	.	.	.	.	.	.	1	.	.	.	1
DYSENTERIAE 2	.	.	3	.	.	1	.	1	1	2	.	.	8
DYSENTERIAE 3	1	.	.	.	.	.	2	.	.	.	1	.	4
DYSENTERIAE 9	.	1	.	.	1	.	.	.	1	.	.	.	3
FLEXNERI	45	53	52	58	75	99	65	67	61	40	58	65	738
FLEXNERI 1 UNSPECIFIED	11	5	8	11	18	9	18	11	13	16	11	5	136
FLEXNERI 1A	.	1	.	1	4	1	2	.	1	.	1	.	11
FLEXNERI 1B	4	.	1	1	3	1	2	4	.	1	2	.	19
FLEXNERI 2 UNSPECIFIED	14	14	12	17	23	23	27	34	13	18	15	16	226
FLEXNERI 2A	12	13	14	22	13	16	9	10	9	8	12	9	147
FLEXNERI 2B	.	1	3	.	1	2	2	2	.	3	1	2	17
FLEXNERI 3 UNSPECIFIED	12	10	6	7	3	8	4	12	15	10	4	4	95
FLEXNERI 3A	4	4	4	3	2	3	2	2	4	2	2	2	34
FLEXNERI 3B	.	1	2	.	3	.	.	1	1	1	.	.	9
FLEXNERI 3C	.	.	1	.	.	1	.	.	1	.	.	.	3
FLEXNERI 4 UNSPECIFIED	9	5	5	7	2	2	3	8	7	12	6	1	67

(Continued)

TABLE 6

NUMBER OF REPORTED SHIGELLA ISOLATES BY MONTH FOR 2001

SEROTYPE	MONTH												TOTAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
FLEXNERI 4A	7	3	2	2	7	6	11	3	3	5	3	3	55
FLEXNERI 5 UNSPECIFIED	4	4	1	2	1	1	1	.	1	.	2	.	17
FLEXNERI 6	4	3	8	3	4	3	10	12	7	6	3	8	71
FLEXNERI VARIANT X	.	1	.	.	.	.	.	.	.	.	1	.	2
FLEXNERI VARIANT Y	4	.	3	2	1	1	1	1	2	2	3	1	21
SONNEI	577	396	499	417	601	812	959	993	677	843	760	658	8192
UNKNOWN	24	29	23	22	44	56	77	95	57	52	43	42	564
TOTAL	744	558	662	585	818	1061	1215	1278	887	1034	937	819	10598

TABLE 7
NUMBER OF REPORTED SHIGELLA ISOLATES BY MONTH FOR 1987-2001

SEROTYPE	MONTH												TOTAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
BOYDII	121	134	107	95	146	197	244	315	317	326	221	197	2420
BOYDII 1	7	7	12	9	17	10	21	21	29	22	13	18	186
BOYDII 2	43	34	46	57	57	72	99	116	106	81	57	41	809
BOYDII 3	3	2	1	3	4	4	.	.	2	.	.	.	19
BOYDII 4	18	10	10	16	12	18	29	38	36	18	19	12	236
BOYDII 5	3	2	1	4	4	5	2	2	3	4	5	.	35
BOYDII 6	1	1	.	.	.	3	5	3	1	3	.	.	17
BOYDII 7	.	2	.	1	.	.	.	1	.	1	.	.	5
BOYDII 8	.	2	1	1	1	1	.	4	1	1	.	2	14
BOYDII 9	1	.	1	.	.	.	.	1	.	3	.	.	6
BOYDII 10	4	3	4	6	9	10	18	21	16	13	9	10	123
BOYDII 11	1	.	2	1	1	.	3	2	2	.	1	1	14
BOYDII 12	1	2	3	.	2	2	2	5	2	3	.	1	23
BOYDII 13	1	.	.	.	.	.	.	.	.	1	1	1	4
BOYDII 14	8	2	4	11	13	8	24	23	13	19	11	5	141
BOYDII 15	.	.	.	1	4	.	.	2	1	.	.	.	8
BOYDII 17	.	.	.	.	.	1	.	.	.	.	.	.	1
BOYDII 18	1	1	.	2	4	.	.	1	1	2	2	3	17
BOYDII 19	2	.	1	.	1	.	.	1	1	1	.	.	7
DYSENTERIAE	78	66	86	79	67	70	100	120	172	128	146	94	1206
DYSENTERIAE 1	10	4	4	10	7	4	18	19	13	15	1	16	121
DYSENTERIAE 2	13	36	27	17	14	20	39	34	26	22	15	7	270
DYSENTERIAE 3	6	4	8	8	16	10	14	26	18	9	11	7	137
DYSENTERIAE 4	1	4	3	1	3	1	2	6	3	2	2	1	29
DYSENTERIAE 5	.	.	.	.	1	.	.	.	2	.	.	.	3
DYSENTERIAE 6	.	.	.	.	1	.	2	.	1	.	1	.	5
DYSENTERIAE 7	.	1	.	.	2	.	.	1	.	.	.	.	4
DYSENTERIAE 8	.	1	.	.	1	.	1	1	.	.	.	.	4
DYSENTERIAE 9	.	2	2	3	6	2	3	2	3	2	5	2	32
DYSENTERIAE 10	.	.	.	.	.	.	1	.	.	.	1	.	2

(Continued)

TABLE 7
NUMBER OF REPORTED SHIGELLA ISOLATES BY MONTH FOR 1987-2001

SEROTYPE	MONTH												TOTAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
DYSENTERIAE 11	.	.	.	.	1	1	1	1	.	1	.	.	5
DYSENTERIAE 12	.	.	.	.	.	.	1	1	.	1	.	.	3
DYSENTERIAE 13	.	.	.	.	.	.	1	.	1	.	.	.	2
FLEXNERI	1614	1702	1782	1784	1798	1803	2213	2459	2806	2576	2254	2240	25031
FLEXNERI 1 UNSPECIFIED	304	255	298	290	334	354	426	462	444	449	277	290	4183
FLEXNERI 1A	25	24	32	23	23	10	26	35	40	26	23	20	307
FLEXNERI 1B	61	53	63	54	51	91	62	114	124	64	65	67	869
FLEXNERI 2 UNSPECIFIED	446	370	360	408	470	425	536	644	463	456	373	361	5312
FLEXNERI 2A	125	120	121	116	126	151	156	194	149	149	108	107	1622
FLEXNERI 2B	30	17	29	19	20	24	37	32	23	24	22	18	295
FLEXNERI 3 UNSPECIFIED	184	168	160	203	189	160	308	234	254	226	186	163	2435
FLEXNERI 3A	39	59	36	38	40	42	64	75	55	51	35	39	573
FLEXNERI 3B	5	9	18	8	10	13	7	14	6	9	10	7	116
FLEXNERI 3C	5	.	6	4	6	6	8	3	5	6	6	3	58
FLEXNERI 4 UNSPECIFIED	134	105	122	130	133	141	174	185	182	149	120	108	1683
FLEXNERI 4A	26	28	29	43	32	40	37	25	33	45	32	32	402
FLEXNERI 4B	5	.	1	2	5	3	4	1	5	.	3	2	31
FLEXNERI 5 UNSPECIFIED	33	26	26	20	38	50	51	43	49	36	37	26	435
FLEXNERI 6	75	78	89	119	92	108	192	203	193	147	122	99	1517
FLEXNERI VARIANT X	.	1	2	.	2	.	3	2	2	1	4	.	17
FLEXNERI VARIANT Y	9	2	10	5	5	7	2	7	5	3	8	2	65
SONNEI	9482	8372	9517	9198	10931	13006	16040	20176	19356	18847	15838	14150	164913
UNKNOWN	985	1025	995	1150	1382	1419	1746	2093	2308	2074	1710	1817	18704
TOTAL	13910	12734	14019	13939	16081	18292	22722	27768	27272	26016	21754	19969	234476

TABLE 8

NUMBER OF REPORTED SHIGELLA ISOLATES BY REGION
FOR 1987-2001

REGION	YEAR														TOTAL	
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
NEW ENGLAND	645	651	546	646	1757	555	520	414	586	373	486	366	851	385	288	9069
MID-ATLANTIC	2331	1179	1310	1595	1263	1071	1215	1562	1758	2240	1874	1739	750	1726	967	22580
EAST NORTH CENTRAL	3816	3597	2673	2096	1643	2154	2816	1970	2105	1190	1457	1580	1853	2096	1897	32943
WEST NORTH CENTRAL	671	1151	1359	630	403	589	828	1368	1391	699	494	623	806	2064	1332	14408
SOUTH ATLANTIC	1425	2562	2568	1894	1565	1727	2860	4790	2181	1912	1136	1275	534	1171	1331	28931
EAST SOUTH CENTRAL	219	683	482	799	915	305	768	1023	802	334	233	272	223	207	520	7785
WEST SOUTH CENTRAL	1671	2535	1408	1832	1409	1453	2943	1771	1944	1225	1731	2427	1688	1549	922	26508
MOUNTAIN	1174	1692	1161	1655	2248	1174	1348	1436	2713	1665	1238	764	773	868	775	20684
PACIFIC	4812	8286	4465	6159	5302	5895	6213	4449	5850	4433	3665	3439	2606	3428	2566	71568
TOTAL	16764	22336	15972	17306	16505	14923	19511	18783	19330	14071	12314	12485	10084	13494	10598	234476

TABLE 8A
 NUMBER OF REPORTED S. SONNEI ISOLATES BY REGION
 FOR 1987-2001

REGION	YEAR													TOTAL		
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		2000	2001
NEW ENGLAND	491	481	358	448	1573	435	428	302	456	264	341	248	739	299	185	7048
MID-ATLANTIC	2030	883	1015	1321	1020	880	985	1325	1527	2048	1664	1470	547	1536	744	18995
EAST NORTH CENTRAL	3279	2685	2061	1443	1176	1671	2440	1707	1773	896	1242	1354	1592	1896	1726	26941
WEST NORTH CENTRAL	503	870	1084	446	255	478	698	1166	1281	575	405	538	696	1971	1216	12182
SOUTH ATLANTIC	1099	2155	2268	1535	1210	1451	2280	2695	1966	1772	999	1121	396	1003	1141	23091
EAST SOUTH CENTRAL	136	523	319	513	587	152	341	649	511	232	211	262	218	196	506	5356
WEST SOUTH CENTRAL	1293	2103	1022	1415	1072	1268	2765	1595	1721	1085	1514	2239	1449	1286	807	22634
MOUNTAIN	470	921	522	1124	1601	722	824	920	2180	1115	695	374	405	506	407	12786
PACIFIC	1981	4407	1593	2871	2240	3049	3578	2087	3396	2275	1736	1781	1321	2105	1460	35880
TOTAL	11282	15028	10242	11116	10734	10106	14339	12446	14811	10262	8807	9387	7363	10798	8192	164913

TABLE 8B

NUMBER OF REPORTED S. FLEXNERI ISOLATES BY REGION
FOR 1987-2001

REGION	YEAR														TOTAL	
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
NEW ENGLAND	109	127	150	122	94	107	92	106	115	94	123	102	99	74	88	1602
MID-ATLANTIC	278	257	269	254	227	177	211	213	206	179	188	247	176	154	194	3230
EAST NORTH CENTRAL	361	422	439	465	339	330	287	238	289	267	185	191	223	179	145	4360
WEST NORTH CENTRAL	134	156	168	125	115	77	67	121	71	105	82	79	95	70	70	1535
SOUTH ATLANTIC	154	143	101	156	124	137	173	343	196	122	120	136	127	135	164	2331
EAST SOUTH CENTRAL	9	8	9	10	8	2	4	18	7	7	20	9	5	11	14	141
WEST SOUTH CENTRAL	328	376	333	367	280	170	136	141	188	113	184	146	185	131	83	3161
MOUNTAIN	556	503	472	381	491	371	382	353	464	441	484	352	338	312	256	6156
PACIFIC	1831	2346	1741	2151	2034	1879	1709	1568	1483	1376	1187	945	777	754	654	22435
TOTAL	3760	4338	3682	4031	3712	3250	3061	3101	3019	2704	2573	2207	2025	1820	1668	44951

TABLE 8C
 NUMBER OF REPORTED S. BOYDII ISOLATES BY REGION
 FOR 1987-2001

REGION	YEAR														TOTAL	
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
NEW ENGLAND	14	7	16	17	12	4	.	5	11	6	14	6	8	7	5	132
MID-ATLANTIC	16	21	17	10	10	6	11	15	12	5	13	10	12	16	15	189
EAST NORTH CENTRAL	28	64	42	29	20	16	30	19	31	19	23	25	23	12	12	393
WEST NORTH CENTRAL	2	6	5	5	7	3	.	7	6	3	4	4	6	7	7	72
SOUTH ATLANTIC	7	5	10	8	8	5	10	27	7	10	7	9	9	14	12	148
EAST SOUTH CENTRAL	2	2	1	1	.	1	.	.	.	2	.	.	.	.	.	9
WEST SOUTH CENTRAL	36	39	37	35	44	11	33	24	27	19	27	17	18	13	7	387
MOUNTAIN	59	52	48	47	30	14	14	18	32	91	41	22	23	38	28	557
PACIFIC	192	276	290	246	181	164	123	92	103	120	124	115	59	73	40	2198
TOTAL	356	472	466	398	312	224	221	207	229	275	253	208	158	180	126	4085

TABLE 8D

NUMBER OF REPORTED *S. DYSENTERIAE* ISOLATES BY REGION
FOR 1987-2001

REGION	YEAR														TOTAL	
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
NEW ENGLAND	4	12	9	8	6	6	.	.	3	6	6	10	3	2	3	78
MID-ATLANTIC	7	18	9	9	6	8	2	6	6	6	8	7	2	11	7	112
EAST NORTH CENTRAL	27	21	23	15	11	21	4	6	11	8	2	9	9	4	.	171
WEST NORTH CENTRAL	8	8	7	3	1	6	1	2	1	2	2	1	2	.	3	47
SOUTH ATLANTIC	4	4	2	5	6	4	4	5	2	8	5	6	2	4	8	69
EAST SOUTH CENTRAL	1	2	.	2	.	1	1	1	.	.	2	1	.	.	.	11
WEST SOUTH CENTRAL	12	17	15	14	10	2	9	10	5	7	6	9	1	3	1	121
MOUNTAIN	10	8	25	7	12	5	12	9	6	18	12	16	7	5	3	155
PACIFIC	159	121	126	118	93	73	72	55	56	48	36	28	23	28	23	1059
TOTAL	232	211	216	181	145	126	105	94	90	103	79	87	49	57	48	1823

TABLE 8E
 NUMBER OF REPORTED SHIGELLA ISOLATES WITH UNKNOWN SEROGROUP
 BY REGION FOR 1987-2001

REGION	YEAR														TOTAL	
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
NEW ENGLAND	27	24	13	51	72	3	.	1	1	3	2	.	2	3	7	209
MID-ATLANTIC	.	.	.	1	.	.	6	3	7	2	1	5	13	9	7	54
EAST NORTH CENTRAL	121	405	108	144	97	116	55	.	1	.	5	1	6	5	14	1078
WEST NORTH CENTRAL	24	111	95	51	25	25	62	72	32	14	1	1	7	16	36	572
SOUTH ATLANTIC	161	255	187	190	217	130	393	1720	10	.	5	3	.	15	6	3292
EAST SOUTH CENTRAL	71	148	153	273	320	149	422	355	284	93	.	.	.	.	.	2268
WEST SOUTH CENTRAL	2	.	1	1	3	2	.	1	3	1	.	16	35	116	24	205
MOUNTAIN	79	208	94	96	114	62	116	136	31	.	6	.	.	7	81	1030
PACIFIC	649	1136	715	773	754	730	731	647	812	614	582	570	426	468	389	9996
TOTAL	1134	2287	1366	1580	1602	1217	1785	2935	1181	727	602	596	489	639	564	18704

TABLE 9

NUMBER OF REPORTED SHIGELLA SUBGROUP ISOLATES BY YEAR FOR 1987-2001

SUBGROUP	YEAR														TOTAL	
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
BOYDII	356	472	466	398	312	224	221	207	229	275	253	208	158	180	126	4085
DYSENTERIAE	232	211	216	181	145	126	105	94	90	103	79	87	49	57	48	1823
FLEXNERI	3760	4338	3682	4031	3712	3250	3061	3101	3019	2704	2573	2207	2025	1820	1668	44951
SONNEI	11282	15028	10242	11116	10734	10106	14339	12446	14811	10262	8807	9387	7363	10798	8192	164913
UNKNOWN	1134	2287	1366	1580	1602	1217	1785	2935	1181	727	602	596	489	639	564	18704
TOTAL	16764	22336	15972	17306	16505	14923	19511	18783	19330	14071	12314	12485	10084	13494	10598	234476

TABLE 10

NUMBER OF REPORTED SHIGELLA ISOLATES BY STATE FOR 1987-2001

STATE	YEAR																TOTAL
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		
ALABAMA	122	444	332	514	450	160	341	479	383	110	193	220	63	79	152	4042	
ALASKA	5	9	14	7	30	19	21	14	10	59	3	7	5	3	7	213	
ARIZONA	512	365	291	498	577	399	369	401	815	695	694	348	413	350	302	7029	
ARKANSAS	44	94	43	20	91	18	100	61	96	100	60	67	27	63	154	1038	
CALIFORNIA	4341	7883	4132	5703	4473	5217	5175	3757	5347	3879	3222	3033	2358	2865	2149	63534	
COLORADO	290	371	411	385	216	364	614	529	485	484	199	164	164	221	254	5151	
CONNECTICUT	203	162	233	192	108	131	212	146	148	121	81	66	70	70	60	2003	
DELAWARE	.	20	60	109	4	7	60	11	125	66	21	38	11	23	16	571	
DISTRICT OF COLUMBIA	240	142	12	59	45	63	26	19	199	200	8	.	.	.	.	1013
FLORIDA	35	487	500	199	378	263	248	721	319	275	245	539	154	107	44	4514	
GEORGIA	331	657	518	620	532	560	494	2062	176	173	244	252	83	194	465	7361	
HAWAII	82	59	69	60	80	119	89	193	102	86	55	51	36	33	61	1175	
IDAHO	.	.	1	2	.	13	16	30	74	54	39	15	12	25	15	296	
ILLINOIS	2516	1593	883	932	759	910	1142	1030	1215	525	842	1308	1018	941	374	15988	
INDIANA	296	925	306	350	334	209	173	181	103	71	30	43	118	157	66	3362	
IOWA	108	320	82	47	30	42	45	323	240	115	72	46	62	350	291	2173	
KANSAS	21	52	82	62	56	83	110	57	106	32	80	62	57	147	42	1049	
KENTUCKY	2	34	16	11	204	28	45	83	86	45	40	45	149	121	336	1245	
LOUISIANA	440	517	325	214	120	87	303	314	378	344	114	288	137	200	238	4019	
MAINE	7	7	9	5	4	9	2	4	.	6	.	.	.	11	3	67	
MARYLAND	428	540	151	147	50	276	262	201	226	447	176	69	58	115	104	3250	
MASSACHUSETTS	324	325	244	341	1387	240	256	209	288	169	299	260	731	262	190	5525	

(Continued)

TABLE 10

NUMBER OF REPORTED SHIGELLA ISOLATES BY STATE FOR 1987-2001

STATE	YEAR													TOTAL		
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		2000	2001
MICHIGAN	283	473	772	342	193	494	645	329	454	341	249	5	489	610	232	5911
MINNESOTA	163	349	426	122	80	90	236	467	166	164	141	334	254	926	500	4418
MISSISSIPPI	95	205	134	274	261	117	382	461	333	179	.	7	11	7	32	2498
MISSOURI	291	316	213	170	139	273	336	292	609	272	161	136	353	466	215	4242
MONTANA	42	258	97	46	136	120	12	2	203	28	5	3	.	.	.	952
NEBRASKA	3	.	1	5	1	6	1	2	4	4	17	19	68	117	.	248
NEVADA	6	4	27	8	2	6	3	2	19	13	13	20	6	66	50	245
NEW HAMPSHIRE	28	54	27	63	40	6	10	10	79	26	21	22	17	8	4	415
NEW JERSEY	268	216	216	202	226	220	274	388	675	342	480	652	236	440	227	5062
NEW MEXICO	273	606	254	462	303	164	272	235	408	177	192	177	109	119	87	3838
NEW YORK	1785	475	423	770	361	451	453	697	548	305	790	828	331	840	511	9568
NORTH CAROLINA	88	306	932	555	228	307	1089	1130	593	186	173	183	93	271	186	6320
NORTH DAKOTA	25	28	193	143	25	13	13	59	126	58	3	3	2	52	41	784
OHIO	127	128	403	212	97	77	585	276	260	221	307	153	150	332	1197	4525
OKLAHOMA	97	75	93	187	130	97	214	85	132	157	134	213	171	45	75	1905
OREGON	51	50	51	101	350	144	108	87	113	125	173	156	91	113	113	1826
PENNSYLVANIA	278	488	671	623	676	400	488	477	535	1593	604	259	183	446	229	7950
RHODE ISLAND	72	34	28	30	214	163	32	43	65	43	83	13	29	34	25	908
SOUTH CAROLINA	99	83	112	110	38	68	113	180	115	78	30	99	64	94	124	1407
SOUTH DAKOTA	60	86	362	81	72	82	87	168	140	54	20	23	10	6	243	1494
TENNESSEE	321	1002	256	257	193	561	1049	709	440	242	343	958	476	380	127	7314
TEXAS	769	847	691	1154	875	690	1277	602	898	382	1080	901	877	861	328	12232

(Continued)

TABLE 10
 NUMBER OF REPORTED SHIGELLA ISOLATES BY STATE FOR 1987-2001

STATE	YEAR														TOTAL	
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
UTAH	51	88	80	254	1014	108	54	235	705	212	95	36	68	84	62	3146
VERMONT	11	69	5	15	4	6	8	2	6	8	2	5	4	.	6	151
VIRGINIA	169	305	260	74	257	165	530	466	401	456	226	87	66	350	382	4194
WASHINGTON	333	285	199	288	369	396	820	398	278	284	212	192	116	414	236	4820
WEST VIRGINIA	35	22	23	21	33	18	38	.	27	31	13	8	5	17	10	301
WISCONSIN	594	478	309	260	260	464	271	154	73	32	29	71	78	56	28	3157
WYOMING	.	.	.	.	.	.	8	2	4	2	1	1	1	3	5	27
TOTAL	16764	22336	15972	17306	16505	14923	19511	18783	19330	14071	12314	12485	10084	13494	10598	234476

TABLE 10A

NUMBER OF REPORTED S. SONNEI ISOLATES BY STATE FOR 1987-2001

STATE	YEAR											TOTAL				
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997		1998	1999	2000	2001
ALABAMA	69	391	262	365	361	111	200	356	281	103	184	215	58	71	144	3171
ALASKA	4	6	5	2	26	17	13	10	10	53	2	7	1	3	4	163
ARIZONA	202	112	73	309	294	166	149	196	523	327	373	126	203	168	140	3361
ARKANSAS	42	87	38	19	89	16	99	58	96	97	60	63	25	59	152	1000
CALIFORNIA	1670	4209	1448	2632	1632	2580	2806	1657	3126	1993	1508	1568	1227	1700	1237	30993
COLORADO	124	228	236	255	112	245	444	329	365	394	129	99	95	151	144	3350
CONNECTICUT	172	132	207	172	93	101	199	117	127	104	57	43	48	53	38	1663
DELAWARE	.	20	60	108	3	6	58	8	122	66	16	37	6	12	11	533
DISTRICT OF COLUMBIA	205	109	7	39	20	45	12	4	166	188	4	.	.	.	.	799
FLORIDA	27	480	495	188	371	252	237	694	305	261	233	529	144	99	32	4347
GEORGIA	155	392	313	399	293	404	68	149	131	141	213	205	31	123	407	3424
HAWAII	34	18	24	22	23	46	26	125	44	17	23	24	11	16	20	473
IDAHO	.	.	.	1	.	10	9	17	72	50	30	5	6	16	6	222
ILLINOIS	2231	1238	559	567	524	674	910	860	995	339	702	1116	835	820	303	12673
INDIANA	219	545	202	224	238	168	160	161	85	57	22	29	104	141	52	2407
IOWA	90	200	51	29	18	27	34	263	231	101	57	40	53	336	279	1809
KANSAS	12	43	73	48	41	73	104	47	100	22	75	49	46	139	35	907
KENTUCKY	.	33	14	9	200	27	43	76	84	43	27	42	149	119	334	1200
LOUISIANA	407	492	304	195	103	78	288	304	365	329	102	273	130	194	233	3797
MAINE	5	6	5	3	3	5	2	3	.	.	.	.	.	8	.	40
MARYLAND	391	516	130	115	35	239	213	134	194	413	154	38	36	91	66	2765
MASSACHUSETTS	243	223	125	227	1300	176	187	143	206	109	194	171	662	211	127	4304

(Continued)

TABLE 10A

NUMBER OF REPORTED S. SONNEI ISOLATES BY STATE FOR 1987-2001

STATE	YEAR													TOTAL		
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		2000	2001
MICHIGAN	225	422	706	284	142	408	590	287	387	285	209	5	445	575	185	5155
MINNESOTA	114	305	314	56	42	54	166	385	133	105	95	290	204	887	455	3605
MISSISSIPPI	67	99	43	139	26	14	98	217	146	86	.	5	11	6	28	985
MISSOURI	274	291	187	144	117	264	329	280	599	260	150	125	339	448	197	4004
MONTANA	19	108	66	14	122	118	11	1	196	27	4	1	.	.	.	687
NEBRASKA	2	.	1	.	1	5	1	2	4	3	17	18	51	106	.	211
NEVADA	4	.	21	3	.	4	2	2	13	9	4	10	.	51	32	155
NEW HAMPSHIRE	10	38	5	29	29	3	7	8	76	21	18	20	10	5	3	282
NEW JERSEY	223	150	160	155	180	177	222	331	599	285	428	558	171	385	181	4205
NEW MEXICO	107	434	100	333	184	85	176	175	327	108	111	118	59	76	52	2445
NEW YORK	1578	313	267	602	231	347	321	557	427	219	677	689	219	735	359	7541
NORTH CAROLINA	61	276	911	514	200	284	1059	1105	560	164	136	154	67	246	151	5888
NORTH DAKOTA	11	13	176	135	20	5	5	37	95	47	2	2	1	51	13	613
OHIO	103	110	377	187	84	68	575	266	246	203	295	137	135	308	1166	4260
OKLAHOMA	78	63	81	176	116	87	209	77	116	147	129	208	163	39	69	1758
OREGON	26	22	15	59	317	116	53	50	73	59	111	89	36	70	48	1144
PENNSYLVANIA	229	420	588	564	609	356	442	437	501	1544	559	223	157	416	204	7249
RHODE ISLAND	53	24	13	14	144	147	27	29	45	24	70	9	17	22	15	653
SOUTH CAROLINA	93	74	107	100	31	58	111	172	110	75	23	94	62	90	115	1315
SOUTH DAKOTA	.	18	282	34	16	50	59	152	119	37	9	14	2	4	237	1033
TENNESSEE	304	984	248	248	181	547	1028	692	418	228	321	947	463	338	102	7049
TEXAS	462	477	351	777	583	540	1141	464	726	284	902	748	668	656	251	9030

(Continued)

TABLE 10A

NUMBER OF REPORTED S. SONNEI ISOLATES BY STATE FOR 1987-2001

STATE	YEAR														TOTAL	
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
UTAH	14	39	26	209	889	94	30	200	680	199	43	14	42	42	29	2550
VERMONT	8	58	3	3	4	3	6	2	2	6	2	5	2	.	2	106
VIRGINIA	141	274	234	55	232	148	498	429	351	435	207	56	45	326	351	3782
WASHINGTON	247	152	101	156	242	290	680	245	143	153	92	93	46	316	151	3107
WEST VIRGINIA	26	14	11	17	25	15	24	.	27	29	13	8	5	16	8	238
WISCONSIN	501	370	217	181	188	353	205	133	60	12	14	67	73	52	20	2446
WYOMING	.	.	.	.	.	.	3	.	4	1	1	1	.	2	4	16
TOTAL	11282	15028	10242	11116	10734	10106	14339	12446	14811	10262	8807	9387	7363	10798	8192	164913

TABLE 10B
 NUMBER OF REPORTED S. FLEXNERI ISOLATES BY STATE FOR 1987-2001

STATE	YEAR													TOTAL		
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		2000	2001
ALABAMA	6	3	3	6	3	.	2	11	5	7	7	5	5	8	8	79
ALASKA	1	3	8	2	4	2	6	4	.	6	1	.	4	.	3	44
ARIZONA	261	208	181	150	259	225	212	197	263	279	287	202	192	158	140	3214
ARKANSAS	1	6	3	1	1	2	1	2	.	2	.	4	2	4	2	31
CALIFORNIA	1689	2175	1577	1957	1831	1689	1478	1323	1269	1130	1000	767	631	610	477	19603
COLORADO	106	82	96	65	71	52	44	61	87	83	58	57	64	55	40	1021
CONNECTICUT	24	25	21	17	13	26	13	25	18	15	23	15	20	15	21	291
DELAWARE	.	.	.	1	1	1	1	2	3	.	5	1	5	11	4	35
DISTRICT OF COLUMBIA	23	30	4	19	24	18	13	15	28	10	4	.	.	.	.	188
FLORIDA	7	7	4	9	4	8	9	5	12	10	11	8	10	7	9	120
GEORGIA	28	13	29	31	27	32	44	198	41	30	26	43	47	53	51	693
HAWAII	47	41	42	36	57	72	63	68	57	67	31	25	25	17	39	687
IDAHO	.	.	.	1	.	3	7	13	2	4	9	9	6	8	3	65
ILLINOIS	253	285	283	340	222	208	204	157	192	167	124	163	159	110	65	2932
INDIANA	19	25	29	21	24	8	12	17	17	14	8	11	13	15	11	244
IOWA	11	24	18	8	8	7	5	11	9	13	15	6	9	10	6	160
KANSAS	6	9	9	12	13	7	6	9	5	9	4	12	11	7	7	126
KENTUCKY	1	1	2	2	4	.	2	6	2	.	13	2	.	2	2	39
LOUISIANA	33	22	21	19	16	8	13	10	12	14	11	15	5	5	3	207
MAINE	2	.	4	.	1	4	.	1	.	6	.	.	.	1	.	19
MARYLAND	35	23	20	31	11	31	45	61	32	32	18	29	21	19	34	442
MASSACHUSETTS	73	89	103	95	71	60	69	66	73	50	90	81	60	43	53	1076

(Continued)

TABLE 10B

NUMBER OF REPORTED S. FLEXNERI ISOLATES BY STATE FOR 1987-2001

STATE	YEAR																TOTAL
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		
MICHIGAN	53	47	53	50	45	82	51	39	59	54	34	.	37	30	42	676	
MINNESOTA	27	23	32	26	20	20	16	75	28	53	40	39	37	22	30	488	
MISSISSIPPI	2	4	4	2	1	2	.	1	.	.	.	2	.	1	4	23	
MISSOURI	15	21	21	26	18	8	7	10	8	11	11	11	14	18	17	216	
MONTANA	4	7	2	7	9	1	1	1	6	1	.	2	.	.	.	41	
NEBRASKA	1	.	.	5	.	.	.	.	.	1	.	1	15	10	.	33
NEVADA	2	4	6	4	1	2	.	.	5	.	6	8	6	14	17	75	
NEW HAMPSHIRE	3	4	9	2	2	3	3	2	3	3	2	2	7	3	1	49	
NEW JERSEY	41	58	51	44	43	42	42	49	69	49	46	85	59	44	38	760	
NEW MEXICO	151	165	145	124	110	75	89	52	78	65	74	53	48	38	29	1296	
NEW YORK	192	144	142	155	122	93	125	128	107	81	101	126	93	86	139	1834	
NORTH CAROLINA	25	27	18	39	26	23	30	22	32	20	34	23	24	22	35	400	
NORTH DAKOTA	14	12	16	5	1	3	5	.	.	1	1	1	1	1	4	65	
OHIO	18	15	24	21	10	9	6	5	9	16	7	13	10	21	20	204	
OKLAHOMA	16	11	9	10	11	9	4	5	14	8	4	3	6	4	6	120	
OREGON	17	18	27	39	31	19	47	32	37	61	54	60	51	38	56	587	
PENNSYLVANIA	45	55	76	55	62	42	44	36	30	49	41	36	24	24	17	636	
RHODE ISLAND	5	8	12	3	7	13	5	12	19	18	8	4	10	12	9	145	
SOUTH CAROLINA	6	9	5	10	7	9	1	7	5	3	7	5	1	3	7	85	
SOUTH DAKOTA	60	67	72	43	55	32	28	16	21	17	11	9	8	2	6	447	
TENNESSEE	13	17	6	8	12	14	14	13	21	14	20	9	11	10	12	194	
TEXAS	265	320	294	329	240	137	104	111	141	75	149	115	161	108	60	2609	

(Continued)

TABLE 10B

NUMBER OF REPORTED S. FLEXNERI ISOLATES BY STATE FOR 1987-2001

STATE	YEAR														TOTAL	
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		2001
UTAH	32	37	42	30	41	13	24	29	23	8	50	21	21	38	27	436
VERMONT	2	1	1	5	.	1	2	.	2	2	.	.	2	.	4	22
VIRGINIA	27	30	19	15	24	15	28	33	43	15	15	27	19	19	22	351
WASHINGTON	77	109	87	117	111	97	115	141	120	112	101	93	66	89	79	1514
WEST VIRGINIA	3	4	2	1	.	.	2	.	.	2	.	.	.	1	2	17
WISCONSIN	18	50	50	33	38	23	14	20	12	16	12	4	4	3	7	304
WYOMING	.	.	.	.	.	.	5	.	.	1	.	.	1	1	.	8
TOTAL	3760	4338	3682	4031	3712	3250	3061	3101	3019	2704	2573	2207	2025	1820	1668	44951

TABLE 10C

NUMBER OF REPORTED S. BOYDII ISOLATES BY STATE FOR 1987-2001

STATE	YEAR													TOTAL			
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		2000	2001	
ALABAMA	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	3
ALASKA	•	•	•	2	•	•	1	•	•	•	•	•	•	•	•	•	3
ARIZONA	43	38	30	35	17	6	5	5	22	73	26	9	13	20	11	353	
ARKANSAS	•	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	1
CALIFORNIA	181	258	274	232	171	151	105	81	91	102	105	103	54	65	31	2004	
COLORADO	3	7	11	5	4	3	3	3	5	6	10	5	3	8	1	77	
CONNECTICUT	5	2	1	1	2	2	•	3	3	1	1	3	•	1	•	25	
DELAWARE	•	•	•	•	•	•	1	1	•	•	•	•	•	•	•	3	
DISTRICT OF COLUMBIA	1	1	1	•	1	•	•	•	2	•	•	•	•	•	•	6	
FLORIDA	•	•	1	1	2	•	•	•	•	1	1	1	•	•	•	7	
GEORGIA	2	•	1	2	2	1	2	19	•	1	1	•	4	6	3	44	
HAWAII	1	•	1	•	•	1	•	•	1	1	•	2	•	•	2	9	
IDAHO	•	•	•	•	•	•	•	•	•	•	•	1	•	1	4	6	
ILLINOIS	19	54	27	15	9	9	26	10	18	15	16	22	16	7	5	268	
INDIANA	2	1	2	2	3	•	•	2	1	•	•	1	1	1	•	16	
IOWA	•	1	1	1	•	1	•	1	•	1	•	•	•	4	4	14	
KANSAS	2	•	•	2	2	•	•	1	1	•	1	1	•	1	•	11	
KENTUCKY	•	•	•	•	•	1	•	•	•	2	•	•	•	•	•	3	
LOUISIANA	•	2	•	•	1	•	2	•	1	1	1	•	2	•	2	12	
MAINE	•	•	•	1	•	•	•	•	•	•	•	•	•	•	1	2	
MARYLAND	2	•	•	1	2	2	4	3	•	2	2	2	1	2	2	25	
MASSACHUSETTS	7	5	11	14	10	2	•	•	6	4	10	3	7	6	4	89	

(Continued)

TABLE 10C

NUMBER OF REPORTED S. BOYDII ISOLATES BY STATE FOR 1987-2001

STATE	YEAR															TOTAL
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
MICHIGAN	1	1	5	5	3	2	3	2	7	1	4	.	3	3	3	43
MINNESOTA	.	5	1	2	1	1	.	3	4	2	3	3	5	1	2	33
MISSISSIPPI	1	1	.	1	.	.	.	.	.	.	.	.	.	.	.	3
MISSOURI	.	.	2	.	3	1	.	2	1	.	.	.	.	.	1	10
MONTANA	.	.	.	1	.	.	.	.	.	.	1	.	.	.	.	2
NEBRASKA	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	2
NEVADA	.	.	.	1	1	.	.	.	1	4	1	2	.	1	1	12
NEW HAMPSHIRE	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	1
NEW JERSEY	2	7	3	3	1	.	3	5	3	3	4	2	3	7	4	50
NEW MEXICO	11	5	5	4	7	4	6	6	3	3	1	4	2	5	6	72
NEW YORK	10	12	11	6	4	6	6	7	7	2	8	8	9	8	7	111
NORTH CAROLINA	.	3	.	.	1	.	.	2	1	1	1	5	1	3	.	18
OHIO	1	1	1	3	3	.	1	4	4	1	.	2	2	.	3	26
OKLAHOMA	3	.	1	1	.	.	1	3	1	.	.	1	2	2	.	15
OREGON	4	1	6	2	1	6	7	3	2	3	4	5	3	3	4	54
PENNSYLVANIA	4	2	3	1	5	.	2	3	2	.	1	.	.	1	4	28
RHODE ISLAND	2	.	2	1	.	.	.	2	1	1	3	.	1	.	.	13
SOUTH CAROLINA	.	.	.	.	.	1	1	.	.	.	.	.	1	1	1	5
SOUTH DAKOTA	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	2
TENNESSEE	1	.	1	1	.	.	4	1	.	.	1	2	.	1	2	14
TEXAS	32	36	35	33	43	11	26	20	25	18	25	14	14	10	3	345
UTAH	2	2	2	1	1	1	.	3	1	5	2	1	5	3	5	34

(Continued)

TABLE 10C

NUMBER OF REPORTED S. BOYDII ISOLATES BY STATE FOR 1987-2001

STATE	YEAR											TOTAL				
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997		1998	1999	2000	2001
VERMONT	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	2
VIRGINIA	1	1	7	3	.	1	2	2	4	5	2	1	2	2	5	38
WASHINGTON	6	17	9	10	9	6	10	8	9	14	15	5	2	5	3	128
WEST VIRGINIA	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	2
WISCONSIN	5	7	7	4	2	5	.	1	1	2	3	.	1	1	1	40
WYOMING	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1
TOTAL	356	472	466	398	312	224	221	207	229	275	253	208	158	180	126	4085

TABLE 10D

NUMBER OF REPORTED S. DYSENTERIAE ISOLATES BY STATE FOR 1987-2001

STATE	YEAR											TOTAL				
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997		1998	1999	2000	2001
ALABAMA	.	2	.	2	.	1	1	.	.	.	2	.	.	.	.	8
ALASKA	.	.	1	.	.	.	1	.	.	.	.	.	.	.	.	2
ARIZONA	6	.	7	4	6	2	3	3	4	16	8	11	5	4	1	80
ARKANSAS	.	.	1	.	.	.	.	1	.	1	.	.	.	.	.	3
CALIFORNIA	152	114	120	110	86	69	65	51	50	40	27	25	20	23	21	973
COLORADO	4	6	10	1	3	2	7	2	2	1	2	3	2	.	.	45
CONNECTICUT	1	3	4	2	.	2	.	.	.	1	.	5	.	.	.	18
DISTRICT OF COLUMBIA	.	.	.	1	.	.	.	.	.	2	.	.	.	.	.	3
FLORIDA	1	.	.	1	1	2	1	.	.	3	.	1	.	1	2	13
GEORGIA	1	3	1	.	1	.	2	3	.	1	1	1	1	.	3	18
HAWAII	.	.	1	2	.	.	.	.	.	1	1	.	.	.	.	5
IDAHO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
ILLINOIS	11	15	14	8	4	18	2	3	10	4	.	7	5	1	.	102
INDIANA	1	.	2	1	2	2	1	1	.	.	.	2	.	.	.	12
IOWA	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
KANSAS	1	.	.	.	.	3	.	.	.	1	.	.	.	.	.	5
KENTUCKY	1	.	.	.	.	.	.	1	.	.	.	1	.	.	.	3
LOUISIANA	.	1	.	.	.	.	.	.	.	.	.	.	.	1	.	2
MAINE	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	2
MARYLAND	.	1	1	.	2	2	.	.	.	.	1	.	.	2	1	10
MASSACHUSETTS	1	8	5	5	6	2	.	.	2	5	3	5	2	2	2	48
MICHIGAN	3	2	5	3	3	.	1	1	1	1	2	.	3	2	.	27

(Continued)

TABLE 10D

NUMBER OF REPORTED S. DYSENTERIAE ISOLATES BY STATE FOR 1987-2001

STATE	YEAR													TOTAL		
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		2000	2001
MINNESOTA	4	2	3	2	.	.	1	2	1	1	2	1	2	.	3	24
MISSOURI	2	4	3	.	1	.	.	.	.	.	.	.	.	.	.	10
MONTANA	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	2
NEBRASKA	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1
NEVADA	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1
NEW HAMPSHIRE	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1
NEW JERSEY	2	1	2	.	2	1	2	1	.	5	2	5	1	3	3	30
NEW MEXICO	.	2	4	1	2	.	1	2	.	1	2	2	.	.	.	17
NEW YORK	5	6	3	6	4	5	.	4	4	1	3	2	1	7	.	51
NORTH CAROLINA	2	.	.	2	1	.	.	.	.	1	2	1	1	.	.	10
NORTH DAKOTA	.	1	1	.	.	2	.	.	.	.	.	.	.	.	.	4
OHIO	3	2	1	.	.	.	.	1	.	1	.	.	1	1	.	10
OKLAHOMA	.	1	2	.	2	1	.	.	.	1	1	.	.	.	.	8
OREGON	4	.	2	1	.	1	1	2	1	2	4	2	1	1	1	23
PENNSYLVANIA	.	11	4	3	.	2	.	1	2	.	3	.	.	1	4	31
RHODE ISLAND	2	.	.	.	.	2	.	.	.	.	2	.	1	.	1	8
SOUTH DAKOTA	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	2
TENNESSEE	3	1	1	.	.	.	3	2	.	.	1	.	.	.	.	11
TEXAS	9	14	11	14	8	1	6	7	5	5	4	9	1	2	1	97
UTAH	.	.	3	1	1	.	.	1	.	.	.	.	.	1	1	8
VERMONT	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1
VIRGINIA	.	.	.	1	1	.	1	2	2	1	1	3	.	1	2	15

(Continued)

TABLE 10D

NUMBER OF REPORTED *S. DYSENTERIAE* ISOLATES BY STATE FOR 1987-2001

STATE	YEAR													TOTAL		
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		2000	2001
WASHINGTON	3	7	2	5	7	3	5	2	5	5	4	1	2	4	1	56
WISCONSIN	9	2	1	3	2	1	.	.	.	2	.	.	.	.	.	20
WYOMING	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1
TOTAL	232	211	216	181	145	126	105	94	90	103	79	87	49	57	48	1823

TABLE 10E

NUMBER OF REPORTED SHIGELLA ISOLATES WITH UNKNOWN SEROGROUP FOR 1987-2001

STATE	YEAR											TOTAL				
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997		1998	1999	2000	2001
ALABAMA	46	47	66	141	86	48	138	112	97	.	.	.	.	.	.	781
ALASKA	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1
ARIZONA	.	7	.	.	1	.	.	.	3	.	.	.	.	.	10	21
ARKANSAS	1	.	1	.	1	.	.	.	.	.	.	.	.	.	.	3
CALIFORNIA	649	1127	713	772	753	728	721	645	811	614	582	570	426	467	383	9961
COLORADO	53	48	58	59	26	62	116	134	26	.	.	.	.	7	69	658
CONNECTICUT	1	.	.	.	.	.	.	1	.	.	.	.	2	1	1	6
DISTRICT OF COLUMBIA	11	2	.	.	.	.	1	.	3	.	.	.	.	.	.	17
FLORIDA	.	.	.	.	.	1	1	22	2	.	.	.	.	.	1	27
GEORGIA	145	249	174	188	209	123	378	1693	4	.	3	3	.	12	1	3182
HAWAII	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	1
IDAHO	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1	2
ILLINOIS	2	1	.	2	.	1	.	.	.	.	.	.	3	3	1	13
INDIANA	55	354	71	102	67	31	.	.	.	.	.	.	.	.	3	683
IOWA	6	95	12	9	4	7	6	48	.	.	.	.	.	.	2	189
LOUISIANA	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1
MAINE	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2	4
MARYLAND	.	.	.	.	.	2	.	3	.	.	1	.	.	1	1	8
MASSACHUSETTS	.	.	.	.	.	.	.	.	1	1	2	.	.	.	4	8
MICHIGAN	1	1	3	.	.	2	.	.	.	.	.	.	1	.	2	10
MINNESOTA	18	14	76	36	17	15	53	2	.	3	1	1	6	16	10	268
MISSISSIPPI	25	101	87	132	234	101	284	243	187	93	.	.	.	.	.	1487

(Continued)

TABLE 10E

NUMBER OF REPORTED SHIGELLA ISOLATES WITH UNKNOWN SEROGROUP FOR 1987-2001

STATE	YEAR																TOTAL
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001		
MISSOURI	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	2
MONTANA	19	143	28	24	5	.	.	.	1	.	.	.	.	.	.	220
NEBRASKA	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1
NEVADA	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	2
NEW HAMPSHIRE	15	12	12	32	9	.	.	.	.	2	.	.	.	.	.	82
NEW JERSEY	.	.	.	.	.	.	5	2	4	.	.	2	2	1	1	17
NEW MEXICO	4	.	.	.	.	.	.	.	.	.	4	.	.	.	.	8
NEW YORK	.	.	.	1	.	.	1	1	3	2	1	3	9	4	6	31	
NORTH CAROLINA	.	.	3	.	.	.	.	1	.	.	.	.	.	.	.	4
NORTH DAKOTA	.	2	.	3	4	3	3	22	31	10	.	.	.	.	24	102
OHIO	2	.	.	1	.	.	3	.	1	.	5	1	2	2	8	25	
OKLAHOMA	.	.	.	.	1	.	.	.	1	1	.	1	.	.	.	4
OREGON	.	9	1	.	1	2	.	.	.	.	.	.	.	1	4	18
PENNSYLVANIA	.	.	.	.	.	.	.	.	.	.	.	.	2	4	.	6
RHODE ISLAND	10	2	1	12	63	1	.	.	.	.	.	.	.	.	.	89
SOUTH CAROLINA	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	2
SOUTH DAKOTA	.	.	7	3	.	.	.	.	.	.	.	.	.	.	.	10
TENNESSEE	.	.	.	.	.	.	.	1	1	.	.	.	2	31	11	46
TEXAS	1	.	.	1	1	1	.	.	1	.	.	15	33	85	13	151	
UTAH	3	10	7	13	82	.	.	2	1	.	.	.	.	.	.	118
VERMONT	1	10	.	7	.	2	.	.	.	.	.	.	.	.	.	20
VIRGINIA	.	.	.	.	.	1	1	.	1	.	1	.	.	2	2	8

(Continued)

TABLE 10E

NUMBER OF REPORTED SHIGELLA ISOLATES WITH UNKNOWN SEROGROUP FOR 1987-2001

STATE	YEAR											TOTAL				
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997		1998	1999	2000	2001
WASHINGTON	.	.	.	.	.	.	10	2	1	.	.	.	.	.	2	15
WEST VIRGINIA	5	4	10	2	8	3	12	.	.	.	.	.	.	.	.	44
WISCONSIN	61	49	34	39	30	82	52	.	.	.	.	.	.	.	.	347
WYOMING	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
TOTAL	1134	2287	1366	1580	1602	1217	1785	2935	1181	727	602	596	489	639	564	18704

Figure 1
Reported *S. sonnei* isolates by Region
United States, 1987-2001

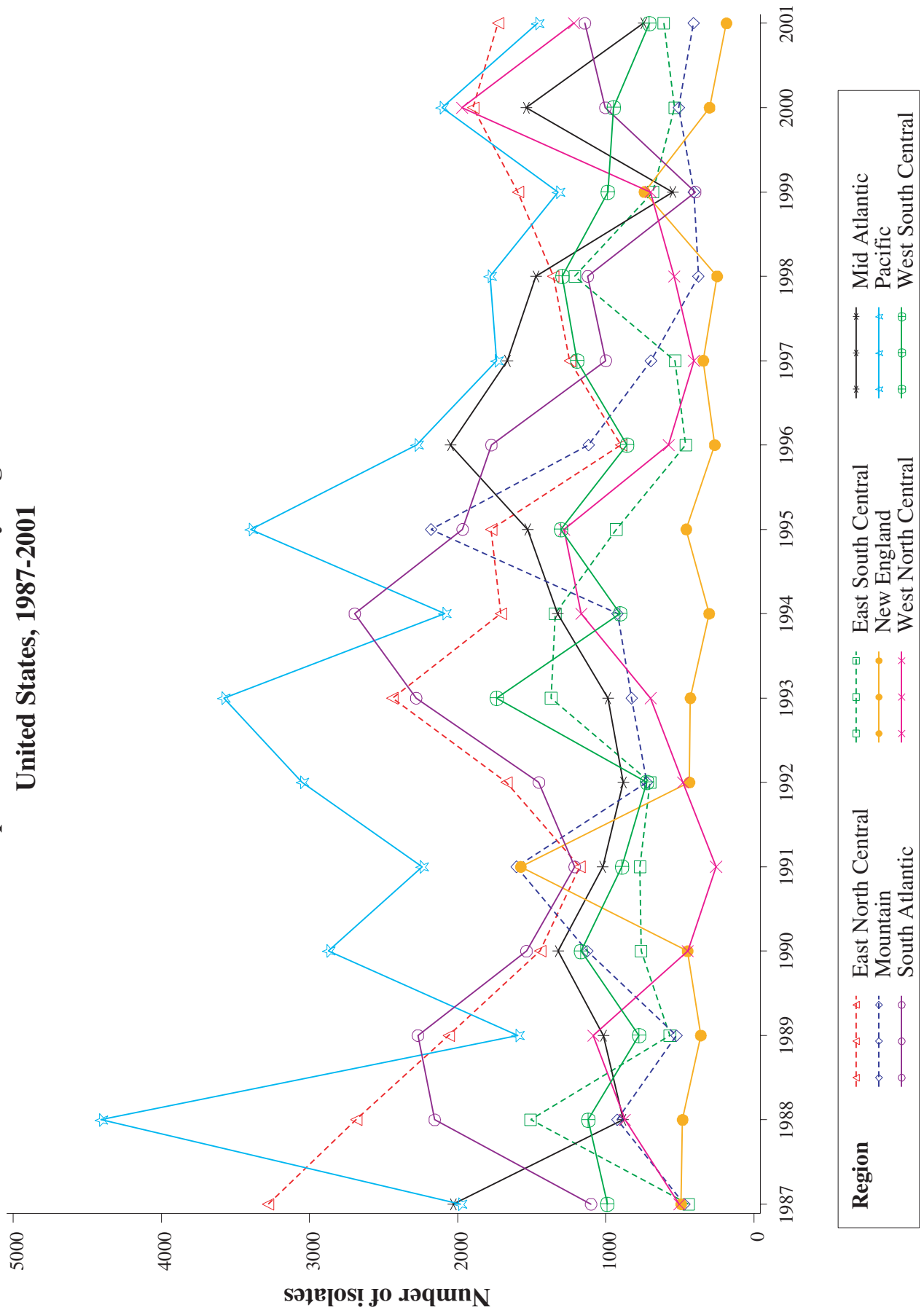
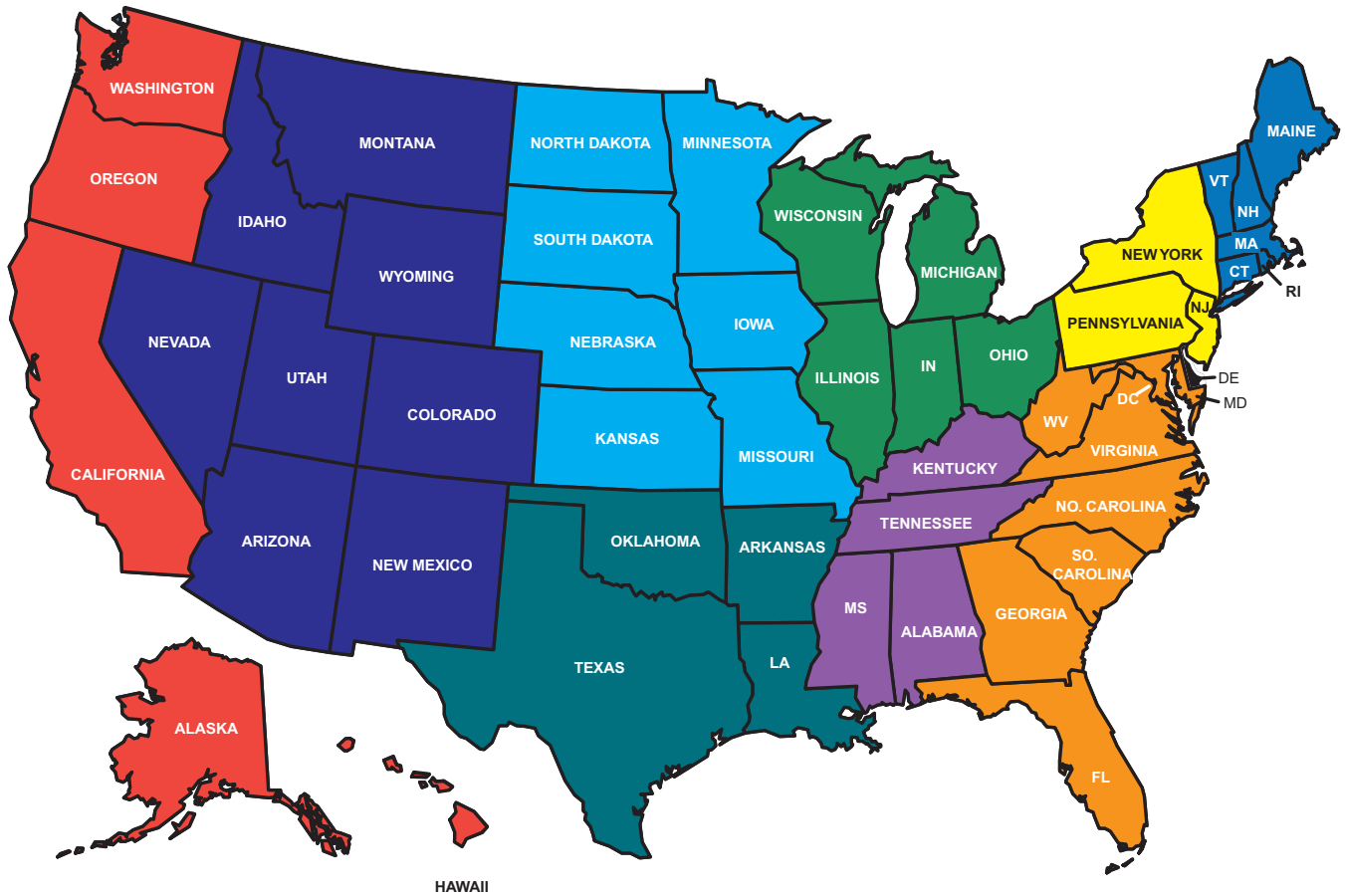


Figure 2
Region Map for *S. sonnei* isolates, United States 1987 - 2001



Based on Census Regions and Divisions of the United States

New England

- Connecticut
- Massachusetts
- Maine
- New Hampshire
- Rhode Island
- Vermont

Mid Atlantic

- New Jersey
- New York
- Pennsylvania

E. N. Central

- Illinois
- Indiana
- Michigan
- Ohio
- Wisconsin

W. N. Central

- Iowa
- Kansas
- Minnesota
- Missouri
- Nebraska
- North Dakota
- South Dakota

S. Atlantic

- Dist of Columbia
- Delaware
- Florida
- Georgia
- Maryland
- North Carolina
- South Carolina
- Virginia
- West Virginia

E. S. Central

- Alabama
- Kentucky
- Mississippi
- Tennessee

W. S. Central

- Arkansas
- Louisiana
- Oklahoma
- Texas

Mountain

- Arizona
- Colorado
- Idaho
- Montana
- New Mexico
- Nevada
- Utah
- Wyoming

Pacific

- Alaska
- California
- Hawaii
- Oregon
- Washington